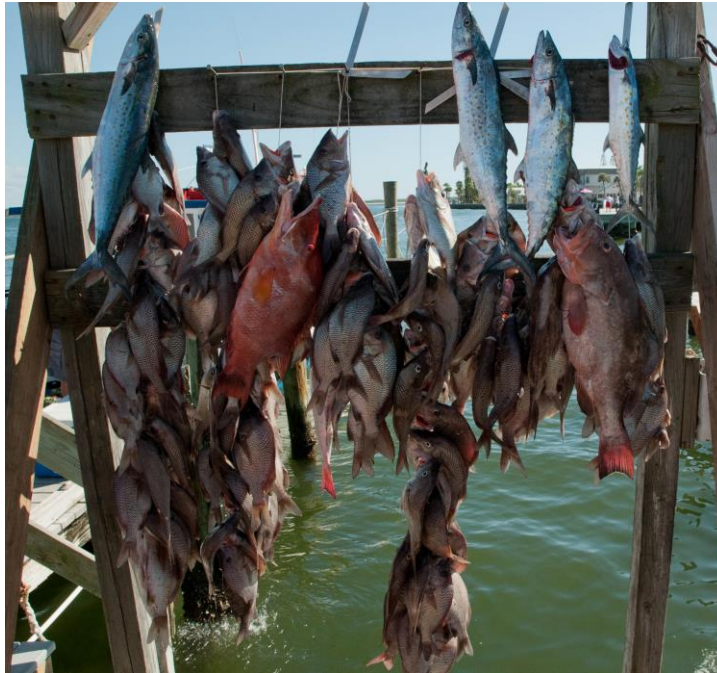


Modifications to Charter Vessel and Headboat Reporting Requirements



Generic Amendment to the Reef Fish Resources of the Gulf of Mexico and Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region

October 2016



This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA15NMF4410011.

This page intentionally left blank.

ENVIRONMENTAL ASSESSMENT COVER SHEET

Name of Action

Modifications to Charter Vessel and Headboat Reporting Requirements

Responsible Agencies and Contact Persons

Gulf of Mexico Fishery Management Council
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
John Froeschke (john.froeschke@gulfcouncil.org)

813-348-1630
813-348-1711 (fax)
gulfcouncil@gulfcouncil.org
<http://www.gulfcouncil.org>

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
Rich Malinowski (rich.malinowski@noaa.gov)

727-824-5305
727-824-5308 (fax)
<http://sero.nmfs.noaa.gov>

Type of Action

Administrative
 Draft

Legislative
 Final

ABBREVIATIONS USED IN THIS DOCUMENT

| | |
|----------------------|----------------------------------------------------------|
| ACL | annual catch limit |
| ACCSP | Atlantic Coastal Cooperative Statistics Program |
| AM | Accountability Measure |
| AP | Advisory Panel |
| Council | Gulf of Mexico Fishery Management Council |
| CEA | Cumulative Effect Analysis |
| CMP | Coastal Migratory Pelagic |
| DWG | deep-water grouper |
| EA | Environmental Assessment |
| EEZ | Exclusive Economic Zone |
| EFH | Essential Fish Habitat |
| EIS | Environmental Impact Statement |
| EJ | Environmental Justice |
| ESA | Endangered Species Act |
| FMP | Fishery Management Plan |
| GMFMC | Gulf of Mexico Fisheries Management Council |
| GSMFC | Gulf States Marine Fisheries Commission |
| Gulf | Gulf of Mexico |
| GulfFIN | Gulf Fisheries Information Network |
| HAPC | Habitat Areas of Particular Concern |
| IFQ | individual fishing quota |
| Magnuson-Stevens Act | Magnuson-Stevens Fishery Conservation and Management Act |
| MMPA | Marine Mammal Protection Act |
| MRIP | Marine Recreational Information Program |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NOR | net operating revenue |
| NOS | National Ocean Service |
| OLE | Office of Law Enforcement |
| OY | Optimum Yield |
| PS | producer surplus |
| RA | Regional Administrator |
| RF | Reef Fish |
| RIR | Regulatory Impact Review |
| SAFMC | South Atlantic Fishery Management Council |
| Secretary | Secretary of Commerce |
| SEDAR | Southeast Data Assessment and Review |
| SEFSC | Southeast Fisheries Science Center |
| SMZ | Special Management Zone |
| SRD | Science and Research Director |
| SRHS | Southeast Region Headboat Survey |
| SSC | Scientific and Statistical Committee |

SWG
TPWD
USCG
VMS

shallow-water grouper
Texas Parks and Wildlife Department
United States Coast Guard
vessel monitoring system

TABLE OF CONTENTS

| | |
|-----------------------------------------------------------------------------------------------------------------------|------|
| Environmental Assessment Cover Sheet | i |
| Abbreviations Used in this Document | ii |
| List of Tables | vii |
| List of Figures | viii |
| Chapter 1. Introduction | 1 |
| 1.1 Background | 2 |
| 1.2 Purpose and Need | 4 |
| 1.3 History of Management | 4 |
| Chapter 2. Management Alternatives | 7 |
| 2.1 Action 1: Modify Frequency and Mechanism of Data Reporting for Charter Vessels | 7 |
| 2.2 Action 2: Modify Frequency and Mechanism of Data Reporting for Headboats | 9 |
| 2.3 Action 3: Trip Notification and Reporting Requirements | 12 |
| 2.4 Action 4: Hardware/Software Requirements for Reporting Fishing Records and Location | 13 |
| Chapter 3. Affected Environment | 16 |
| 3.1 Description of the Physical Environment | 16 |
| 3.1.1 Reef Fish | 16 |
| 3.1.2 Coastal Migratory Pelagics | 16 |
| 3.1.3 Environmental Sites of Special Interest Relevant to Reef Fish and Coastal Migratory Pelagics (Figure 3.1) | 17 |
| 3.1.4 Climate Change | 20 |
| 3.2 Description of the Biological/Ecological Environment | 21 |
| 3.2.1 Reef Fish | 21 |
| 3.2.2 Coastal Migratory Pelagics | 22 |
| 3.2.3 Protected Species | 22 |
| 3.3 Description of the Economic Environment | 23 |
| 3.3.1 Commercial Sector | 23 |
| 3.3.2 Recreational Sector | 24 |
| 3.4 Description of the Social Environment | 27 |
| 3.4.1. Environmental Justice Considerations | 32 |
| 3.5 Description of the Administrative Environment | 32 |
| 3.5.1 Federal Fishery Management | 32 |

| | |
|------------------------------------------------------------------------------------------|----|
| 3.5.2 State Fishery Management..... | 36 |
| 3.5.3 Enforcement..... | 36 |
| Chapter 4. Environmental Consequences | 37 |
| 4.1 Action 1: Modify Frequency and Mechanism of Data Reporting for Charter Vessels | 37 |
| 4.1.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment..... | 37 |
| 4.1.2 Direct and Indirect Effects on the Economic Environment | 38 |
| 4.1.3 Direct and Indirect Effects on the Social Environment | 39 |
| 4.1.4 Direct and Indirect Effects on the Administrative Environment | 42 |
| 4.2 Action 2: Modify Frequency and Mechanism of Data Reporting for Headboats..... | 42 |
| 4.2.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment..... | 42 |
| 4.2.2 Direct and Indirect Effects on the Economic Environment | 44 |
| 4.2.3 Direct and Indirect Effects on the Social Environment | 44 |
| 4.2.4 Direct and Indirect Effects on the Administrative Environment | 45 |
| 4.3 Action 3: Trip Notification Requirements | 46 |
| 4.3.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment..... | 46 |
| 4.3.2 Direct and Indirect Effects on the Economic Environment | 46 |
| 4.3.3 Direct and Indirect Effects on the Social Environment | 47 |
| 4.3.4 Direct and Indirect Effects on the Administrative Environment | 47 |
| 4.4 Action 4: Location Hardware/Software Reporting Requirements..... | 48 |
| 4.4.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment..... | 48 |
| 4.4.2 Direct and Indirect Effects on the Economic Environment | 49 |
| 4.4.3 Direct and Indirect Effects on the Social Environment | 50 |
| 4.4.4 Direct and Indirect Effects on the Administrative Environment | 51 |
| 4.5 Cumulative Effects Analysis..... | 52 |
| 4.5.1 Cumulative Biological Impacts..... | 52 |
| Chapter 5. Bycatch Practicability Analysis..... | 57 |
| Chapter 6. List of Preparers and Agencies Consulted | 61 |
| Chapter 7. References | 62 |
| Appendix A. Other Applicable Law | 65 |
| Appendix B. Relevant Federal Regulations..... | 73 |
| Subpart B – Reef Fish Resources of the Gulf of Mexico | 74 |
| § 622.20 Permits and Endorsements | 74 |
| § 622.26 Recordkeeping and Reporting | 76 |
| Subpart Q – Coastal Migratory Pelagic Resources (Gulf of Mexico and Atlantic)..... | 76 |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| § 622.370 Permits | 76 |
| § 622.374 Recordkeeping and Reporting | 77 |
| Appendix C. Considered but Rejected..... | 78 |
| Appendix D. Minimum Data Elements | 81 |
| Appendix E. Southeast Region Headboat Survey Forms | 94 |
| Appendix F. Technical Subcommittee Report to the South Atlantic and Gulf of Mexico Fishery Management Councils: Recommendations for Electronic Logbook Reporting..... | 96 |

LIST OF TABLES

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Table 1.1.1. Total number of headboats in the Gulf participating in the SRHS 2010-2015. These totals include both federally permitted and state permitted vessels participating in the survey..... | 3 |
| Table 2.1.1. Required data reporting elements for charter vessels participating in MRIP For-Hire Survey..... | 8 |
| Table 2.2.1. Required data reporting elements for headboats participating in the SRHS..... | 11 |
| Table 3.3.1. Number of Gulf charter vessel angler trips, by state, 2011-2015 | 24 |
| Table 3.3.2. Gulf headboat angler days, by state, 2011–2015. | 24 |
| Table 3.3.3. 2014 business activity (thousands of 2014 dollars) associated with charter vessel trips in the Gulf. | 27 |
| Table 3.4.1. Unique number of federally permitted vessels possessing valid and renewable charter/headboat permits and commercial permits in the Gulf..... | 28 |
| Table 3.4.2. Number of valid and renewable permits held by charter vessels in the Gulf of Mexico | 30 |
| Table 3.4.3. Number of valid and renewable permits held by charter vessels in the Florida Keys (Monroe County) as of May 28, 2015. | 31 |
| Table 3.5.1. Summary of the existing monitoring tools currently implemented in commercial reef fish and coastal migratory pelagic fisheries of the Southeast Region. | 35 |
| Table D1. List of essential data elements as recommended by the Technical Data Committee at their September 2016 meeting. | 84 |
| Table 2. Data elements recommended by the Technical Data Committee at their September 2016 meeting..... | 90 |
| Table 3. Data elements not recommended by the Technical Data Committee at their September 2016..... | 92 |

LIST OF FIGURES

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1.1.1. Jurisdictional boundaries of the Gulf (blue), South Atlantic (orange), Mid-Atlantic (Mid-Atlantic Fishery Management Council; green), and New England (New England Fishery Management Council; peach) Fishery Management Councils. | 1 |
| Figure 2.4.1. Flow chart of reporting options reflecting alternatives for hardware software requirements and estimated costs..... | 15 |
| Figure 3.1.1. Composite map of most fishery management closed or gear restricted areas in the Gulf of Mexico. | 19 |
| Figure 3.2.1. Two components of the biological environment described in this amendment. | 21 |
| Figure D1. Example Southeast Region Headboat Survey trip report form for headboats. | 94 |
| Figure D2. Example Southeast Region Headboat Survey catch report form for headboats. | 95 |

CHAPTER 1. INTRODUCTION

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires the National Marine Fisheries Service (NMFS) and regional fishery management councils to end overfishing, rebuild overfished stocks, and achieve, on a continuing basis, the optimum yield (OY) from federally managed fish stocks. These mandates are intended to ensure fishery resources are managed for the greatest overall benefit to the nation, particularly with respect to providing food production, recreational opportunities, and protecting marine ecosystems.

Accurate fisheries information about catch, effort, and discards is necessary to achieve OY from federally managed fish stocks. The for-hire component of the recreational sector (i.e., charter vessels and headboats) harvests a substantial proportion of the annual catch limit (ACL) for several federally managed fish species in the Gulf of Mexico (Gulf). This amendment affects for-hire vessel reporting requirements for species managed in the Fishery Management Plans (FMPs) for Reef Fish Resources of the Gulf of Mexico (RF) and Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico and Atlantic Region (Figure 1.1.1).



Figure 1.1.1. Jurisdictional boundaries of the Gulf (blue), South Atlantic (orange), Mid-Atlantic (Mid-Atlantic Fishery Management Council; green), and New England (New England Fishery Management Council; peach) Fishery Management Councils.

1.1 Background

The Gulf of Mexico Fishery Management Council (Council) is considering alternatives that would require electronic reporting of fisheries information from for-hire vessels harvesting Reef Fish and CMP species. The Council recognizes that improved data reporting in these fisheries could reduce the likelihood that ACLs are exceeded and accountability measures are triggered. Additional data elements could also be collected using this technology that may improve estimates of discard and bycatch mortality.

The harvest from for-hire (i.e., charter vessels and headboats) vessels contributes to recreational landings that count towards recreational ACLs. The default system to estimate effort in the for-hire fleet is the Marine Recreational Information Program (MRIP) For-Hire survey. This is a voluntary dockside intercept survey of landings and discards. In addition to this dockside survey, fishing effort is calculated based on a monthly phone sample of 10% of for-hire vessels operating in west Florida, Alabama, and Mississippi. Louisiana generates weekly estimates of catch and effort through their Louisiana Creel program. Texas Parks and Wildlife Department (TPWD) conducts their own creel survey to estimate private and charter landings in Texas.

A subset of for-hire vessels that generally meet the criteria of a headboat (see below) are selected by the Science and Research Director (SRD) to report fisheries data via the Southeast Regional Headboat Survey (SRHS) administered by the Southeast Fisheries Science Center (SEFSC). This program focuses on the larger capacity for-hire vessels and collects vessel specific information about catch and effort. For the purpose of the document, **headboats** are federally permitted for-hire vessels that participate in the SRHS and **charter vessels** are federally permitted for-hire vessels that *do not* participate in the SRHS. This distinction is necessary as the generally accepted description of charter vessels do not adequately capture or describe all vessels participating in the for-hire sector. For example, the definitions noted above rely heavily on passenger capacity and payment method. In practice, some vessels with passenger capacity greater than 6 may operate as a charter vessel or headboat.

Charter vessel

"A charter vessel is less than 100 gross tons (90.8 metric tons) that meets the requirements of the U.S. Coast Guard to carry six or fewer passengers on a for-hire trip and that engages in charter fishing at any time during the calendar year. 50 CFR. § 622.2"

Headboat

"Headboats are generally defined as vessels that hold a valid Certificate of Inspection issued by the U.S. Coast Guard to carry more than six passengers for hire. However, the SRHS includes only large capacity vessels that sell passage to recreational anglers primarily as headboats (i.e., charges by the "head"). Currently, a vessel is selected by the SRD to participate in the SRHS if it meets all, or a combination of, these criteria:

- 1) Vessel licensed to carry greater than or equal to 15 passengers.*
- 2) Vessel fishes in the exclusive economic zone (EEZ) or state and adjoining waters for federally managed species.*
- 3) Vessel charges primarily per angler (i.e., by the "head").*

The number of Gulf headboats surveyed in the SRHS by state between 2010 and 2015 is provided in **Table 1.1.1**.

Table 1.1.1. Total number of headboats in the Gulf participating in the SRHS 2010-2015. These totals include both federally permitted and state permitted vessels participating in the survey.

| Year | AL | FL | LA | MS | TX | Total |
|-------------|-----------|-----------|-----------|-----------|-----------|--------------|
| 2010 | 7 | 38 | 4 | 3 | 16 | 68 |
| 2011 | 8 | 35 | 4 | 5 | 17 | 69 |
| 2012 | 9 | 34 | 4 | 5 | 16 | 68 |
| 2013 | 9 | 36 | 3 | 5 | 16 | 69 |
| 2014 | 9 | 37 | 2 | 5 | 16 | 69 |
| 2015 | 9 | 37 | 2 | 5 | 16 | 69 |

Source: NMFS, SRHS

The current for-hire data collection and monitoring system (MRIP) is calculated in six, two-month 'waves' per year for all Gulf states except Louisiana and Texas. Texas reports data in two activity periods (high and low) and Louisiana reports weekly estimates of catch and effort. This current combination of data collection and monitoring systems could be improved to assist with in-season monitoring of stocks with short recreational seasons. Increasing the reporting frequency along with enhanced data collection and validation could improve upon quota monitoring, stock assessments, and catch and discard estimates. The proposed changes are expected to reduce uncertainty in catch (i.e., landings and discards) and effort data for this component of the recreational sector increasing the likelihood that OY would be achieved and ACL overages would be avoided.

Gulf of Mexico Fishery Management Council

- Responsible for conservation and management of fish stocks
- Consists of 17 voting members: 11 appointed by the Secretary of Commerce; 1 representative from each of the 5 Gulf states, the Southeast Regional Director of NMFS; and 4 non-voting members
- Responsible for developing fishery management plans and amendments, and recommends actions to NMFS for implementation

National Marine Fisheries Service

- Responsible for data needed by the Councils for management
- Responsible for conservation and management of fish stocks
- Approves, disapproves, or partially approves Council recommendations
- Implements regulations

1.2 Purpose and Need

The *purpose* is to improve accuracy and timeliness of landings, discards, effort and socio-economic data of federally permitted for-hire vessels participating in Gulf Reef Fish and CMP fisheries.

The *need* for this action is to improve management and monitoring of Gulf RF and CMP fisheries.

1.3 History of Management

Gulf Reef Fish

The following amendments to the FMP for the Reef Fish Resources of the Gulf of Mexico contained actions that pertained to the for-hire sector including permit and reporting requirements.

Amendment 11 (1996) to the Reef Fish FMP (implemented in 1996) required that charter vessels and headboats fishing in the Gulf exclusive economic zone EEZ have federal permits when fishing.

Amendment 20 (2002) to the Reef Fish FMP/Amendment 14 to the CMP FMP established a three-year moratorium on the issuance of charter vessel or headboat (for-hire) permits for the reef fish and coastal migratory pelagics in the EEZ of the Gulf. NMFS promulgated the charter moratorium regulations (67 FR, 43558, June 28, 2002) to implement Amendment 14 to the CMP FMP and Reef Fish FMP and Amendment 20 to the Reef Fish FMP. However, after reviewing the administrative record, NMFS determined that the amendments contained an error that did not correctly reflect the actions approved by the Council. Thus, the regulations implementing the amendments also contained this error, and not all persons entitled to receive charter vessel/headboat (for-hire) permits under the moratorium approved by the Council would be able to receive permits under the promulgated regulations.

Emergency Rule (2002)

The regulations promulgated under the charter vessel moratorium (67 FR 43558, June 28, 2002), also require all charter vessel/headboat operators in the Gulf EEZ have a valid limited access "moratorium permit," as opposed to the prior open access charter/headboat reef fish permit, beginning December 26, 2002. If these limited access permits had not been issued prior to this date, all legal fishing activities conducted by the recreational for-hire sector in the Gulf EEZ would have closed. Cessation of these fishing operations would have resulted in severe social and economic disruption to the for-hire sector and those coastal communities dependent on these fisheries. To ensure that no qualified participants in the fisheries were wrongfully excluded under the moratorium, due to an error in the rule, and to fully comply with Magnuson-Stevens Act requirements, NMFS promulgated an emergency rule (67 FR 77193, December 17, 2002) that extended certain permit-related deadlines contained in the

final rule implementing the charter vessel/headboat permit moratorium for reef fish and CMP fish in the Gulf. The emergency rule: 1) deferred the date for having a "moratorium permit" aboard vessels operating in these fisheries until June 16, 2003; 2) automatically extended the expiration date of valid or renewable "open access" permits for these fisheries until June 16, 2003; 3) extended the deadline for issuance of "moratorium permits" to no later than June 6, 2003; and 4) extended the deadline for resolution of appeals to February 18, 2003, or 30 days after an oral hearing, if applicable. Additionally, the emergency rule allowed those persons who were ineligible under the promulgated regulations to receive their open access charter vessel/headboat permits until they could obtain a new permit under the revised moratorium eligibility criteria approved by the Council.

Amendment 25 (2006) to the Reef Fish FMP/Amendment 17 to the CMP FMP established a limited access system on charter/headboat Reef Fish and CMP permits. Permits are renewable and transferable in the same manner as currently prescribed for such permits. The Council will have periodic review at least every 10 years on the effectiveness of the limited access system.

Amendment 30B (2009) to the Reef Fish FMP required that all vessels with federal commercial or on charter/headboat reef fish permits comply with federal reef fish regulations, if those regulations are more strict than state regulations, when fishing in state waters.

Amendment 34 (2012) to the Reef Fish FMP addressed crew size limits for dual-permitted vessels. Dual-permitted vessels are vessels with both a charter/headboat reef fish permit and a commercial reef fish permit. The amendment eliminated the earned income qualification requirement for the renewal of commercial reef fish permits and increased the maximum crew size, when operating as a commercial vessel, from three to four.

Framework Action (2013) modified the frequency of headboat reporting to a weekly basis (or at intervals shorter than a week if notified by the Science and Research Director (SRD)) via electronic reporting, with reports due by 11:59 p.m., local time, the Sunday following a reporting week. If no fishing activity occurs during a reporting week, an electronic report so stating must be submitted for that week

CMP Fishery

The following amendments to the FMP for the CMP of the Gulf and Atlantic contained actions that pertained to the for-hire sector including permit and reporting requirements.

Amendment 2 (1987) to the CMP FMP required that charter vessels and headboats fishing in the EEZ of the Gulf or Atlantic for coastal migratory pelagic species have federal permits.

Amendment 14 (2002) to the CMP FMP established a 3-year moratorium on the issuance of charter vessel and head boat permits unless sooner replaced by a comprehensive effort limitation system. The control date for eligibility was established as March 29, 2001. Also includes other provisions for eligibility, application, appeals, and transferability.

Amendment 17 (2006) to the CMP FMP/ Amendment 25 to the Reef Fish FMP established a limited access system on charter/headboat reef fish and CMP permits. Permits are renewable and transferable in the same manner as currently prescribed for such permits. The Council would have periodic review at least every 10 years on the effectiveness of the limited access system.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modify Frequency and Mechanism of Data Reporting for Charter Vessels

This action only applies to federally permitted for-hire vessels that *do not* participate in the Southeast Regional Headboat Survey (SRHS).

Alternative 1 (No Action). The owner or operator of a charter vessel for which a charter/headboat reef fish or charter/headboat Atlantic Coastal Migratory Pelagic (CMP) permit has been issued, or whose vessel fishes for or harvests such reef fish or CMP fish species in or from state waters adjoining the applicable Gulf of Mexico (Gulf) or Gulf exclusive economic zone (EEZ), and who is selected to report by the Science and Research Director (SRD) must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed fishing records must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.

Alternative 2. Require that federally permitted charter vessels submit fishing records to the SRD weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via National Marine Fisheries Service (NMFS) approved hardware/software). Weekly = Tuesday following each fishing week.

Alternative 3. Require that federally permitted charter vessels submit fishing records to the SRD daily via electronic reporting via electronic reporting (via NMFS approved hardware/software). Daily = by noon of the following day.

Preferred Alternative 4. Require that federally permitted charter vessels submit fishing records to NMFS for each trip via electronic reporting (via NMFS approved hardware/software) prior to arriving at the dock.

For **Alternatives 2, 3, and 4**, it is the intent of the Gulf of Mexico Fishery Management Council (Council) that during catastrophic conditions the use of paper forms for basic required reporting may be authorized by the Regional Administrator (RA) through publication of timely notice in the Federal Register, among other appropriate means. During catastrophic conditions, the RA also has the authority to waive or modify reporting time requirements. Regarding timely reporting, an electronic report not received within the time specified is delinquent. A delinquent report automatically results in a prohibition on harvesting or possessing the applicable species by the permit holder, regardless of any additional notification to the delinquent permit owner and operator by NMFS. This prohibition is applicable until all required and delinquent reports have been submitted and received by NMFS according to the reporting requirements. If no fishing activity took place during the reporting period, the permit holder would be required to submit an electronic report stating that no fishing activity occurred and this report must be submitted at the same time interval specified in the regulations (local time). These provisions are similar to existing and proposed requirements for headboats in **Action 2**.

Discussion

Charter vessels are operationally defined as for-hire vessels that carry six or fewer passengers that also meets the requirements of U.S. Coast Guard (USCG). To date, none of these vessels have been selected by the SRD to submit fishing records as described in **Alternative 1**. Rather, these vessels have been monitored through the Marine Recreational Information Program (MRIP) For-Hire Survey (measures effort) and the MRIP Dockside Intercept Survey (measures catch). The MRIP For-Hire Survey includes charter vessels operating in the Gulf from Louisiana through the west coast of Florida. Charter vessel operators are required to report all trips taken during selected weeks (effort only) whenever they are selected to participate in the survey. Charter vessel operators are contacted by telephone (a weekly sample of 10% of the fleet) to collect these data (**Table 2.1.1**). Catch data are collected in a separate, voluntary Dockside Intercept Survey of anglers. Adjustment factors for active charter vessels that are not in the sample frame (new to fleet, no contact information known, etc.) are produced from field intercept survey questions and applied to the raw effort estimate.

Table 2.1.1. Required data reporting elements for charter vessels participating in MRIP For-Hire Survey.

| Reporting Elements |
|----------------------------------|
| Area fished |
| Number of anglers who fished |
| Hours of actual fishing activity |
| Method of fishing |
| Target species (if any) |

To enforce the mandatory reporting requirement for federally permitted charter vessels in the telephone component of the For-Hire Survey, permit holders who refuse to participate in the survey are notified by letter of their obligation to report as a condition for permit renewal. However, if a charter vessel operator cannot be contacted after five attempts for a selected week, the final interview status is “unsuccessful contact”. It is impossible to identify permit holders who are deliberately evading the survey. Telephone contact rates vary by wave (i.e., MRIP 2-month sample period), state, and region, and the percent of selected vessels that are unable to be contacted by phone is quite high in some strata. Charter vessel catch and effort in Texas are monitored by the Texas Parks and Wildlife Department's (TPWD) Coastal Creel Survey. This is a field-intercept survey of boat-based fishing, including for-hire vessels. This survey estimates fishing effort and catch (harvest only) on a seasonal (high-use and low-use) basis.

Alternative 2 would require federally permitted charter vessels participating in the Gulf reef fish or Gulf and South Atlantic CMP fisheries (Gulf waters only) to submit fishing records weekly or at intervals shorter than a week via electronic reporting (via NMFS approved hardware/software). **Alternative 2** could improve fishery dependent data in several ways. For example, fishery data would be available for inclusion into the science and management process faster, potentially reducing the likelihood of exceeding annual catch limits (ACLs). **Alternative 2** could also improve data accuracy as reports would be completed shortly after each trip, potentially reducing problems associated with recall errors. However, **Alternative 2** would reduce the flexibility of timing for report preparation by charter vessel operators and this burden

could be cumbersome during peak season when the number of trips taken, the number of passengers carried, and catch are greatest.

Alternative 3 would require charter vessels participating in the subject fisheries to submit a report for each day. As with **Alternative 2**, this report would be submitted electronically and received by NMFS (due noon the following day). **Alternative 3** could further reduce the likelihood of exceeding ACLs with reduced recall error compared to **Alternative 1** and **Alternative 2**. However, **Alternative 3** would add additional burden and reduced flexibility compared to **Alternatives 1** and **2**.

Preferred Alternative 4 would require federally permitted charter vessels participating in the subject fisheries to submit a report for each trip. This report would need to be submitted electronically and received by NMFS prior to the vessel returning to the dock. If more than one trip occurred on a single day, an electronic report would need to be submitted before the vessel returns to the dock at the end of each trip. Charter vessel operators would need to have a NMFS-approved electronic device (see Action 3) on their vessel to submit the report. This would add technological complexity to the reporting protocol; however, it would greatly improve law enforcement's ability to validate self-reported catch data with the actual landings. Preferred **Alternative 4** provides additional rigor to trip validation of catch and effort that is not possible with **Alternatives 1-3** by requiring reports to be submitted prior to arriving at the dock. In **Alternative 4**, the catch can be verified as reported by an enforcement agent when the vessel arrives at the dock, reducing the likelihood of misreporting. However, **Preferred Alternative 4** offers charter vessel operators the least flexibility in how and when they prepare and submit their fishing reports and could be burdensome during periods of peak activity or inclement weather. **Preferred Alternative 4** should improve data quality and accuracy, improve stakeholder confidence, and reduce uncertainty associated with these data when used in science or management applications.

2.2 Action 2: Modify Frequency and Mechanism of Data Reporting for Headboats

This action only applies to federally permitted for-hire vessels that participate in the SRHS.

Alternative 1 (No Action). The owner or operator of a headboat for which a charter/headboat reef fish or charter/headboat Atlantic CMP permit has been issued, or whose vessel fishes for or harvests such reef fish or CMP species in or from state waters adjoining the applicable Gulf EEZ and who is selected to report by the SRD must submit an electronic fishing record for each trip of all fish harvested via the SRHS. Electronic fishing records must be submitted at weekly intervals (or intervals shorter than a week if notified by the SRD) by 11:59 p.m., local time, the Sunday following a reporting week. If no fishing activity occurred during a reporting week, an electronic report stating so must be submitted for that reporting week by 11:59 p.m., local time, the Sunday following a reporting week. Information to be reported is indicated on the form and its accompanying instructions.

For **Alternatives 2, 3, and 4**, it is the intent of the Council that during catastrophic conditions the use of paper forms for basic required reporting may be authorized by through publication of timely notice in the Federal Register, among other appropriate means. During catastrophic conditions, the use of paper forms for basic required functions may be authorized by the RA by publication of timely notice in the Federal Register, among other appropriate means. During catastrophic conditions, the RA also has the authority to waive or modify reporting time requirements.

When an electronic report is not received within the time specified, it is delinquent. A delinquent report automatically results in a prohibition on harvesting or possessing the applicable species, regardless of any additional notification to the delinquent owner and operator by NMFS. This prohibition is applicable until all required and delinquent reports have been submitted and received by NMFS according to the reporting requirements.

Alternative 2. Require that federally permitted headboats submit fishing records to the SRD weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via NMFS approved hardware/software). Weekly = Tuesday following each fishing week.

Alternative 3. Require that federally permitted headboats submit fishing records to the SRD daily via electronic reporting (via NMFS approved hardware/software). Daily = by noon of the following day.

Preferred Alternative 4. Require that federally permitted headboats submit fishing records to NMFS for each trip via electronic reporting (via NMFS approved hardware/software) prior to arriving at the dock.

Discussion

Historically, headboats reported fishing information using paper forms. Beginning January 1, 2013, headboat owners/operators have been required to submit electronic reports. Headboat operators are required to report 100% of their vessel trips, regardless of whether the trips occur in the EEZ or in state waters. The current reporting requirements place the responsibility for submitting required information directly on the permit holder, and compliance is monitored and enforced as a condition for permit renewal. A delinquent report automatically results in a prohibition on harvesting or possessing the applicable species by the permit holder, regardless of any additional notification to the delinquent permit owner and operator by NMFS. The obligation to report is reinforced annually via certified letter to each permit holder.

The SRHS, which is administered by the NMFS Southeast Fisheries Science Center (SEFSC), currently includes 69 large capacity headboats operating in the Gulf (i.e., Texas through west Florida). Vessels included in this survey are required to report catch and effort data weekly to NMFS (Table 2.2.1).

Table 2.2.1. Required data reporting elements for headboats participating in the SRHS.

| Reporting Elements |
|-----------------------------|
| Depart Date:Time |
| Return Date:Time |
| Vessel Name |
| Captain Name |
| Number of Anglers |
| Number of Paying Passengers |
| Number of Crew |
| Fuel used (gallons) |
| Price per gallon (estimate) |
| Minimum depth fished |
| Maximum depth fished |
| Primary depth fished |
| Latitude/Longitude Degrees |
| Latitude/Longitude Minutes |
| Species caught |
| Number kept |
| Number released |

If selected by the SRD, **Alternative 1** would continue to require headboats participating in Gulf reef fish or Gulf and Atlantic CMP fisheries to submit electronic reports weekly (or at intervals less than a week if requested by the SRD), due seven days after the end of each week (Sunday). This requirement was implemented through the Framework Action to modify headboat reporting requirements (GMFMC 2013b).

Alternative 2 would require headboats participating in the subject fisheries to report weekly (or at intervals shorter than a week if notified by the SRD) via electronic reporting using NMFS approved hardware/software. The difference between **Alternative 1** and **Alternative 2** is the difference in the delay between the end of the fishing week on Sunday in **Alternative 1** and Tuesday in **Alternative 2** and report submission. **Alternative 1** allows 7 days to prepare and submit reports while **Alternative 2** would allow only 2 days. **Alternative 2** could improve fishery data. Fishery data would be available to the science and management process faster, potentially reducing the likelihood of exceeding ACLs. **Alternative 2** could also improve accuracy as reports would be completed sooner after each trip, reducing problems associated with recall errors. However, **Alternative 2** would reduce the flexibility of headboat operators as to the timing of report preparation and this could be burdensome during peak season when the number of trips, passengers, and catch are greatest.

Alternative 3 would require headboats participating in the subject fisheries to submit a report for each day. This report would be submitted electronically and would need to be received by NMFS by noon the following day. **Alternative 3** could further reduce the likelihood of exceeding ACLs and reduce recall error compared to **Alternative 1** or **Alternative 2**. However,

Alternative 3 would add additional burden and reduced flexibility in comparison to **Alternative 1** or **Alternative 2**.

Preferred Alternative 4 would require headboats participating in the subject fisheries to submit a report for each trip. This report would need to be submitted electronically and would need to be received by NMFS prior to returning to the dock. **Preferred Alternative 4** would offer the greatest ability to prevent ACL overages and add additional rigor to trip validation of catch and effort that are not possible with **Alternatives 1-3**. In **Preferred Alternative 4**, the reported catch can be verified by an enforcement agent when the vessel arrives at the dock, reducing the likelihood of misreporting. However, **Preferred Alternative 4** offers headboat operators the least flexibility in how and when they prepare and submit their fisheries reports and could be burdensome during periods of peak activity or inclement weather. **Preferred Alternative 4** should improve data quality and accuracy, improve stakeholder confidence, and reduce uncertainty associated with these data when used in science or management applications.

2.3 Action 3: Trip Notification and Reporting Requirements

Alternative 1 (No Action). There are currently no trip notification requirements. A dual-permitted vessel (i.e., possessing a federal commercial reef fish and a federal for-hire permit) is required to submit a trip notification and declare the intent of the trip.

Hail out

Preferred Alternative 2. Prior to departing for each for-hire trip, a vessel is required to declare (hail out) a trip including the expected return time and landing location. (Technical Committee Recommendation)

Preferred Option a. Charter vessels

Preferred Option b. Headboats

Hail in

Preferred Alternative 3. Prior to arriving at the dock/port at the end of each for-hire trip, require the vessel operator to hail in and submit fishing records via electronic reporting. (Technical Committee Recommendation)

Preferred Option a. Charter vessels

Preferred Option b. Headboats

The NMFS will develop the specific details of how the system would operate and will provide the Council the opportunity to have input into the system design. The hail out will be accomplished using vessel monitoring system (VMS) unless an alternative mechanism is approved by the NMFS.

Discussion

Action 3 considers adding a requirement to provide a notification to NMFS declaring either the intent to initiate a for-hire trip, return from a for-hire trip, or both. Currently, federally permitted for-hire vessels do not have any trip notification requirements. As described in **Actions 1** and **2**,

activity of federally permitted for-hire vessels are monitored via the SRHS (headboats), MRIP for-hire survey, LA Creel (Louisiana) and the TPWD for-hire survey (Texas). **Preferred Alternative 2** would require for-hire vessel operators to declare a trip to NMFS prior to leaving the dock. **Preferred Alternative 2 Option a** would apply to charter vessels and **Alternative 2 Option b** would apply to headboats. **Preferred Alternative 2** would require for-hire vessel operators to declare an expected end time and landing location for each trip to NMFS prior to returning to the dock. **Preferred Alternative 3 Option a** would apply to charter vessels and **Preferred Alternative 3 Option b** would apply to headboats and would require notification that the trip has ended and the required information about the trip has been transmitted. Under **Preferred Alternative 2** and **Preferred Alternative 3** the reporting burden on vessel operators would be increased relative to **Alternative 1** however, if **Preferred Alternative 2** and/or **Preferred Alternative 3** are selected as preferred they could be used to aid in the prioritization of staff to conduct dock-side intercepts more efficiently that could further improve catch and effort fishery data from for-hire vessels.

The owner or operator of a vessel that has been issued a commercial vessel permit for Gulf reef fish, including a charter vessel/headboat issued (referred to a dual-permitted vessel) such a permit even when under charter, must ensure that such vessel has an operating VMS approved by NMFS for use in the Gulf reef fish fishery on board at all times whether or not the vessel is underway, unless exempted by NMFS under the power-down exemption. There are approximately 166 vessels that have dual-permits in the Gulf. Prior to departure for each trip, an owner or operator must report to NMFS any fishery the vessel will participate in on that trip and the specific type(s) of fishing gear, using NMFS-defined gear codes, that will be on board the vessel. This information may be reported to NMFS using the toll-free number or via an attached VMS terminal. The owner or operator of a vessel landing individual fishing quota (IFQ) groupers or tilefishes is responsible for ensuring that NMFS is contacted at least 3 hours, but no more than 24 hours, in advance of landing to report the time and location of landing, estimated grouper and tilefish landings in pounds gutted weight for each share category (gag, red grouper, deep-water grouper (DWG), other shallow-water grouper (SWG), tilefishes), vessel identification number (Coast Guard registration number or state registration number), and the name and address of the IFQ dealer(s) where the groupers or tilefishes are to be received. The vessel must land within 1 hour after the time given in the landing notification.

2.4 Action 4: Hardware/Software Requirements for Reporting Fishing Records and Location

Alternative 1 (No Action). There are currently no hardware or software reporting requirements for federally permitted for-hire vessels.

Headboats submit their electronic reports via an internet website and/or mobile application reporting platform although this does not require at-sea reporting or the use of specific device to submit the report.

Alternative 2. Require vessel operators to submit fishing records via NMFS approved hardware/software with minimum archived GPS capabilities that provides vessel position. (Technical Committee Recommendation).

Option a. Charter vessels

Option b. Headboats

Alternative 3. Require vessel operators to submit fishing records via NMFS approved hardware/software with minimum real-time GPS capabilities that provides vessel position.

Option a. Charter vessels

Option b. Headboats

Preferred Alternative 4. Require vessel operators to submit fishing records via NMFS approved vessel monitoring system hardware/software that provides vessel **position and is permanently affixed to the vessel.**

Preferred Option a. Charter vessels

Preferred Option b. Headboats

NMFS will develop the specific details of how the system would operate and will provide the Council the opportunity to have input into the system design.

Discussion

The NMFS southeast region does not currently have any approved hardware/software for at-sea electronic reporting for federally permitted for-hire vessels, unless they are a dual-permitted vessel. However, numerous devices and reporting technology are available and have been used in pilot and experimental programs in the southeast region. **Action 4** considers the types of devices that would be allowed to report fisheries data including the location data collected by the reporting device.

Alternative 1 would maintain the current self-reporting systems in place however, this would not be a reasonable alternative if **Preferred Alternative 4** in **Action 1** or **Preferred Alternative 4 Action 2** is selected. **Alternative 2** would authorize the use of a NMFS approved electronic device with archived GPS capabilities (e.g., portable, cellular based device) to record and later transmit specific location information (latitude/longitude) along with required fisheries information prior to returning to the dock (Figure 2.4.1). The type of device envisioned in **Alternative 2** would be a cellphone or similar type instrument. **Option 2a** would require charter vessels to use this device and **Option 2b** would require use of this device for headboats. These same options are continued in **Alternative 3** and **Preferred Alternative 4**. **Alternative 3** would authorize the use of a tablet or portable VMS device that could record location data and report in real-time, worldwide if necessary. In comparison to **Alternative 2**, the device used under **Alternative 3** would provide enhanced reporting flexibility and enhance safety at sea, however this option could be more expensive than **Alternative 2**. **Preferred Alternative 4** would require the use of a VMS system that is permanently affixed to the vessel similar to the units used on commercial vessels in the Gulf. These units are the most expensive of the devices considered in this action but would be a robust and proven platform for at-sea reporting. **Alternatives 2 -3** and **Preferred Alternative 4** are not mutually exclusive and could be selected independently or in combination if the desire is authorize several types of devices to maximize flexibility for vessel operators and/or take advantage of existing software/hardware that are currently in use (e.g., dual-permitted commercial vessels with VMS).

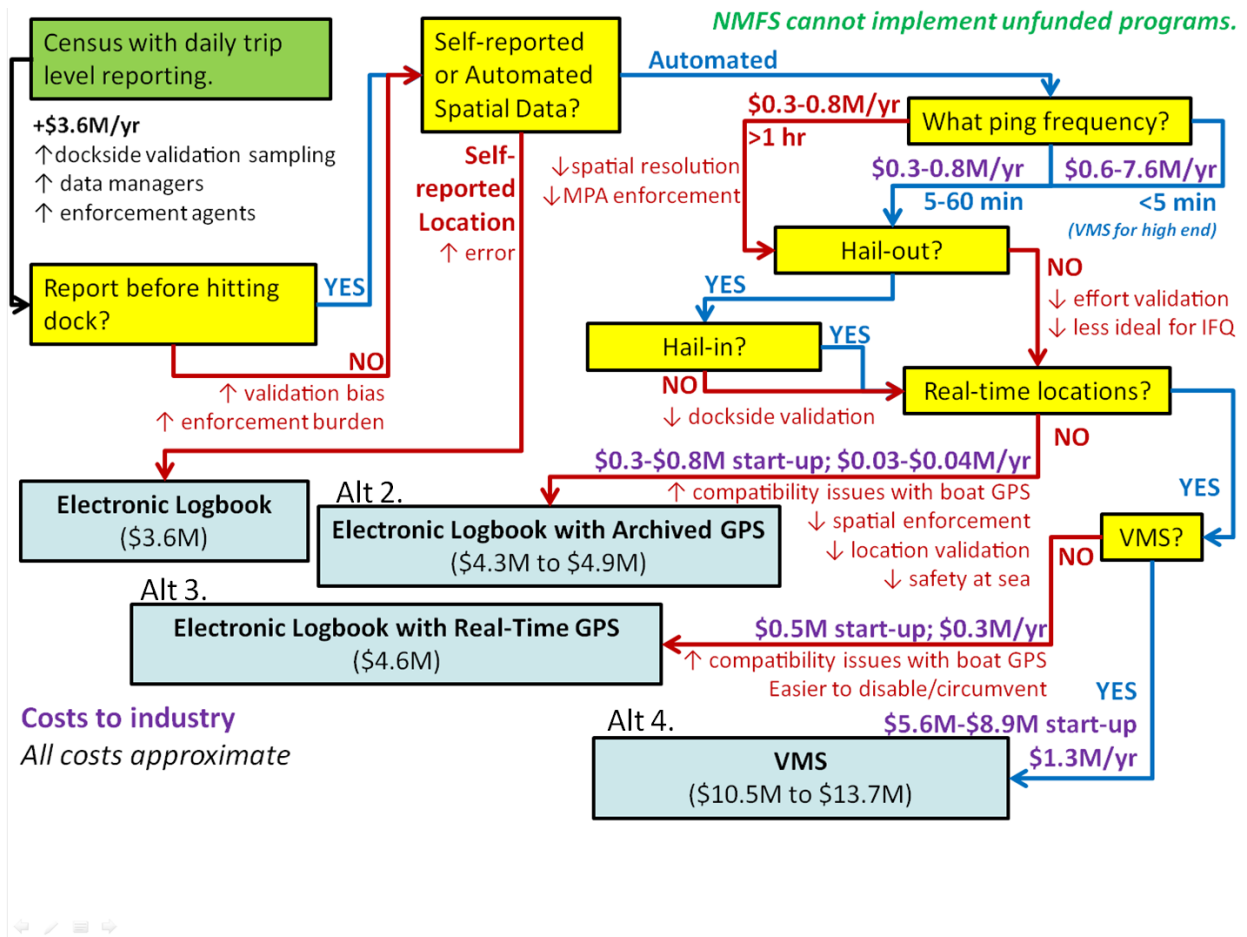


Figure 2.4.1. Flow chart of reporting options reflecting alternatives for hardware software requirements and estimated costs.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Physical Environment

3.1.1 Reef Fish

Habitat for Reef Fish Species

The Gulf of Mexico (Gulf) has a total area of approximately 600,000 square miles (mi²) (1.5 million square kilometers (km²)), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.1.1). Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechtelm 2005). Mean annual sea surface temperatures ranged from 73 through 83° F (23-28° C) including bays and bayous between 1982 and 2009, according to satellite-derived measurements (NODC 2013). In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

Information on the habitat utilized by species in the Reef Fish complex is included in Gulf of Mexico Fishery Management Council (GMFMC 2011) available at: http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

Essential Fish Habitat for Reef Fish Species

The Environmental Impact Statement (EIS) for Essential Fish Habitat (EFH) and the Fishery Management Plan (FMP) as revised in 2004 contains a description of the physical environments for reef fish species. The physical environment for reef fish has been described in detail in the EIS for the Generic EFH Amendment and is incorporated here by reference (GMFMC 2004).

Habitat Areas of Particular Concern (HAPC) for Reef Fish

Generic Amendment 3 (GMFMC 2005), is hereby incorporated by reference for addressing EFH, Habitat Area of Particular Concern (HAPCs), and adverse effects of fishing in the reef fish fishery. Further information describing environmental sites of special interest are discussed below.

3.1.2 Coastal Migratory Pelagics

The physical environment for coastal migratory pelagic species in this action is discussed below and in further detail in Amendment 18 (GMFMC and South Atlantic Fisheries Management Council (SAFMC) 2011). Amendment 18 discusses the Gulf and South Atlantic

physical habitat for coastal migratory pelagics (CMP) species, and is hereby incorporated by reference.

Essential Fish Habitat for CMP Species

The EIS for the original EFH and the FMP as revised in 2004 contains a description of the physical environments for CMP species. The physical environment for CMP species has been described in detail in the EIS for the Generic EFH Amendment and is incorporated here by reference (GMFMC 2004).

Habitat Areas of Particular Concern (HAPC) for CMP Species

Generic Amendment 3 (GMFMC 2005), is hereby incorporated by reference for addressing EFH, HAPCs, and adverse effects of fishing for CMP species. Further information describing environmental sites of special interest are discussed below in Chapter 3.1.3.

3.1.3 Environmental Sites of Special Interest Relevant to Reef Fish and Coastal Migratory Pelagics (Figure 3.1)

Longline/Buoy Gear Area Closure – Permanent closure to use of these gears for reef fish harvest inshore of 20 fathoms (36.6 meters) off the Florida shelf and inshore of 50 fathoms (91.4 meters) for the remainder of the Gulf (72,300 square nautical miles (nm²) or 133,900 km²). During June-August, bottom longline is prohibited inshore of 35 fathoms (64 meters) in the eastern Gulf.

Madison/Swanson and Steamboat Lumps Marine Reserves – No-take marine reserves sited on gag spawning aggregation areas where all fishing except for surface trolling during May through October is prohibited (219 nm² or 406 km²).

The Edges – No-take area closure from January 1 to April 30. All commercial and recreational fishing or possession of fish managed by the Gulf of Mexico Fishery Management Council (Council) is prohibited. The intent of the closure is to protect gag and other groupers during their respective spawning seasons. Possession is allowed when transiting the area if gear is stowed in accordance with federal regulations.

Tortugas North and South Marine Reserves – No-take marine reserves cooperatively implemented by the state of Florida, National Ocean Service (NOS), the Council, and the National Park Service (see jurisdiction on chart) (185 nm² or 343 km²). In addition, Generic Amendment 3 for addressing EFH, HAPCs, and adverse effects of fishing prohibited the use of anchors in these areas.

Individual reef areas and bank HAPCs of the northwestern Gulf including: East and West Flower Garden Banks, Stetson Bank, Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank Geyer Bank, McGrail Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank – Pristine coral areas protected by preventing use of some fishing gear that

interacts with the bottom (263.2 nm² or 487.4 km²). Subsequently, some of these areas were made a marine sanctuary by NOS and this marine sanctuary is currently being revised. Bottom anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots on coral reefs are prohibited in the East and West Flower Garden Banks, McGrail Bank, and on the significant coral resources on Stetson Bank.

Florida Middle Grounds HAPC – Pristine soft coral area protected from use of any fishing gear interfacing with bottom (348 nm² or 645 km²).

Pulley Ridge HAPC – A portion of the HAPC where deep-water hermatypic coral reefs are found is closed to anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots (2,300 nm² or 4,260 km²).

Stressed Areas for Reef Fish – Permanent closure Gulf-wide of the near shore waters to use of fish traps, power heads, and roller trawls (i.e., “rock hopper trawls”) (48,400 nm² or 89,637 km²).

Alabama Special Management Zone (SMZ) – In the Alabama SMZ, fishermen are limited to hook-and-line gear with no more than three hooks under the following scenarios: (1) fishing as a charter vessel or head boat; (2) a vessel that does not have a commercial permit for Gulf of Mexico reef fish; or (3) a vessel with such a permit fishing for Gulf reef fish. Nonconforming gear is restricted to bag limits, or for reef fish without a bag limit, to 5% by weight of all fish aboard.

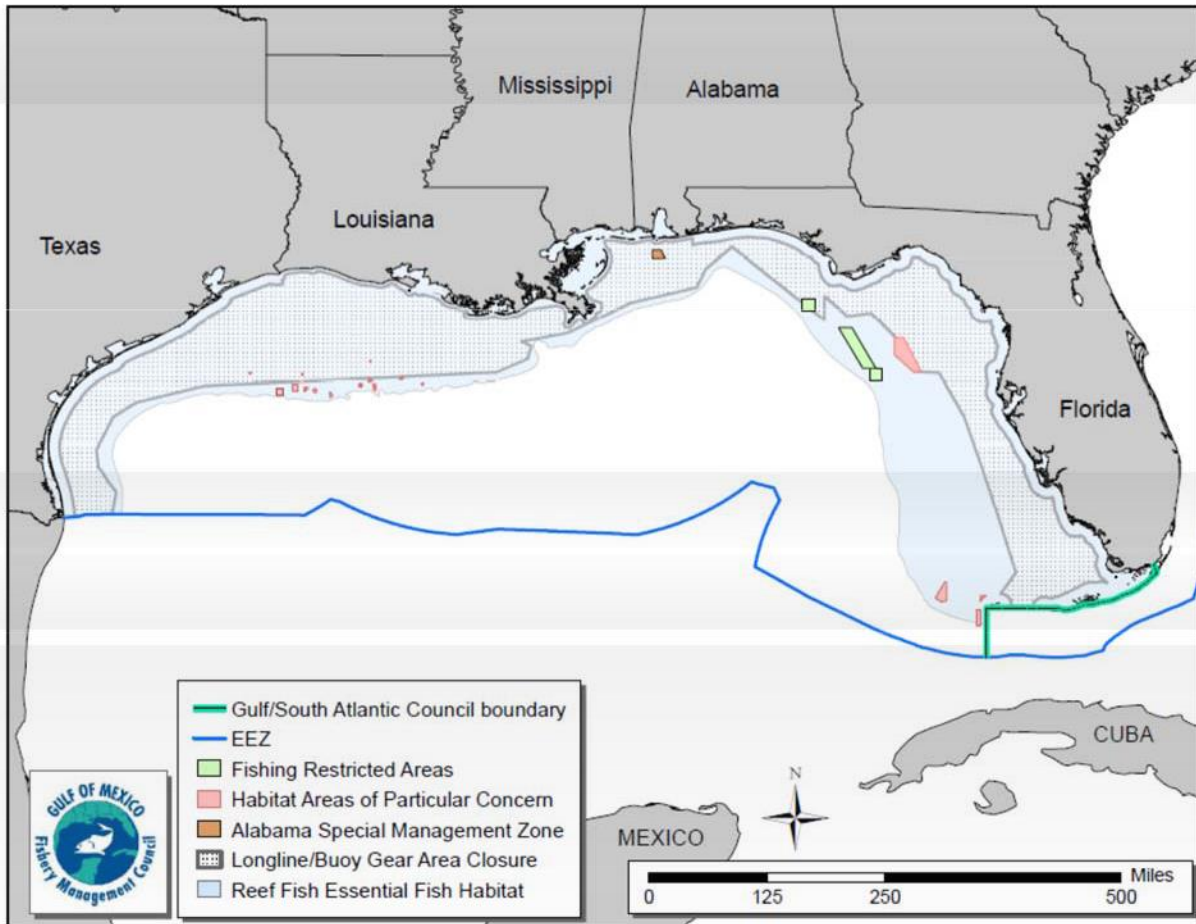


Figure 3.1.1. Composite map of most fishery management closed or gear restricted areas in the Gulf of Mexico.

Deepwater Horizon

The Deepwater Horizon MC252 oil spill in 2010 affected at least one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the Deepwater Horizon MC252 oil spill on the physical environment are expected to be significant and may be long-term. Oil was dispersed on the surface, and because of the heavy use of dispersants (both at the surface and at the wellhead), oil was also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf as were non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are persistent in the environment and can be transported hundreds of miles.

Surface or submerged oil during the Deepwater Horizon MC252 event could have restricted the normal processes of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column, thus affecting the long-standing hypoxic zone located west of the Mississippi River on the Louisiana continental shelf. In addition, microbes in the water that break down oil and dispersant also consume oxygen, which could lead to further oxygen depletion.

Zooplankton that feed off algae could also be negatively impacted, thus allowing more of the hypoxia-fueling algae to grow.

For additional information on the Deepwater Horizon MC252 oil spill and associated closures, see:

http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm.

3.1.4 Climate Change

Climate change projections show increases in sea surface temperature and sea level; decreases in sea ice cover; and changes in salinity, wave climate, and ocean circulation [Intergovernmental Panel on Climate Change (IPCC) <http://www.ipcc.ch/>]. These changes are likely to affect plankton biomass and fish larvae abundance that could adversely impact fish, marine mammals, seabirds, and ocean biodiversity. Kennedy et al. (2002) and Osgood (2008) have suggested global climate change could bring about temperature changes in coastal and marine ecosystems that, in turn, can influence organism metabolism; alter ecological processes, such as productivity and species interactions; change precipitation patterns and cause a rise in sea level that could change the water balance of coastal ecosystems; alter patterns of wind and water circulation in the ocean environment; and influence the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs. The National Oceanic and Atmospheric Administration's (NOAA) Climate Change Web Portal (<http://www.esrl.noaa.gov/psd/ipcc/ocn/>) indicates that the average sea surface temperature in the Gulf will increase by 1.2-1.4°C for 2006-2055 compared to the average over the years 1956-2005. Burton (2008) speculated that climate change could cause shifts in spawning seasons, changes in migration patterns, and changes to basic life history parameters such as growth rates. The OceanAdapt model (http://oceanadapt.rutgers.edu/regional_data/) shows distributional trends both in latitude and depth over the time period 1985-1013. For some reef fish species such as the smooth puffer, there has been a distributional trend to the north in the Gulf. For other species such as red snapper and the dwarf sand perch, there has been a distributional trend towards deeper waters.

The distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Hollowed et al. (2013) provided a review of projected effects of climate change on the marine fisheries and dependent communities. Integrating the potential effects of climate change into the fisheries assessment is currently difficult due to the time scale differences (Hollowed et al. 2013). The fisheries stock assessments rarely project through a time span that would include detectable climate change effects.

Greenhouse gases

The IPCC (<http://www.ipcc.ch/>) has indicated that greenhouse gas emissions are one of the most important drivers of recent changes in climate. Wilson et al. (2014) inventoried the sources of greenhouse gases in the Gulf from sources associated with oil platforms and those associated with other activities such as fishing. A summary of the results of the inventory are shown in Table 3.2.4.1 with respect to total emissions and from fishing. Commercial fishing and recreational vessels make up a small percentage of the total estimated greenhouse gas emissions from the Gulf (1.43% and 0.59%, respectively).

Table 3.2.4.1. Total Gulf greenhouse gas emissions estimates (tons per year) from oil platform and non-oil platform sources, commercial fishing and recreational vessels, and percent greenhouse gas emissions from commercial fishing and recreational vessels of the total emissions.*

| Emission source | CO ₂ | Greenhouse CH ₄ | Gas N ₂ O | Total CO ₂ e** |
|--------------------------------|-------------------|----------------------------|----------------------|---------------------------|
| Oil platform | 11,882,029 | 271,355 | 167 | 17,632,106 |
| Non-platform | 22,703,695 | 2,029 | 2,698 | 23,582,684 |
| Total | 34,585,724 | 273,384 | 2,865 | 41,214,790 |
| Commercial fishing vessels | 585,204 | 2 | 17 | 590,516 |
| Recreational fishing vessels | 244,483 | N/A | N/A | 244,483 |
| % Commercial fishing vessels | 1.69 | >0.01 | 0.59 | 1.43 |
| % recreational fishing vessels | 0.71 | NA | NA | 0.59 |

3.2 Description of the Biological/Ecological Environment

The biological environment in the areas affected in this amendment is defined by two components (Figure 3.2.1). Each component will be described in detail in the following sections.

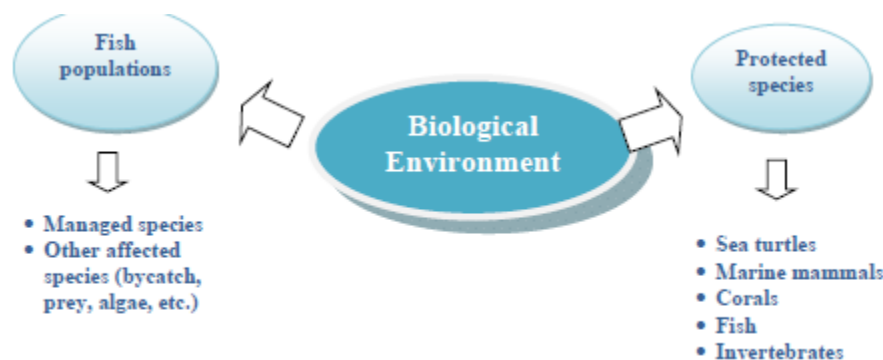


Figure 3.2.1. Two components of the biological environment described in this amendment.

3.2.1 Reef Fish

The species affected by this amendment are covered by the FMP for Reef Fish Resources. Many of the species in the Gulf region are assessed through the Southeast Data, Assessment, and Review (SEDAR) process. A complete description of the life history characteristics of

these species can be found in GMFMC (2011) available at: http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf. The management measures in this amendment address electronic reporting, and therefore other reef fish species are not specifically addressed further in this section. Chapter 5, Criteria 3 of the following Bycatch Practicability Analysis discusses bycatch of other reef fish in additional detail.

3.2.2 Coastal Migratory Pelagics

This action is limited CMP species in the Gulf. For further information, Amendment 18 (GMFMC and SAFMC 2011) discusses the Gulf habitat for CMP species, and is hereby incorporated by reference.

3.2.3 Protected Species

There are 28 different species of marine mammals that may occur in the Gulf. All 28 species are protected under the Marine Mammal Protection Act (MMPA) and six are also listed as endangered under the Endangered Species Act (ESA) (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). Other species protected under the ESA occurring in the Gulf include five sea turtle species (Kemp's ridley, loggerhead, green, leatherback, and hawksbill); two fish species (Gulf sturgeon and smalltooth sawfish); and two coral species (elkhorn, *Acropora palmata* and staghorn, *A. cervicornis*). Information on the distribution, biology, and abundance of these protected species in the Gulf are included in the final EIS to the Gulf Council's Generic EFH amendment (GMFMC 2004), the February 2005 ESA BiOp on the reef fish fishery (NMFS 2005), and the *Acropora* Status Review (*Acropora* Biological Review Team, 2005). Marine Mammal Stock Assessment Reports and additional species information is also available on the NMFS Office of Protected Species website: <http://www.nmfs.noaa.gov/pr/species/>.

Because of the primary gear types used, the Gulf reef fish fishery is classified in the 2016 MMPA List of Fisheries as Category III fishery. This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from the fishery is less than or equal to 1% of the potential biological removal. Dolphins are the only species documented as interacting with this fishery. Bottlenose dolphins may predate and depredate on the bait, catch, and/or released discards of the reef fish fishery.

All five species of sea turtles may be adversely affected by the Gulf reef fish fishery via incidental capture in hook-and-line gear. Incidental captures of sea turtle species occur in all commercial and recreational hook-and-line components of the reef fish fishery, but recent observer data indicate they are most frequent in the bottom longline component of the reef fish fishery. On an individual set basis, incidental captures may be relatively infrequent, but collectively, these captures sum to a high level of bycatch. Observer data indicate loggerhead sea turtles are the species most affected by the bottom longline component of the reef fish fishery and that is why a more detailed description of this species. Mortality of sea turtles caught is particularly problematic in this fishery component, because many are dead or in poor condition

upon retrieval of the gear as a result of forced submergence (i.e., drowning). All sea turtles caught on hook-and-line and released alive may later succumb to that were ingested, entangling, or otherwise still attached when they were released. Sea turtle release gear and handling protocols are required to reduce the amount of gear on released animals and minimize post-release mortality.

Smalltooth sawfish are also affected by the Gulf reef fish fishery, but to a much lesser extent than hardshell sea turtles. Smalltooth sawfish primarily occur in the Gulf off peninsular Florida. Although the long, toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in fishing gear, incidental captures in the commercial and recreational hook-and-line components of the reef fish fishery are rare events. Only eight smalltooth sawfish are estimated to be incidentally caught annually, and none are expected to result in mortality (NMFS 2005). Fishermen in this fishery are required to follow smalltooth sawfish safe handling guidelines.

In a 2015 biological opinion, NMFS determined that the proposed continued authorization of the CMP Fishery is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpback, or North Atlantic right whales), Gulf sturgeon, or elkhorn and staghorn corals. NMFS also determined that CMP Fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn corals or loggerhead sea turtles, and will have no effect on designated critical habitat for North Atlantic right whale.

The Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2016 Marine Mammal Protection Act List of Fisheries as a Category III fishery (81 FR 20550), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

On April 6, 2016, NMFS published a final rule (811 FR 2005720057) listing 11 distinct population segments (DPSs) of green sea turtles; the North Atlantic DPS of green sea turtles is listed as threatened, and is the only DPS whose individuals can be expected to be encountered in the area managed under the CMP FMP. The listing of the DPSs of green turtles triggers reinitiation of consultation under Section 7 of the ESA because the previous opinion did not consider what effects the CMP fishery is likely to have on this species, therefore NMFS Protected Resources must analyze the impacts of these potential interactions.

3.3 Description of the Economic Environment

3.3.1 Commercial Sector

The actions in this proposed amendment only pertain to the recreational for-hire sector (charter vessels and headboats). As a result a description of the economic environment for the commercial sector is not provided.

3.3.2 Recreational Sector

Angler Effort

Estimates of the Gulf charter vessel angler effort (individual angler trips regardless of trip duration or species target intent or catch success) for 2011-2015 are provided in Table 3.3.1. These estimates are derived from the Marine Recreational Information Program (MRIP). Estimates of charter vessel angler effort for additional years, and measures of directed effort for individual species, are available at <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

Table 3.3.1. Number of Gulf charter vessel angler trips, by state, 2011-2015¹.

| | Alabama | Florida | Louisiana | Mississippi | Total |
|---------|----------------|----------------|----------------------|--------------------|----------------------|
| 2011 | 74,840 | 535,794 | 112,736 | 11,235 | 734,606 |
| 2012 | 58,661 | 699,102 | 114,664 | 11,491 | 883,919 |
| 2013 | 89,736 | 683,573 | 122,366 | 11,254 | 906,928 |
| 2014 | 86,736 | 693,740 | na ² | 16,242 | 796,718 |
| 2015 | 98,095 | 785,588 | na ² | 42,422 | 926,105 |
| Average | 81,614 | 679,559 | 116,589 ³ | 18,529 | 841,818 ³ |

¹Texas information unavailable because the MRIP survey is not conducted in Texas.

²Not available due to the implementation of the Louisiana Creel Survey.

³Average of 2011-2013.

Source: MRIP database, NMFS, SERO.

As noted in Table 3.3.1, the Gulf estimates do not include Texas, which is not covered by the MRIP, and Louisiana beginning in 2014 due to the implementation of the Louisiana Creel Survey. The effort estimates provided in Table 3.3.1 are from all charter vessels in the respective states and thus include effort from both federally permitted vessels and charter vessels that only fish in state waters. Although the MRIP data allows estimation of effort in federal waters vessels that require a federal permit (see the permits discussion below), federally permitted vessels also fish in state waters and are subject to federal regulations wherever they fish. As a result, it is not possible with available data to estimate the number of charter vessel angler trips by only federally permitted charter vessels. Therefore, the estimates provided in Table 3.3.1 exceed the angler effort on the vessels encompassed by the proposed actions in this amendment by an unknown number of trips.

Estimates of headboat angler effort in the Gulf for 2011-2015 are provided in Table 3.3.2. These estimates are derived from the NMFS Southeast Region Headboat Survey (SRHS). Headboat angler effort is calculated as angler days, which are a standardized count of trips that result from the combination of partial-day, full-day, and multiple-day trips. The SRHS includes some vessels that do not possess a federal for-hire permit. Thus, the estimates of headboat angler days, like the estimates of effort on charter vessels, do not reflect effort for just federally permitted vessels.

Table 3.3.2. Gulf headboat angler days, by state, 2011–2015.

| | Angler Days | | | | |
|----------------|--------------|------------------------------|------------------------------------|--------|---------|
| | West Florida | Florida/Alabama ¹ | Mississippi/Louisiana ² | Texas | Total |
| 2011 | 79,722 | 77,303 | 3,657 | 47,284 | 207,966 |
| 2012 | 84,205 | 77,770 | 3,680 | 51,776 | 217,431 |
| 2013 | 94,752 | 80,048 | 3,406 | 55,749 | 233,955 |
| 2014 | 102,841 | 88,524 | 3,257 | 51,231 | 245,853 |
| 2015 | 107,910 | 86,473 | 3,587 | 55,135 | 253,105 |
| Average | 93,886 | 82,024 | 3,517 | 52,235 | 231,662 |

Source: SRHS.

West Florida = Florida from the Dry Tortugas through the Florida Middle Grounds, Florida/Alabama = northwest Florida and Alabama.

¹For 2013, SRHS data was reported separately for NW Florida and Alabama, but has been combined here for consistency with previous years.

²Mississippi and Louisiana are combined for confidentiality purposes.

Permits

The for-hire sector is comprised of charter vessels and headboats (party boats). Although charter vessels tend to be smaller on average than headboats, the key distinction between the two types of operations is how the fee is determined. Generally, on a charter boat trip, the fee charged is for the entire vessel regardless of how many passengers are carried, whereas the fee charged for a headboat trip is paid per individual angler.

A federal charter/headboat (for-hire) vessel permit is required for fishing in federal waters for Gulf CMP species and Gulf reef fish (RF). On October 30, 2015, there were 1,375 vessels with at least one valid (non-expired) or renewable Gulf for-hire CMP or RF permit (including historical captain permits). A renewable permit is an expired limited access permit that may not be actively fished, but is renewable for up to one year after expiration. The Gulf for-hire permits are limited access permits. Most for-hire vessels possess more than one for-hire permit. Among the 1,375 vessels with at least one Gulf for-hire permit, 1,250 had both a CMP and RF for-hire permit, 69 had only a CMP for-hire permit, and 56 had only a RF for-hire permit. Additionally, 167 of these vessels had a Gulf commercial reef fish permit. Finally, 402 of the vessels with at least one Gulf for-hire permit had at least one for-hire permit required to fish for Atlantic dolphin/wahoo, Atlantic CMP species, or South Atlantic snapper-grouper species.

Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, if a vessel meets the selection criteria (see section 1.4) used by the SRHS and is selected to report by the Science and Research Director (SRD) of the Southeast Fishery Management Council (SFSC), it is determined to operate primarily as a headboat and is required to submit harvest and effort information to the

SRHS. As of February 2016, 69 Gulf headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.).

Information on Gulf charter vessel and headboat operating characteristics is included in Savolainen et al. (2012) and is incorporated herein by reference.

Economic Value

Economic value for for-hire vessels can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip).

Estimates of the PS per for-hire passenger trip are not available. Instead, net operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, are used as a proxy for PS. For vessels in the Gulf the estimated NOR value is \$154 (2015 dollars) per charter angler trip (Liese and Carter 2011). The estimated NOR value per headboat angler trip is \$53 (2015 dollars) (C. Liese, NMFS SEFSC, pers. comm.).

Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the information provided below represents a distributional analysis only.

Recreational fishing generates business activity (economic impacts). Business activity for the recreational sector is characterized in the form of full- and part-time jobs, output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Estimates of the business activity (economic impacts) associated with recreational charter vessel angling in 2014 are provided in Table 3.3.3. These estimates and additional details are available at

https://www.st.nmfs.noaa.gov/economics/publications/feus/fisheries_economics_2014/index.

More recent information is not available at the time.

The estimates provided in Table 3.3.3 include only impacts at the state level. These numbers are not additive across the region. Addition of the state-level estimates to produce a regional (or national) total could either under- or over-estimate the actual amount of total business activity because of the complex relationship between different jurisdictions and the expenditure/impact multipliers. Neither regional nor national estimates are available at this time.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in the MRIP in the Gulf. As a result, estimation of the appropriate business activity coefficients for headboat effort has not been conducted. Beginning in August 2014, socio-economic data fields were added to the SRHS electronic logbook. However, these data refer to the vessel operation and not angler expenditures, which are the basis for estimating the business activity associated with the different recreational sector modes.

Table 3.3.3. 2014 business activity (thousands of 2014 dollars) associated with charter vessel trips in the Gulf. Output and value added impacts are not additive.

| | Alabama | Florida | Louisiana | Mississippi | Texas |
|--------------------|----------------|----------------|------------------|--------------------|--------------|
| Output Impact | \$49,799 | \$471,415 | \$70,164 | \$7,206 | \$99,716 |
| Value Added Impact | \$26,942 | \$286,678 | \$42,749 | \$3,520 | \$57,356 |
| Jobs | 570 | 4,409 | 633 | 90 | 948 |

Source:

https://www.st.nmfs.noaa.gov/economics/publications/feus/fisheries_economics_2014/index

3.4 Description of the Social Environment

The proposed actions in this amendment would be expected to affect federally permitted charter and headboat fishing businesses associated with the Gulf reef fish and CMP fisheries. A description of vessels participating in the SRHS is provided in the Framework Action for Headboat Electronic Reporting Requirements (GMFMC 2013b) and is incorporated here by reference. The current reporting requirements for charter vessels is provided in Section 2.1. The reporting requirements for participants of the SRHS is provided in Section 2.2, and a list of the information collected in the survey is provided in Table 2.2.1.

A federal charter/headboat permit is required for vessels to take paying passengers to fish for reef fish and CMP species in federal waters. The federal permits do not distinguish between charter vessels and headboats; there is a charter/headboat permit for reef fish, and a charter/headboat permit for CMPs. In the Gulf, the charter/headboat permits for reef fish and CMPs are limited access; existing permits may be renewed or transferred, but no new permits are available. The respective charter/headboat historical captain permits for reef fish and CMPs are limited access and may be renewed by the permit holder. However, the historical captain permits may not be transferred to a new owner. They may only be transferred to another vessel owned or leased by the historical captain. Historical captain permits that are not renewed or transferred to another vessel are terminated.

A permit is valid for one year after it has been renewed or transferred. If the permit is not renewed or transferred before the end of the year it is valid, it stays in renewable status for one year; the permit may not be used for fishing, but the permit holder may still renew or transfer the permit during the year of renewable status. If the permit is not renewed or transferred by the end of the renewable period, the permit becomes void and may not be reissued. The annual application fee for these permits is \$25 for the first permit and \$10 for each additional permit.

The number of unique vessels possessing valid or renewable for-hire permits is provided in Table 3.4.1. Most federally permitted for-hire vessels that have a charter/headboat permit for reef fish also have the charter/headboat permit for CMPs (1,217 vessels). There are 32 vessels possessing a historical captain charter/headboat permit for both reef fish and CMPs. A dual-permitted vessel refers to a vessel possessing both a charter/headboat permit and a commercial

permit. Currently, there are 167 vessels possessing at least one Gulf charter/headboat permit and a commercial reef fish permit.

For the purpose of analyzing the effects from the proposed actions (Sections 4.1.3, 4.2.3, and 4.3.3), for-hire vessels may be placed in one of three broad categories: 1) charter vessels participating in the MRIP For-hire Survey; 2) headboats participating in the SRHS; and 3) dual-permitted vessels. Charter vessels participating in the MRIP For-Hire Survey are randomly selected on a weekly basis to report the elements shown in Table 2.1.1. This survey is administered by telephone and 10% of charter vessels are selected each week. To date, these vessels have not been required to maintain and submit fishing reports under any timeline, although they would be required to do so if selected by the SRD). The 69 headboats currently participating in the SRHS have been required to submit trip reports electronically since January 1, 2013. The reports must be submitted at weekly intervals, with operators having seven days to submit a report for the previous fishing week. Table 2.2.1 provides the elements reported by headboats to the SRHS. Finally, dual-permitted vessels must satisfy the requirements of both the charter/headboat permit and the commercial reef fish permit, and report based on whether the vessel participates in the SRHS (headboats) or does not (charter vessels). Upon leaving port, dual-permitted vessels are required to make a trip declaration specifying whether the trip is commercial or for-hire. Vessels with a commercial reef fish permit are already required to have and use vessel monitoring system (VMS), one of the location recording device platforms under consideration for all for-hire vessels (Action 3).

Table 3.4.1. Unique number of federally permitted vessels possessing valid and renewable charter/headboat permits and commercial permits in the Gulf.

| Number of Vessels | Federal Permit(s) held by vessels |
|--------------------------|-----------------------------------------------------------------------------------------|
| 1,274 | Charter/Headboat for Reef Fish |
| 1,286 | Charter/Headboat for CMP |
| 1,217 | Charter/Headboat for Reef Fish <i>and</i> CMP |
| 32 | Charter/Headboat Historical Captain for Reef Fish <i>and</i> CMP |
| 1 | Charter/Headboat Historical Captain for CMP <i>and</i> Charter/Headboat for Reef Fish |
| | Dual-permitted vessels |
| 161 | Charter/Headboat for Reef Fish + Commercial Reef Fish |
| 4 | Charter/Headboat Historical Captain for Reef Fish <i>and</i> CMP + Commercial Reef Fish |
| 2 | Charter/Headboat for CMP + Commercial Reef Fish |

Source: J. Dudley, SERO Permits Office, pers. comm. October 30, 2015.

For-Hire Fishing Communities

Detailed descriptions of communities engaged in the fishing industry along the Gulf coast can be found in Jepson et al. (2005) and Impact Assessment Inc. (2005a, 2005b, 2005c, 2005d, 2005e, 2005f, 2005g, and 2006) and are incorporated herein by reference. These descriptions include such elements as, but not limited to, the location of the community, history, employment,

demographics, fishing infrastructure and services, and recreational licenses held by community members.

A spatial approach enables the consideration of fishing communities and of the importance of fishery resources to those communities, as required by National Standard 8. As there are no landings data at the community level for for-hire vessels not participating in the SRHS, the number of charter vessels possessing each type of for-hire permit is provided for the Gulf region by county in Tables 3.4.2 and 3.4.3. Table 3.4.2 provides the number and type of for-hire permits held by entities in Gulf coastal counties including permits for fishing in South Atlantic waters, and Table 3.4.3 provides the number and type of for-hire permits held by entities with an address in Monroe County, which includes the Florida Keys. Because a single vessel could possess multiple permits, the total number of permits for each county does not represent the number of unique vessels. The number of South Atlantic permits held by entities in the Gulf is also included; these permits are open access.

The number of permits is a crude measure of the reliance upon for-hire recreational fishing that is general in nature and not specific to a particular fishery or stock. Ideally, additional variables quantifying the importance of recreational for-hire fishing to a community would be included (such as the amount of charter landings in a community, availability of recreational fishing related businesses and infrastructure, etc.). However, these data are not available at this time.

Table 3.4.2. Number of valid and renewable permits held by charter vessels in the Gulf of Mexico, by coastal county as of May 28, 2015.

| | Gulf of Mexico Charter Permits | | | | South Atlantic Charter Permits | | | TOTAL |
|---------------------------|--------------------------------|-----|--------------|--------|--------------------------------|-----|-----------------|-------------|
| | Reef Fish | CMP | HC Reef Fish | HC CMP | Dolphin Wahoo | CMP | Snapper Grouper | |
| Texas TOTAL | 217 | 223 | 5 | 5 | 37 | 35 | 34 | 556 |
| Brazoria | 30 | 30 | 1 | 1 | 1 | 1 | 1 | 65 |
| Galveston | 36 | 36 | 1 | 1 | 6 | 5 | 6 | 91 |
| Harris | 28 | 29 | | | 5 | 4 | 5 | 71 |
| Nueces | 58 | 60 | | | 12 | 10 | 8 | 148 |
| Other Counties | 65 | 68 | 3 | 3 | 13 | 15 | 14 | 181 |
| Louisiana TOTAL | 96 | 96 | 6 | 6 | 6 | 6 | 6 | 222 |
| Jefferson | 16 | 15 | 2 | 2 | 1 | 1 | 1 | 38 |
| Lafourche | 5 | 5 | | | | | | 10 |
| Orleans | 6 | 5 | | | 1 | 1 | 1 | 14 |
| Plaquemines | 8 | 8 | | | 1 | 1 | 1 | 19 |
| St Tammany | 13 | 13 | | | | | | 26 |
| Terrebonne | 19 | 18 | 4 | 4 | | | | 45 |
| Other Parishes | 29 | 32 | 0 | 0 | 3 | 3 | 3 | 70 |
| Mississippi TOTAL | 38 | 38 | 3 | 3 | 1 | 2 | 1 | 86 |
| Harrison | 22 | 22 | 2 | 2 | 1 | 2 | 1 | 52 |
| Jackson | 10 | 10 | | | | | | 20 |
| Other Counties | 6 | 6 | 1 | 1 | | | | 14 |
| Alabama TOTAL | 120 | 115 | 2 | 2 | 20 | 28 | 26 | 313 |
| Baldwin | 81 | 79 | 2 | 2 | 15 | 19 | 19 | 217 |
| Mobile | 21 | 18 | | | 2 | 4 | 3 | 48 |
| Other Counties | 18 | 18 | 0 | 0 | 3 | 5 | 4 | 48 |
| West Florida TOTAL | 597 | 575 | 12 | 13 | 216 | 222 | 220 | 1855 |
| Bay | 77 | 74 | 1 | 1 | 23 | 23 | 22 | 221 |
| Charlotte | 11 | 13 | | | 6 | 6 | 6 | 42 |
| Citrus | 15 | 14 | | | 7 | 8 | 8 | 52 |
| Collier | 51 | 53 | 3 | 3 | 30 | 28 | 30 | 198 |
| Escambia | 34 | 34 | | | 3 | 3 | 3 | 77 |
| Franklin | 16 | 16 | 1 | 1 | 4 | 5 | 5 | 48 |
| Gulf | 16 | 16 | 3 | 3 | 2 | 2 | 2 | 44 |
| Hernando | 7 | 4 | | | 9 | 9 | 9 | 38 |
| Hillsborough | 18 | 17 | | | 9 | 9 | 9 | 62 |
| Lee | 37 | 37 | | | 18 | 18 | 19 | 129 |
| Manatee | 17 | 15 | | | 4 | 4 | 4 | 44 |
| | Gulf of Mexico Charter Permits | | | | South Atlantic Charter Permits | | | |

| | Reef Fish | CMP | HC Reef Fish | HC CMP | Dolphin Wahoo | CMP | Snapper Grouper | TOTAL |
|--------------------------------|--------------|--------------|--------------|-----------|---------------|------------|-----------------|--------------|
| Okaloosa | 93 | 91 | 2 | 2 | 8 | 8 | 8 | 212 |
| Pasco | 11 | 8 | | 1 | 6 | 6 | 6 | 38 |
| Pinellas | 97 | 95 | 2 | 2 | 46 | 48 | 45 | 335 |
| Santa Rosa | 17 | 17 | | | 6 | 6 | 5 | 51 |
| Sarasota | 36 | 33 | | | 10 | 13 | 14 | 106 |
| Wakulla | 6 | 5 | | | 1 | 1 | 1 | 14 |
| Walton | 12 | 11 | | | 6 | 5 | 5 | 39 |
| Other Counties | 26 | 22 | 0 | 0 | 18 | 20 | 19 | 105 |
| TOTAL GULF (No FL Keys) | 1,068 | 1,047 | 28 | 29 | 280 | 293 | 287 | 3,032 |

Source: SERO permits office. Note: HC = Historic Captain permits. All Gulf charter/headboat permits are limited access. The South Atlantic charter/headboat permits are open access.

Table 3.4.3. Number of valid and renewable permits held by charter vessels in the Florida Keys (Monroe County) as of May 28, 2015.

| | Gulf of Mexico Charter Permits | | | | South Atlantic Charter Permits | | | TOTAL |
|---------------------------|--------------------------------|-----|--------------|--------|--------------------------------|-----|-----------------|--------------|
| | Reef Fish | CMP | HC Reef Fish | HC CMP | Dolphin Wahoo | CMP | Snapper Grouper | |
| Florida Keys TOTAL | 73 | 77 | 0 | 0 | 282 | 279 | 300 | 1,011 |

Source: SERO permits office. Note: HC = Historic Captain permits.

At this time, it is not possible to examine the intensity of charter fishing activity at the community level for a specific species. However, it is likely that counties having a greater number of federal charter/headboat permits would also be the most likely to have an active for-hire fleet, and would be the communities most affected by this regulatory action. In the Gulf, the counties (and respective communities) with at least 50 federal for-hire permits include: Pinellas (Clearwater, Indian Rocks Beach, Largo, Madeira Beach, St. Petersburg, Tarpon Springs, among others), Okaloosa (Destin), Bay (Panama City, Panama City Beach, and Mexico Beach), and Collier (Naples and March Island), Florida; Baldwin (Orange Beach), Alabama; the Greater Houston area including Harris, Galveston, and Brazoria counties, and Nueces (Port Aransas and Corpus Christi), Texas (Table 3.4.2 and J. Dudley, SERO Permits Office, pers. comm.). The Florida Keys also have a large number of for-hire permits, although there are more South Atlantic permits held by vessels than Gulf for-hire permits (Table 3.4.3). Further, it is not possible to determine whether for-hire vessels in the Florida Keys are actively fishing in Gulf, South Atlantic, or Florida state waters. Although these counties, and the respective communities within, have been identified as the most likely to be affected, the effects from the proposed actions are expected to result in broad social benefits by improving the accuracy and timeliness

of data reporting (Sections 4.1.3, 4.2.3, and 4.3.3). It should also be noted that for-hire businesses are associated with important tourism industries in these communities.

3.4.1. Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider “the 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...” This executive order is generally referred to as environmental justice (EJ).

Federally permitted for-hire fishing businesses participating in the Gulf reef fish and CMP fisheries may be affected by this proposed action. This action is expected to affect the administrative procedures of federally permitted for-hire businesses by requiring the submission of electronic reports and/or increasing the frequency for which fishing reports must be submitted. Any effects from the proposed actions are expected to be minimal to non-existent in the short term and beneficial in the long term (see Sections 4.1.3, 4.2.3, and 4.3.3, 4.4.3). No adverse effects would be expected to accrue to charter and headboat passengers, or associated businesses and communities including tribes or indigenous groups.

Information on race, ethnicity, and income status of federally permitted for-hire business owners, and the captains, crew, and other employees who work for these businesses is not available, because these data are not collected by National Marine Fisheries Service (NMFS) or other agencies. Because the proposed actions affect the administrative procedures of for-hire businesses, any effects to low-income populations are unlikely, as owners of these businesses are not likely in poverty. Further, the proposed actions would not affect individuals differentially based on their race, ethnicity, or income status. Nevertheless, although no Environmental Justice (EJ) concerns are expected to arise from the proposed actions, the lack of effects on EJ populations cannot be assumed.

3.5 Description of the Administrative Environment

3.5.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the U.S. exclusive economic zone (EEZ), an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and

authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

Responsibility for federal fishery management decision-making is divided between the U.S. Secretary of Commerce (Secretary) and eight regional Fishery Management Councils that represent the expertise and interests of constituent states. Regional Councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary of Commerce (Secretary) is responsible for collecting and providing the data necessary for the Councils to prepare fishery management plans and for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and with other applicable laws summarized in Appendix B. In most cases, the Secretary has delegated this authority to NMFS.

The Gulf Council is responsible for conservation and management of fishery resources in federal waters of the Gulf. These waters extend from 9 to 200 nautical miles offshore from the seaward boundary of the states Florida and Texas; and from 3 to 200 nautical miles offshore from the seaward boundary of the states of Alabama, Mississippi, and Louisiana. The Gulf Council has seventeen voting members: one from NMFS; one each from the state fishery agencies of Florida, Alabama, Mississippi, Louisiana and Texas; and 11 public members appointed by the Secretary. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard, Department of State, and Gulf States Marine Fisheries Commission (GSMFC).

The Council has adopted procedures whereby the non-voting members serving on the Council committees have full voting rights at the committee level but not at the full Council level. Council members serve three-year terms and are recommended by State Governors and appointed by the Secretary from lists of nominees submitted by state governors. Appointed members may serve a maximum of three consecutive terms.

Public interests also are involved in the fishery management process through participation on Advisory Panels (APs) and through Council meetings, which, with few exceptions, are open to the public. The Councils use Science and Statistical Committees (SSCs) to review the data and science being used in assessments and fishery management plans/amendments. In addition, the regulatory process is in accordance with the Administrative Procedures Act, in the form of “notice and comment” rulemaking.

3.5.1.1 Gulf of Mexico Reporting Requirements

Currently, the owner or operator of a vessel for which a charter vessel permit for Gulf CMP fish, Atlantic CMP fish, Gulf reef fish, whose vessel fishes for or lands such CMP fish and reef fish in or from state waters adjoining the applicable Gulf, or Atlantic EEZ, and who is selected to report by the SRD, must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed records for charter vessels must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each trip (Sunday). Currently, all headboats are required to submit fishing records to the SRD weekly or

at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

Table 3.5.1 summarizes the Southeast's region reporting requirements by fishery management plan. Detailed information on electronic reporting requirements and the future implementation plan for the Southeast region can be found in the National Oceanic and Atmospheric Administration (NOAA) Fisheries Southeast Region Electronic Monitoring and Reporting Regional Implementation Plan (NMFS 2015) and is hereby incorporated by reference. http://sero.nmfs.noaa.gov/sustainable_fisheries/documents/pdfs/em_er_implementation_plan_southeast.pdf

Table 3.5.1. Summary of the existing monitoring tools currently implemented in commercial reef fish and coastal migratory pelagic fisheries of the Southeast Region.

| Fishery | Current Requirements | | | | | | Additional ER Potentially Suitable? | VMS or EM Potentially Suitable? |
|--------------------------------------------------------|-----------------------------|-------------------------|------------------------------|-----|-------|-----------|-------------------------------------|-----------------------------------------------------------|
| | Dealer Electronic Reporting | Paper logbooks/ reports | Electronic logbooks/ reports | VMS | Video | Observers | | |
| Gulf of Mexico Reef Fish | Yes | Yes | No | Yes | No | Yes | eLogbook – pilot testing in 2015 | EM for protected resource interactions; reef fish bycatch |
| Gulf of Mexico and Atlantic Coastal Migratory Pelagics | Yes | Yes | No | No | No | Yes | eLogbook – pilot testing in 2015 | |

3.5.2 State Fishery Management

3.5.2.1 Gulf of Mexico States

The state governments of Louisiana, Mississippi, and Alabama have the authority to manage fisheries that occur in waters extending three nautical miles, while west Florida and Texas authority is nine nautical miles from their respective shorelines. Louisiana's marine fisheries are managed by the Louisiana Department of Wildlife and Fisheries. The Marine Resources Division of the Mississippi Department of Natural Resources regulates Mississippi's marine fisheries. Alabama's Department of Conservation and Natural Resources manages Alabama's marine fisheries. Texas' marine fisheries are managed by the Texas Department of Wildlife and Fisheries, and Florida's marine fisheries are managed by the Florida Fish and Wildlife Commission. Each Gulf of Mexico state fishery management agency has a designated seat on the Gulf Council.

The Gulf of Mexico states are also involved in the management of marine fisheries through the GSMFC in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries. The GSMFC does not possess any regulatory authority.

3.5.3 Enforcement

Both the NOAA Fisheries Office for Enforcement (NOAA/OLE) and the United States Coast Guard (USCG) have the authority and the responsibility to enforce Gulf of Mexico and South Atlantic Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at-sea patrol services for the fisheries mission.

Neither NOAA/OLE nor the USCG can provide a continuous law enforcement presence in all areas due to the limited resources of NOAA/OLE and the priority tasking of the USCG. To supplement at-sea and dockside inspections of fishing vessels, NOAA entered into Cooperative Enforcement Agreements with all but one of the states in the Southeast Region (North Carolina), which granted authority to state officers to enforce the laws for which NOAA/OLE has jurisdiction. In recent years the level of involvement by the states has increased through Joint Enforcement Agreements, whereby states conduct patrols that focus on federal priorities and, in some circumstances, prosecute resultant violators through the state when a state violation has occurred.

NOAA General Counsel issued a revised Southeast Region Magnuson-Stevens Act Penalty Schedule in June 2003, which addresses all Magnuson-Stevens Act violations in the Southeast Region. In general, this Penalty Schedule increases the amount of civil administrative penalties that a violator may be subject to up to the current statutory maximum of \$120,000 per violation.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1: Modify Frequency and Mechanism of Data Reporting for Charter Vessels

4.1.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment

The charter vessel reporting requirement is an administrative action for providing a means of collecting data from the industry, and does not directly affect the physical or biological environment, but does have an indirect effect. There would be positive indirect biological effects because having all charter vessels report electronically would make it easier to track landings in a timely manner. This would help prevent exceeding annual catch limits (ACLs), reducing the likelihood of overfishing, leading to healthier fish stocks. In addition, the data collected would be used to enhance stock assessments and in turn provide better scientific advice to fishery managers. **Alternative 1 (No Action)** already requires that vessels, if selected, must maintain a fishing record for each trip, or a portion of such trips as specified by the Science and Research Director (SRD), on forms provided by the SRD; however, no charter vessels have been selected by the SRD. If selected, completed fishing records must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each week (Sunday). Charter vessels are currently monitored through the Marine Recreational Information Program (MRIP) For-Hire Survey (measures effort) and the MRIP dockside intercept survey (measures catch). The MRIP For-Hire Survey includes charter vessels operating in the Gulf of Mexico (Gulf) from Louisiana through the west coast of Florida. Charter vessel operators are required to report all trips taken during selected weeks (effort only) whenever they are selected to participate in the survey. Charter vessel operators are contacted by telephone (a weekly sample of 10% of the fleet) to collect these data (**Table 2.1.1**). Catch data are collected in a separate dockside intercept survey of anglers. Adjustment factors for active charter vessels that are not in the sample frame (new to fleet, no contact information known, etc.) are produced from field intercept survey questions and applied to the raw effort estimate. **Alternative 1** could result in adverse impacts if landings are not reported in a timely fashion and allowable harvests are exceeded. Reporting provides a method to estimate mortality, which is then used to assess the stock conditions. Stock assessment results based on data with a high degree of uncertainty are not as useful for management purposes.

Alternatives 2 and 3, and Preferred Alternative 4 could provide positive effects to the stocks by increasing the frequency and mode of reporting, which can reduce the likelihood of exceeding the ACLs, thus reducing the likelihood of overfishing. Overages of the ACLs have an adverse effect to the stock and stock conditions if not otherwise accounted for in the next year with a reduction of the ACLs by the amount of the overage. However, especially for species under a rebuilding plan simply lowering the ACL the following year may not offset the adverse impacts of the overage. For example, the reduction in spawning potential of the stock due to exceeding the ACL is not fully compensated by an equivalent harvest reduction in the next fishing year. For greater amberjack and gray triggerfish, any overages are deducted from the allowable harvest the following fishing year. Similarly, if Gulf gag or red grouper are in a

rebuilding plan, overages are deducted from the allowable harvest the following fishing year. In these instances, the adverse effects may be mitigated. When red snapper are in the overfished status, any harvest overage will be reduced from the allowable harvest unless best scientific information available determines that an overage adjustment is not necessary.

For overfished stocks, overages may prevent achieving the rebuilding target and optimum yield. **Alternative 2** would give the option for reports to be submitted weekly or at intervals shorter than a week. **Alternative 3** would require daily electronic reporting and **Preferred Alternative 4** would require electronic reporting at the end of each trip prior to arriving at the dock. All of the action alternatives would require that data be submitted to the Southeast Fisheries Science Center (SEFSC) more frequently than the current requirements and electronically resulting in positive indirect biological effects. **Preferred Alternative 4** would require electronic reporting for each trip, prior to arriving at the dock. **Preferred Alternative 4** also provides the opportunity for dock-side validation of actual catch which would reduce uncertainty in harvest data, and provide for positive benefits. **Alternatives 1-3** do not provide the opportunity for dock-side validation of harvest, and therefore would not provide as great of benefit to harvest data as **Preferred Alternative 4**. **Preferred Alternative 4** would provide an increased frequency of reporting from the all the **Alternatives (1-3)**, and would not be expected to result in any adverse effects to the physical, biological, or ecological environments.

Alternative 1, **Alternative 2**, **Alternative 3**, and **Preferred Alternative 4** are unlikely to result in any direct adverse impacts on protected species such as endangered or threatened whales, sea turtles, corals, or habitat areas of popular concern (HAPCs). All alternatives including **Preferred Alternative 4** would modify reporting requirements for the charter sector, but overall this would not change current fishing practices. Total harvest would still be restrained by the commercial and recreational ACLs, and accountability measures (AMs) would still be used to help prevent overfishing. It is unlikely any alternative would result in increased or modified fishing effort in the reef fish or CMP fisheries; therefore, no adverse biological impacts on protected species is expected from this action.

4.1.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 (No Action) would maintain current reporting requirements for federally permitted charter vessels and would therefore not affect the harvest and customary uses of Gulf reef fish or CMPs. Consequently, **Alternative 1** would not be expected to result in direct economic effects. However, **Alternative 1** would continue to allow for a time lag in the collection of landings information. If the time lags result in delaying needed management measures, e.g., a timely closure of a fishery, and adversely affect fish stocks, adverse indirect economic effects would be expected to result. Additionally, the absence of logbook trip reports limits the information on which to base other management decisions (beyond the timing of quota closure) and restricts the management options available for implementation. These limitations may have economic implications for both this component of the recreational sector, the recreational sector as a whole, and the commercial sector. For example, better data would enable more accurate assessments of harvests, effort, and operational costs. This would support improved monitoring of quotas (as previously discussed), better ensuring overruns not occur, as

well as improved forecasts of the expected biological, economic, and social effects of current and proposed regulations. As part of the larger recreational sector, circumstances that limit understanding of the performance of charter vessels by extension affects understanding of the performance of the recreational sector as a whole and the expected economic effects of proposed management measures. For example, a stock assessment that is adversely affected by poor harvest or effort data from charter vessels will have harvest and management implications on all users within the recreational sector as well as the commercial sector.

Alternatives 2, 3 and Preferred Alternative 4 would require federally permitted charter vessels to submit fishing records via electronic reporting. The fishing records would be electronically submitted using National Marine Fisheries Service (NMFS) approved hardware/software.

Alternatives 2 and 3 would require weekly and daily submissions, respectively. **Preferred Alternative 4** would require the submission of fishing records for each trip prior to returning to the docks. Because a majority of charter trips are half day trips, **Preferred Alternative 4** could require several submissions in a single day. Therefore, in terms of time necessary to complete the requests and associated costs, a ranking from least to most onerous would be **Alternative 2, 3, and Preferred Alternative 4**. The costs expected to be borne by the Agency to administer these data collection efforts as well as the costs expected to be borne by charter operators to acquire, operate, update and maintain the approved hardware and software would depend on the list of approved hardware and software selected. Costs expected to result from the data collection efforts considered are discussed in Action 4. Because shortening the reporting frequency from weekly to daily reporting (or reporting for each trip) would result in marked improvements in the data collected and that these improvements would result in more effective management, e.g., improved monitoring of quotas, **Preferred Alternative 4** would be expected to result in the greatest economic benefits, followed by **Alternative 3** and **Alternative 2**.

4.1.3 Direct and Indirect Effects on the Social Environment

This action will affect for-hire vessel operators who do not currently submit electronic fishing reports through the Southeast Region Headboat Survey (SRHS). Under **Alternative 1 (No Action)**, any federally permitted for-hire vessel owner or operator in the Gulf is required to maintain a fishing record for each trip and submit the completed fishing records no later than seven days after the end of each week (Sunday), if selected by the SRD. Although only 69 vessels in the Gulf are currently selected and required to report (headboats participating in the SRHS, the requirement for the remaining vessels to report if selected is part of the existing regulations. Additional effects would not be expected from **Alternative 1** and 10% of these vessels would continue to be randomly surveyed on a weekly basis through MRIP's For-Hire Survey. However, the For-Hire Survey estimates effort, not catch. Further, it is likely that these charter vessels would continue to remain unselected to submit fishing records to the SRD, which include landings information, thereby forgoing the benefits of improved fishery-dependent data.

Alternative 2, Alternative 3, and Preferred Alternative 4 would require all vessels with a for-hire permit to 1) submit fishing records to the SRD and 2) submit the reports electronically. Although it is currently part of the regulations that these vessels are required to report if selected, to date they have not been selected. Further, the requirement to report if selected does not specify reports must be submitted electronically. Each of these alternatives would be expected to

result in greater direct, short-term negative effects compared to **Alternative 1**, as for-hire operators must initiate action to submit a fishing record to NMFS, and to do so electronically, requiring additional equipment. These negative effects would likely be associated with the added time and burden for operators to learn the reporting requirements and to become competent in using the associated equipment. The extent of these negative effects in terms of added time and burden remain unknown, as the details of what must be included in a “fishing record” has not been defined. Although undefined, the elements required for a “fishing record” would not be expected to vary among **Alternatives 2-4**. Thus, similar effects would be expected from each of these alternatives in terms of the additional burden of information to report and the requirement to report electronically, compared to **Alternative 1**. These effects would be expected to last until charter operators become familiar with the reporting procedure and equipment, although the time to complete the reports would continue. These short-term negative effects are expected to be minimal, and would be mitigated through long-term benefits from increased accuracy of landings information.

The requirement for electronic reporting under **Alternatives 2, 3, and Preferred Alternative 4** may be expected to affect charter vessel owners and operators differently, as some already use computer systems in their businesses more than other charter operators. It is possible that some charter operators may not be familiar with computers or the internet, and some may be more comfortable with paper fishing records. There may also be an increased risk of errors for electronic reporting by fishermen who typically do not use computers and internet in their businesses. However, charter vessel owners and operators are likely to be familiar with computer systems, as these are businesses that must book passengers. Many charter operators advertise on the internet or offer online bookings through their websites. It is also highly likely that a majority of charter vessel owners currently have a smartphone and are capable of using applications including those for weather reports and internet access. Thus, it is possible that some additional negative short-term effects could result from **Alternatives 2, 3, and Preferred Alternative 4** compared with **Alternative 1**, for those charter operators who must learn to use the required electronic format, at the same time they are beginning to submit trip reports for the first time.

Although the information to be provided in the fishing records remains unknown, it may be assumed that the information collected would provide more fishery dependent information than is currently collected through the MRIP For-Hire Survey. Thus, while short-term negative effects would be expected to result as operators must compile the required information and submit it electronically, under each of **Alternatives 2-4**, the reported information would be expected to result in broad long-term social benefits by providing more complete information on for-hire fishing compared to **Alternative 1**. By extension, the required frequency of reporting would result in greater (**Preferred Alternative 4**) or fewer (**Alternative 2**) benefits in the long-term, which are inversely related to the added short-term burden from more frequent reporting.

As the frequency of reporting increases, so does the added time and burden (and thus greater short-term negative effects). These would be greatest under **Preferred Alternative 4** (reporting each trip before arrival at the dock), followed by **Alternative 3** (daily), and then **Alternative 2** (weekly reporting). Thus, while the greatest direct, short-term negative effects would be expected from the most frequent reporting requirement (**Preferred Alternative 4**), the data

provided from electronic fishing records submitted before the vessel returns to the dock would be expected to be more accurate than electronic fishing records submitted less frequently.

Increased frequency in reporting under **Alternatives 2, 3, and Preferred Alternative 4** may have some direct negative effects on charter vessel owners and captains because businesses may need to assign additional time or staff to submit reports. The daily reporting requirement under **Alternative 3** and the pre-landing daily reporting requirement under **Preferred Alternative 4** would be more burdensome for charter vessels than the weekly reporting under **Alternative 2**. In terms of additional time and staff requirements, **Alternative 1** would be the least burdensome; currently, 10% of charter vessels are randomly selected to report if called (MRIP For-Hire Survey). Compared with **Alternative 1**, the burden of reporting would be greater under **Alternative 2** (Tuesday, or 2 days), which would require all charter vessels to report, and greater still under **Alternative 3** and **Preferred Alternative 4**, as the frequency of reporting increases. Greater long-term benefits would be expected from timelier reporting under **Alternative 3** or **Preferred Alternative 4**. Because **Preferred Alternative 4** would require trip reports to be submitted prior to landing, this alternative would have the greatest short-term direct effects in terms of operators learning the procedure and equipment, but would also result in the greatest long-term benefits, as landings data are reported virtually in real time, and it would be possible to monitor and validate reporting compliance through random dockside inspections. **Preferred Alternative 4** would be expected to result in greater direct effects on for-hire operators making more than one trip a day, as they would be required to make a report for each trip prior to landing.

Requiring all charter vessels to report electronically and more frequently (**Alternative 3** and **Preferred Alternative 4**) is expected to result in broad long-term social benefits. Many charter operators, along with others in the recreational sector, support improving the collection of landings data for timelier quota monitoring. Further, requiring all charter vessels to report would result in broad social benefits by increasing the sample size of landings reports compared with MRIP's estimates. The lag time in data collection and analysis of recreational landings is currently inadequate for monitoring quotas in-season. Assuming compliance from fishery participants, more frequent and timely reporting would be expected to contribute to improved quota monitoring in the long-term, with which it will be less likely that an ACL would be exceeded, triggering any associated AMs which would negatively impact charter businesses and associated communities. However, improved reporting could also result in ACLs, which are not being met now, being met in the future, and AMs being triggered so ACLs are not exceeded. Triggering AMs can have significant direct and indirect effects on charter operators and fishermen because they usually impose some restriction on harvest, during either the current or the following season. Early closures and quota overage adjustments (which in turn increase the likelihood of an earlier closure in the following year) are directly linked to the limitations in the Agency's ability to close the harvest of a species quickly enough to avoid triggering AMs. Although the negative effects of AMs are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Although the proposed reporting requirements may not prevent AMs from being triggered, these requirements would be

expected to provide additional information to better forecast in-season closures and to minimize the effects of post-season AMs.

4.1.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 (No Action) would result in no increase in administrative burden on NMFS as this is the status quo of how data are currently collected. **Alternatives 2, 3, and Preferred Alternative 4** would increase the administrative burden on NMFS, and to reef fish and CMP federally permitted charter vessels as they would be required to submit electronic records to the SRD. There is currently no application to accept this information, so a system would also have to be developed. In order of administrative impacts to the agency, **Preferred Alternative 4** would have the highest administrative impact with trip level reporting, then **Alternative 3** with daily reporting and **Alternative 2** with mandatory weekly reporting. **Alternative 1** (status quo) would result in no increase in administrative burden on vessel owners.

Currently, as a condition of the permit, fishermen are required to meet the reporting requirements associated with their permit (CFR 50 Section 622.5). With electronic reporting, it would be much easier to track those who are not meeting the reporting requirements of their permit and may result in a permit being invalid and the permit holder not being able to legally harvest or possess those species. **Alternatives 2 and 3, and Preferred Alternative 4** would be expected to provide positive benefits to law enforcement and maintaining reporting compliance.

4.2 Action 2: Modify Frequency and Mechanism of Data Reporting for Headboats

4.2.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment

The headboat vessel reporting requirement is an administrative process for providing a means of collecting data from the industry, and does not directly affect the physical or biological environments, but does have an indirect effect. **Alternative 1 (No Action)** requires the owner or operator of a headboat vessel for which a charter/headboat reef fish and Atlantic CMP permit has been issued, or whose vessel fishes for or lands such reef fish or CMP fish species in or from state waters adjoining the applicable Gulf or Gulf exclusive economic zone (EEZ), and who is selected to report by the SRD must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed fishing records must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions. The Headboat Electronic Reporting Amendment (GMFMC 2013) specified that all headboats must submit an electronic fishing record for all fish harvested on each trip, via the SRHS, if selected by the SRD. Electronic fishing records must be submitted at weekly intervals (or intervals shorter than a week if notified by the SRD) by 11:59 p.m. local time, the Sunday following a reporting week. If no fishing activity occurred during a reporting week, an electronic

report stating so must be submitted for that reporting week by 11:59 p.m. local time, the Sunday following a reporting week. The action alternatives would modify the frequency of reporting and would require that any vessel operating under as a headboat with a charter vessel/headboat permit must report electronically, not just those headboat selected by the SRD. **Alternative 1** (No Action) could result in adverse impacts if landings are not reported in a timely fashion and allowable harvests are exceeded. Reporting provides a method to estimate mortality, which is then used to assess the stock conditions. Stock assessment results based on data with a high degree of uncertainty are not as useful for management purposes. Electronic reporting by all headboats including those not in the SRHS would reduce the likelihood of overages of the ACLs by providing a means for more timely reporting.

Alternatives 2 and 3, and Preferred Alternative 4 could provide positive effects to the stocks by increasing the frequency and mode of reporting, which can reduce the likelihood of exceeding the ACLs, thus reducing the likelihood of overfishing. Overages of the ACLs have an adverse effect to the stock and stock conditions if not otherwise accounted for in the next year with a reduction of the ACLs by the amount of the overage. However, especially for species under a rebuilding plan simply lowering the ACL the following year may not offset the adverse impacts of the overage. For example, the reduction in spawning potential of the stock due to exceeding the ACL is not fully compensated by an equivalent harvest reduction in the next fishing year. For greater amberjack and gray triggerfish, any overages are deducted from the allowable harvest the following fishing year. Similarly, if Gulf gag or red grouper are in a rebuilding plan, overages are deducted from the allowable harvest the following fishing year. In these instances, the adverse effects may be mitigated. When red snapper are in the overfished status any harvest overage will be reduced from the allowable harvest, unless best scientific information available determines that an overage adjustment is not necessary.

For overfished stocks, overages may prevent achieving the rebuilding target and optimum yield (OY). **Alternative 2** would give the option for reports to be submitted weekly or at intervals shorter than a week. **Alternative 3** would require daily electronic reporting and **Preferred Alternative 4** would require electronic reporting at the end of each trip prior to arriving at the dock. All of the action alternatives would require that data be submitted to the Southeast Fisheries Science Center (SEFSC) more frequently than the current requirements and electronically resulting in positive indirect biological effects. **Preferred Alternative 4** would require electronic reporting for each trip, prior to arriving at the dock. **Preferred Alternative 4** also provides the opportunity for dock-side validation of actual catch which would reduce uncertainty in harvest data, and provide for positive benefits. **Alternatives 1-3** do not provide the opportunity for dock-side validation of harvest, and therefore would not provide as great of benefit to harvest data as **Preferred Alternative 4**. **Preferred Alternative 4** would provide an increased frequency of reporting from the all the **Alternatives (1-3)**, and would not be expected to result in any adverse effects to the physical, biological, or ecological environments.

Alternative 1 (No Action), Alternative 2, Alternative 3, and Preferred Alternative 4 are unlikely to result in any direct adverse impacts on protected species such as endangered or threatened whales, sea turtles, corals, or habitats of particular concern. All alternatives including **Preferred Alternative 4** would modify reporting requirements for headboats, but overall this would not change current fishing practices. Total harvest would still be restrained by the commercial and recreational ACLs, and AMs would still be used to help prevent overfishing. It

is unlikely any alternative would result in increased or modified fishing effort in the reef fish or CMP fisheries; therefore, no adverse biological impacts on protected species would be expected from this action.

4.2.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would not affect the harvest and customary uses of Gulf reef fish or coastal migratory pelagics because it would maintain current reporting requirements for headboats. Therefore, **Alternative 1** would not be expected to result in direct economic effects. However, **Alternative 1** would continue to allow for a time lag in the collection of landings information. If the time lags result in delaying needed management measures, e.g., a timely closure of a species, and adversely affects the stock, adverse indirect economic effects would be expected to result.

Alternatives 2, 3, and Preferred Alternative 4 would require all headboats to submit fishing records via electronic reporting at different times. The fishing records would be electronically submitted using NMFS approved hardware/software. **Alternatives 2 and 3** would require weekly and daily submissions, respectively. **Preferred Alternative 4** would require the submission of fishing records for each trip prior to returning to the docks. Because most headboats predominantly run half day trips, **Preferred Alternative 4** could require several submissions in a single day. Therefore, in terms of time necessary to complete the requests and associated costs to headboats, a ranking from least to most onerous would be **Alternatives 2, 3, and Preferred Alternative 4**. The costs expected to be borne by headboat operators to acquire, operate, update, and maintain the approved hardware and software would be determined by the list of approved hardware and software selected. Additional costs expected to be borne by the Agency to administer these data collection efforts would be expected to increase as the volume of data collected increases. Because it is expected that shortening the reporting frequency from weekly to daily reporting (or reporting for each trip) would result in noticeable improvements in the data collected and that these improvements would result in more effective and timely management, **Preferred Alternative 4** would be expected to result in the greatest economic benefits, followed by **Alternative 3** then **Alternative 2**. The potential benefits that would be expected to result from the proposed changes are expected to outweigh the costs that would be incurred by the industry and NMFS. The net economic effects expected to result from these alternatives would be determined by the relative magnitude of benefits expected and costs incurred to implement and administer these data collection efforts.

4.2.3 Direct and Indirect Effects on the Social Environment

This action would directly affect the 69 headboat operations that participate in the SRHS. Prior to 2013, headboats selected to report to the SRHS were required to submit paper forms monthly on all trips taken. Since January 1, 2013, headboats have been required to submit trip reports electronically, and since March 5, 2014, the required frequency of submitting electronic fishing reports increased from monthly to a weekly basis. According to the final rule that increased the reporting frequency to a weekly basis, the time interval could be further increased to less than a week if requested by the SRD. Although that authority already exists under **Alternative 1** (No Action), it is likely that these headboats would continue to be required by the SRD to submit trip

reports on a weekly basis, thereby forgoing the potential long-term benefits of more timely landings information from an increase in reporting frequency.

Additional effects would not be expected from retaining **Alternative 1**, for which headboat operators have seven days to submit their electronic report following the previous week's fishing trips. The effects of increasing the frequency of trip report submission on headboat operators would be similar to the expected effects on charter vessels, as described in Section 4.1.3, with the exception that headboats are already accustomed to maintaining trip reports and submitting the reports electronically. Increasing the frequency of reporting is likely to be less burdensome of a procedural change than learning to use the online system. In general, some negative effects would likely be associated with any added time and staff burden for headboat owners, operators, and crew to meet the increased frequency to submit reports. Comparing **Alternatives 2-4**, this burden would be less under **Alternative 2**, which provides more time to report, intermediate under **Alternative 3**, and greatest under **Preferred Alternative 4**, which would require the most frequent reporting.

Requiring all headboats to report more frequently (**Alternatives 2-3, Preferred Alternative 4**) is expected to result in broad social benefits by improving quota monitoring, as discussed in Section 4.1.3. Generally, headboat operators, along with many others in the recreational sector, support improving the collection of landings data for timelier quota monitoring. The lag time in data collection and analysis of recreational landings is currently inadequate for monitoring quotas in-season. Thus, the improvements to the recreational data set would benefit headboat operators and their passengers in constraining catches for species with in-season closures. Requiring headboats to submit a trip report electronically before arriving at the dock (**Preferred Alternative 4**) would be associated with positive direct effects by enabling trip validation using random dockside inspections, which is associated with an increase in compliance. However, this alternative would also correspond with the greatest short-term, direct negative effects, as the captain and crew of these large capacity vessels would need to complete the trip reports independent of dockside staff assistance, and submit the trip report using the NMFS-approved device while at sea.

4.2.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 (No Action) would result in no increase in administrative burden on NMFS as this is the status quo of how data are currently collected. **Alternatives 2, 3, and Preferred Alternative 4** would increase the administrative burden on NMFS, and to reef fish and CMP federally permitted headboats as they would be required to submit electronic records to the SRD at a higher frequency. There is currently no application to accept this information, so a system would also have to be developed. In order of administrative impacts to the agency, **Preferred Alternative 4** would have the highest administrative impact with trip level reporting, then **Alternative 3** with daily reporting and **Alternative 2** with mandatory weekly reporting. **Alternative 1**, the status quo alternative would result in no increase in administrative burden on vessel owners.

Currently, as a condition of the permit, fishermen are required to meet the reporting requirements associated with their permit (CFR 50 Section 622.5). With electronic reporting, it would be

much easier to track those who are not meeting the reporting requirements of their permit and may result in a permit being invalid and the permit holder not being able to legally harvest or possess those species. **Alternatives 2 and 3**, and **Preferred Alternative 4** would be expected to provide positive effects to law enforcement and maintaining reporting compliance.

4.3 Action 3: Trip Notification Requirements

4.3.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment

The requirement to hail out or hail in is an administrative process for providing a means of collecting data from the industry, and does not directly affect the biological or physical environment, but may have an indirect effect. An embarkation and landing notification requirement could be used to aid in the prioritization of staff to conduct dock-side intercepts more efficiently that could further improve catch and effort fishery data from for-hire vessels.

Currently there is no trip notification for federally-permitted Charter/Headboat Vessels, **Alternative 1 (No Action)**. However, as discussed in Chapter 2.3 any dual-permitted charter/headboat vessel is required to notify NMFS when embarking on a fishing trip and prior to landing at the dock. **Alternatives 2a and 2b** would require the vessel operator to notify NMFS of an intended fishing trip prior to departing the dock. **Preferred Alternatives 3a and 3b** would require the vessel operator to notify NMFS prior to arriving at the dock at the end of each trip. The notification requirements in **Alternative 2** and **Preferred Alternative 3**, and their **options** to notify NMFS is expected to provide indirect biological benefits to reef fish and CMP species by providing more accurate data through a decrease in recall bias, and catch validation. The data collected would be used when developing stock assessments, and analyzing season closures. **Alternative 2** and **Preferred Alternative 3**, and their **options** would be expected have greater positive benefits than **Alternative 1**, by improving the data used in stock assessments and management decision tools. **Alternative 2** and **Preferred Alternative 3**, and their **options** would not alter the manner in which the reef fish or CMP fishery is operated, and therefore would not be expected to result in any adverse impacts to the physical, biological or ecological environment.

4.3.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would not require trip notifications (hail-ins) or declarations (hail-outs) and would not affect the harvest and customary uses of Gulf reef fish or coastal migratory pelagics because it would maintain current reporting requirements for for-hire vessels. Therefore, **Alternative 1** would not be expected to result in direct economic effects. However, by failing to require trip notifications and declarations, **Alternative 1** would not contribute to improving data collection in the for-hire sector. Therefore, **Alternative 1** may result in delaying needed management measures such as timely closures of specific areas to fishing, and adversely affects the stock, thereby resulting in adverse indirect economic effects.

Preferred Alternative 2 would require federally permitted charter vessels (**Option a**) and headboats (**Option b**) to declare each trip and provide expected time of return and landing location. **Preferred Alternative 3** would require federally permitted charter vessels (**Option a**) and headboats (**Option b**) to hail in and submit for each trip fishing records via electronic reporting using an approved hardware or software. Although **Preferred Alternatives 2 and 3** would constitute an additional burden for federally permitted operators, they could improve the effectiveness of dock-side intercepts by allowing agents to better prioritize resources. **Preferred Alternatives 2 and 3** could improve catch and effort data and therefore result in economic benefits.

4.3.3 Direct and Indirect Effects on the Social Environment

Additional effects would not be expected from **Alternative 1** as no changes would be made to the trip notification requirements. Currently, only for-hire vessels that also possess a commercial reef fish permit (i.e., dual-permitted) are required to notify NMFS before departing the dock indicating the purpose of the trip. If such a vessel indicates to NMFS that it is departing on a for-hire trip, these vessels are not required to hail-in upon their return.

Compared to **Alternative 1**, some effects would result for charter vessels (**Option 2a**) and headboats (**Option 2b**) should they be required to submit a trip notification before leaving the dock. These effects would likely be minimal and primarily short-term, as charter and headboat operators learn to use the as yet undetermined mechanism to accomplish the required hail-out. Typically, the burden involved in a hail-out (**Preferred Alternative 2**) would be less than the burden involved to hail-in (**Preferred Alternative 3**), which in addition to the notification of arrival time and landing location, will require the operator to electronically provide a fishing record of the trip before reaching the dock. Although **Preferred Alternative 3** would require charter vessels (**Option 2a**) and headboats (**Option 2b**) to submit fishing records via electronic reporting before arriving at the dock, this regulatory change is already addressed for charter vessels (**Action 1, Preferred Alternative 4**) and headboats (**Action 2, Preferred Alternative 4**), and the effects are analyzed in the respective actions. Thus, the additional requirements of this action pertain to requiring for-hire operators to hail-in, are to specify the time of arrival at the dock and location of landing.

Although the information requirements of hailing out (**Preferred Alternative 2**) may be less than those of hailing in (**Preferred Alternative 3**), these alternatives are not comparable in the sense that one may be selected in place of the other; rather, they represent sequential steps in a trip notification.

4.3.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 (No Action) would result in no increase in administrative burden on NMFS as this is the status quo of how data are currently collected. **Alternative 2 and Preferred Alternative 3**, and their options would increase the administrative burden on federally-permitted charter/headboat vessels as they would now have to notify NMFS when departing for a fishing trip and returning from a fishing trip prior to arrival at the dock. **Alternative 2 and Preferred**

Alternative 3, and their options would also result in an increase in administrative burden to NMFS as there is currently no application to accept this information, so a system would also have to be developed. **Preferred Alternative 3a and 3b** would have the higher administrative impact to vessels than **Alternative 2a and 2b** with the requirement to submit fishing records via electronic reporting prior to arriving at the dock. **Preferred Alternative 3a and 3b**, would also have a higher administrative burden to NMFS than **Alternative 2a and 2b** as an electronic fishing records system would need to be developed and maintained. **Alternative 1**, the status quo alternative would result in no increase in administrative burden on vessel owners.

Currently, as a condition of the permit, fishermen are required to meet the reporting requirements associated with their permit (CFR 50 Section 622.5). With electronic reporting, it would be much easier to track those who are not meeting the reporting requirements of their permit and may result in a permit being invalid and the permit holder not being able to legally harvest or possess those species. **Alternative 2a and 2b** and Preferred Alternatives **3a and 3b**, would be expected to provide positive effects to law enforcement and maintaining reporting compliance.

4.4 Action 4: Location Hardware/Software Reporting Requirements.

4.4.1 Direct and Indirect Effects on the Physical/Biological/Ecological Environment

The requirement to record location for federally-permitted for-hire vessels with reef fish and CMP permits is an administrative process for providing a means of collecting data from the industry, and does not directly affect the biological, ecological, or physical environments, but may have an indirect effect. A location tracking system requirement could be used to aid in the prioritization of staff to conduct dock-side intercepts more efficiently that could further improve catch and effort data from for-hire vessels. Vessel monitoring and location data could be used to reduce uncertainty during the analysis of fishing effort and catch data by having the tool to examine vessel speeds, travel times, and fishing times. Fishing effort plays a vital role in stock assessments, managing ACLs, and fishing season closures. By reducing uncertainty in data and data analysis it would be expected to result in positive benefits to the biological and physical environments, and especially federally managed fish stocks as fishery managers would have less uncertainty developing regulations and catch targets. Requiring location data from vessel operators would also be expected to provide positive benefits during analysis of fishing depth as it relates to population abundance and discard mortality rates

Currently there is no requirement to continuously record fishing locations for federally-permitted for-hire vessels, **Alternative 1** (No Action). However, as discussed in Chapter 2.3 any dual-permitted charter/headboat vessel is required to have a VMS to harvest federally managed species. **Alternatives 2a and 2b** would require the vessel operator to maintain a GPS that submits archived vessel positions with the fishing record. **Alternatives 3a and 3b** would require the vessel operator to maintain a GPS that submits real-time vessel positioning with the fishing report. **Preferred Alternatives 4a and 4b** would require the vessel operator to maintain a VMS that continuously submits vessel positions to NMFS. The vessel location monitoring

requirements in **Alternatives 2, 3, and Preferred Alternative 4** to submit vessel position is expected to provide indirect biological benefits to reef fish and CMP species by providing more accurate data through a system that automatically tracks fishing locations. The data collected would be used when developing stock assessments, and analyzing season closures. **Alternatives 2, 3, and Preferred Alternative 4** would be expected have greater positive benefits than **Alternative 1**, by improving the data used in stock assessments and management decision tools. **Alternatives 2, 3 and Preferred Alternative 4** would not alter the manner in which the reef fish or CMP fishery is operated, and therefore would not be expected to result in any adverse impacts to the physical, biological or ecological environment.

4.4.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would not specify hardware or software reporting requirements for federally permitted for-hire vessels. **Alternative 1** would not affect the harvest and customary uses of Gulf reef fish or CMPs because it would maintain current reporting requirements for for-hire vessels. Therefore, **Alternative 1** would not be expected to result in direct economic effects. However, by failing to establish hardware and software reporting requirements for federally permitted for-hire vessels, **Alternative 1** would forego opportunities to improve data collection in the for-hire sector and expected biological benefits that would be expected to result from more accurate data, thereby resulting in adverse indirect economic effects.

Alternatives 2-4 would require vessel operators to submit fishing records using various NMFS approved hardware/software. Reporting requirements for charter vessels (**Option a**) and headboats (**Option b**) include electronic devices (such as cellular phones) with archived GPS capabilities (**Alternative 2**), tablets or portable vessel monitoring systems (**Alternative 3**), and VMS systems affixed to the vessels (**Preferred Alternative 4**). Although **Alternative 2** would improve data collection compared to the no action alternative, the use of devices with real-time GPS capabilities considered in **Alternative 3** and **Preferred Alternative 4** would noticeably improve data collection, particularly location data, relative to **Alternative 2**. In addition, **Alternatives 3** and **4** would be expected to substantially improve safety at sea. The potential improvements to data collection and safety at sea would be expected to result in direct economic benefits. Relative to **Alternative 1**, **Preferred Alternative 4** would be expected to result in greatest economic benefits followed by **Alternative 3**, then **Alternative 2**. Costs expected to be associated with the design, establishment, and administration of an electronic data collection program with clearly specified reporting requirements would be incurred either by the government (NMFS) or by for-hire operators. These costs would include start-up expenditures at the inception of the program as well as reoccurring costs. Initial software development expenditures and salaries and benefits for enforcement agents are examples of start-up and reoccurring expenditures borne by the government, respectively. In addition to the burden on the vessel operators' time, examples of costs borne by the for-hire fleet would include the purchase and installation (if warranted) costs of the approved hardware units and associated annual service charges. Estimates provided by the Technical Sub-committee (Figure 2.4.1) approximate costs that may be incurred by the federally-permitted for-hire industry. These estimates assume daily trip level reporting from the entire fleet (census) and do not account for calibration and comparative testing (with the existing data collection program) that would be required. As expected, the reporting option that would require a VMS unit permanently affixed to the vessel

(**Alternative 4**) would be the most onerous. Based on estimates provided by the Technical Subcommittee, total costs associated with the reporting requirements considered in **Preferred Alternative 4** would range from a minimum of \$10.5 million to a maximum of \$13.7 million. Following the implementation of the data collection program, industry-wide reoccurring costs are estimated at \$1.3 million annually. Costs that would be expected to result from the implementation of a program requiring the use of a tablet or portable GPS (**Alternative 3**) are estimated at \$4.6 million, approximately. **Alternative 2**, which would require on devices with archived GPS capabilities, would be expected to result in costs ranging from \$4.3 million to \$4.9 million, approximately. Cost figures presented in this section are included to provide an order of magnitude for costs expected to be incurred. As NMFS and the Council refine the contours of the data collection program to implement, it is likely that these estimates would be revised.

4.4.3 Direct and Indirect Effects on the Social Environment

The effects from this action would pertain to the increased burden to purchase, learn to use, and maintain the selected NMFS approved hardware/software. Additional effects would not be expected from **Alternative 1**, as there would be no increased burden on for-hire operators. However, if the Council requires for-hire operators to submit fishing records before reaching the dock (the current **Preferred Alternative 4** in **Actions 1** and **2**), then a mechanism is needed for submission of the records.

Each of **Alternatives 2-4** would require that the NMFS approved hardware/software be used to submit the required fishing records. Thus, there is no difference among **Alternatives 2-4** relative to the requirement to submit fishing records. Additionally, the requirement to submit fishing records before landing has been addressed and analyzed in Action 1 for charter vessels (**Preferred Alternative 4**) and in Action 2 for headboats (**Preferred Alternative 4**).

In general, the expected social effects would likely be associated with a financial burden on for-hire operators and businesses to purchase and maintain any required equipment. An analysis of the expected economic effects is provided in Section 4.4.2 (economic effects). As noted in Section 3.4, dual-permitted vessels are already required to have VMS. Thus, for charter vessels or headboats that also hold a commercial reef fish permit, no additional burden would be expected from a requirement to purchase VMS equipment (**Preferred Alternative 4**). Charter vessels and headboats that are not dual-permitted are unlikely to have an electronic location reporting device installed that would satisfy the requirement of **Preferred Alternative 4**, and would thus be subject to this financial burden.

There are some potential benefits to the fleet and other long-term broad social benefits from requiring location reporting devices (**Alternatives 2-4**). Recording location information on tablets, computers, phones, or VMS equipment would be expected to improve data collection, particularly for information that could be used to validate reporting data and to improve bycatch and discard estimates in stock assessments. On the other hand, there may be opposition to the required use of location reporting devices by some for-hire operators who have expressed concern with how these data may be used and who would have access to the location data. Further, it is not certain that location data would be incorporated into improving fishery information beyond the required trip reporting. The potential benefits from use of location

reporting data may not be realized, in which case, the financial burden to purchase and maintain the equipment would not be mitigated by long-term benefits to the fleet.

Reporting location information (**Alternatives 2-4**) would also potentially improve data collection on fishing behavior and important fishing grounds. For example, effects on for-hire vessels from a potential marine protected area could be clarified and quantified if data are available on the exact locations and time for-hire vessels spent in a particular area. VMS data are currently being used to understand how potential closed areas would impact the rock shrimp fishery in the South Atlantic, with accurate and verifiable information on rock shrimp fishing grounds to improve analysis of potential impacts. Nevertheless, the expected indirect benefits to the fleet and to the public would be somewhat reduced by any negative direct effects from the additional short-term and long-term costs to purchase and maintain equipment necessary to meet location reporting requirements under **Alternatives 2-4**. The difference among **Alternatives 2-4** pertains to the type of location device to require on for-hire vessels, each of which would be NMFS approved. These negative direct effects would be greatest under the most expensive device (**Preferred Alternative 4**), which would require a permanently installed VMS unit. Costs, and resulting negative effects, would decrease under **Alternative 3**, followed by **Alternative 2**, in comparison with **Preferred Alternative 4**.

4.4.4 Direct and Indirect Effects on the Administrative Environment

Implementation of location reporting requirements would directly affect the administrative environment, because it would require ongoing possession of an operational GPS system by each federally-permitted charter/headboat vessel with a reef fish or CMP permit.

For vessel operators the administrative burden for **Alternatives 2, 3 and Preferred Alternative 4** would be increased from the status quo as the vessel operator would be required to maintain a device that has GPS capabilities. Administrative burden costs would be the greatest with **Preferred Alternatives 4a and 4b**, as it would require the vessel operator to use a VMS type system to record and report location and NMFS to manage the data. In **Alternative 2** the device with archived GPS capabilities could be a cell phone. **Alternative 3** would require real-time GPS capabilities and would be expected to have more administrative burden to the vessel operator than **Alternative 1 and 2**. **Preferred Alternative 4a and 4b**, VMS type system would be expected to have the greatest amount of burden to a vessel operator. These types of electronic devices are attached to the vessel and would also require more maintenance than **Alternatives 1-3**.

Alternatives 2, 3, and Preferred Alternative-4 would be expected to reduce law enforcement's burden related to prosecution of violations due to greater compliance once a location monitoring system was implemented. The use of a VMS type system (**Alternative 4**) would enable enforcement to be alerted to be at the dock prior to vessel landing for cooperative agency inspections of documented violations. Having VMS would allow enforcement to meet the vessel at the dock for landing inspection of catch to: 1) Confirm the fishing activity they declared and 2) confirm the catch on board for individual fishing quota (IFQ) management. Additionally, VMS can reduce costly at-sea enforcement for: Closed Seasons: VMS can determine seasonal

closure compliance (if any) based upon VMS participants without the need for random surface or aerial patrols; Prior Notice of Landing. Closed Areas: VMS can determine area closure compliance (such as marine protected areas or 50 fathom depth contour restrictions) based on VMS-IFQ participants automated responses without the need for random surface or aerial patrols. High Grading: VMS allows surface patrols to locate vessels and randomly check boats for high grading. The administrative burden would be expected to decrease with **Alternative 3** and **Alternative 2**, respectively for both the vessel operator and NMFS.

4.5 Cumulative Effects Analysis

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but the cumulative impacts of proposed actions as well. NEPA defines a cumulative impact as *“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time”* (40 C.F.R. 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect is when the combined effects are greater than the sum of the individual effects.

4.5.1 Cumulative Biological Impacts

Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

The Center for Environmental Quality cumulative effects guidance states that this step is done through three activities. The three activities and the location in the document are as follows:

- The direct and indirect effects of the proposed actions (Section 4);
- Which resources, ecosystems, and human communities are affected (Section 3); and
- Which effects are important from a cumulative effects perspective (information revealed in this cumulative Effects Analysis (CEA).

Establish the geographic scope of the analysis.

For reef fish species the immediate impact area would be the federal 200-mile limit of the Gulf from Florida to Texas. The extent of boundaries also would depend upon the degree of fish immigration/emigration and larval transport, whichever has the greatest geographical range. The ranges of affected species and the essential fish habitat designation and requirements for species affected by this amendment are described in Sections 3.1 and 3.2. For the CMP species the immediate impact area reviewed in this amendment only includes the Gulf.

Establish the timeframe for the analysis.

NMFS has collected annual commercial landings data since the early 1950s, recreational harvest data since 1979, and in 1984 initiated a dockside interview program to collect additional data on commercial harvest. These landings data have been used to support various fishery management regimes in Gulf and South Atlantic fisheries. Landings data will continue to be collected for each federally-managed species, and that data will continue to be used to inform current and future fishery management decisions into the foreseeable future.

Identify the other actions affecting the resources, ecosystems, and human communities of concern (the cumulative effects to the human communities are discussed in Section 4).

I. Listed are other past, present, and reasonably foreseeable actions occurring in the Gulf region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical environment.

Fishery-related actions affecting federally-managed species:

Past

The reader is referred to Sections 1.3.1 and 1.3.2 Gulf of Mexico Fishery Management Council's (Council) History of Management for past regulatory activity for reef fish and CMP species being impacted by this amendment. These include data reporting requirements for federally permitted vessels.

Present

The Gulf Council recently implemented ACLs and AMs to prevent and correct ACL overages for all federally-managed species. Improvements in vessel reporting requirements are currently needed to improve in-season monitoring of the newly established ACLs, and to facilitate the expeditious implementation of AMs for federally-managed species when needed. More effective in-season monitoring efforts for, Gulf reef fish, and CMP species are likely to reduce the risk of future overfishing in those fisheries and foster sustainable fishing practices.

Reasonably Foreseeable Future

Though several amendments to the Council's fishery management plans (FMPs) are under development or review, none are likely to contribute to or reduce the cumulative impacts of actions contained in this generic vessel reporting amendment because none of the actions would affect vessel reporting requirements.

II. Non-Council and other non-fishery related actions, including natural events affecting federally-managed species.

In terms of natural disturbances, it is difficult to determine the effect of non-Council and non-fishery related actions on stocks of Council's federally-managed fish species. Annual

variability in natural conditions such as water temperature, currents, food availability, predator abundance, etc. can affect the abundance of young fish, which survive the egg and larval stages each year to become juveniles (i.e., recruitment).

Furthermore, natural factors such as storms, red tide, cold water upwelling, etc. can affect the survival of juvenile and adult fish, shrimp, crabs, and lobster; however, it is very difficult to quantify the magnitude of mortality these factors may have on a stock. Alteration of preferred habitats for commercially important southeastern marine species could affect survival at any stage in their life cycles. However, estimates of the abundance of marine species, which utilize any number of preferred habitats as well as determining the impact habitat alteration may have on these species, are difficult to ascertain.

The Gulf ecosystem include many species, some of which occupy the same habitat at the same time. Therefore, many fish species are likely to be caught and suffer some mortality when regulated since they will be incidentally caught when fishermen target other co-occurring species. Other natural events such as spawning seasons, and aggregations of fish in spawning condition can make some species especially vulnerable to targeted fishing pressure.

How global climate changes will affect managed species and the associated ecosystem is unclear. Climate change can impact marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, increases in wave height and frequency, loss of sea ice, and increased risk of disease in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic carbon dioxide emissions may impact a wide range of organisms and ecosystems, particularly organisms that absorb calcium from surface waters, such as corals and crustaceans (IPCC¹ 2014, and references therein).

The Deepwater Horizon MC252 oil spill event, which occurred in the Gulf on April 20, 2010, did not impact fisheries operating the Atlantic. Oil from the spill site has not been detected in the Atlantic region, and did not likely to pose a threat to the species addressed in this amendment. The effects of Deepwater Horizon MC252 in the Gulf of Mexico is discussed in Section 3.1.1.3.

Improvements to vessel reporting requirements and the vessel permitting system for federally-permitted vessels in the Gulf and Atlantic regions are not likely to result in significant biological impacts on federally managed fish stocks managed in the southeast. However, more efficient vessel reporting would facilitate improved in-season monitoring of ACLs, which could help prevent future overfishing.

Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.

The species most likely to be impacted by actions in this vessel reporting amendment are federally-managed fish species in the Gulf reef fish and Atlantic CMP Species. A description of the southeast marine ecosystem and the affected species found therein is included in Section 3.1 of this document. In summary, implementing a more rigorous vessel reporting regime is likely to benefit the southeast marine ecosystem by facilitating timely corrective actions that would prevent

¹ (http://www.ipcc.ch/publications_and_data/publications_and_data.shtml)

overfishing from occurring, which is likely to promote healthy predator-prey relationships, balanced sex ratios for spawning fish populations, and prevent fishery-related habitat degradation.

A description of the communities identified through scoping for this amendment and their ability to adapt to and withstand stress resulting from the cumulative impacts of this and other fishery management actions are discussed in Section 3.4 of this document. In the long-term, actions in this amendment and others mentioned in this CEA are likely to benefit the affected communities by promoting sustainable harvest levels, which would support steady market conditions and allow fishermen who are heavily vested in federal fisheries to continue fishing into the future.

Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

Issues such as climate change, the regulatory environment, manmade and natural disasters, and economic factors are all considered stressors that affect fishing resources, ecosystems, and the communities which rely on them. Global climate changes could have significant effects on Atlantic fisheries. However, the extent of these effects is not known at this time. Possible impacts include temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (IPCC 2014; Kennedy et al. 2002).

The Gulf fisheries are heavily regulated, which impacts the human communities. The social and cultural environment is described in Section 3.4. Cumulative impacts on the socioeconomic environment are included in Section 4 of this CEA. Man-made disasters such as oil spills, and non-point source pollution are always potential stressors on the natural environment. As long as humans are utilizing resources and conducting activities in and around the areas where federal fisheries are prosecuted, there exists a risk that some unintended harm to the resources fishery participants rely on could occur.

Define a baseline condition for the resources, ecosystems, and human communities.

The purpose of defining a baseline condition for the resource, ecosystems, and human communities in the area of the proposed action is to establish a point of reference for evaluating the extent and significance of expected cumulative effects. The Southeast Data, Assessment, and Review (SEDAR) assessments show trends in biomass, fishing mortality, fish weight, and fish length going back to the earliest periods of data collection. All species assessed through the SEDAR process and their assessment reports are incorporated by reference and may be found online at: <http://www.sefsc.noaa.gov/sedar/>. The baseline condition of the species and habitat affected by this amendment is contained in Section 3.1 and Section 3.2 of this document. The baseline condition of the communities most impacted by this amendment is contained in Section 3.4 of this document.

Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

Cause-and-effect relationships between fishery management regulations and resources, ecosystems, and human communities are discussed in the respective histories of management for the Gulf of Mexico in Sections 1.3 of this document.

Determine the magnitude and significance of cumulative effects.

Proposed management actions, as summarized in Section 2 of this document, establish an electronic (except when catastrophic conditions are present) reporting system for vessels to report landings information, and require the submission of “no fishing” forms in order to maintain their vessel permit. These management measures are intended to increase efficiency in the vessel permitting system as well as increase the frequency and accuracy of vessel reported data. The number of fishery-specific vessel permits would be significantly reduced and the process by which vessels would obtain and report landings would be streamlined. Building efficiency into the vessel permitting and reporting system is likely to result in improved monitoring efforts, which would result in long-term benefits to federally-managed marine species in the southeast region.

Requiring vessels to report landings on a trip-level, daily, or weekly basis would improve in-season estimations of when and if ACLs will be met, and would improve the timeliness of implementation of AMs designed to prevent overfishing from occurring. Requiring vessels to remain current as a requirement to continue harvesting federally-managed species is anticipated to improve reporting compliance, which would also help improve in-season monitoring efforts. Combined, these actions are likely to improve overall management of federally-managed marine species in the Gulf and the Atlantic, and help prevent overfishing from occurring. Robust fish populations and sustainable fishing practices would promote long-term ecosystem health and resilience.

Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

The cumulative effects on the biophysical environment are expected to be positive. Avoidance, minimization, and mitigation are not applicable.

Monitor the cumulative effects of the selected alternative and adopt management.

The effects of the proposed action are, and will continue to be, monitored through collection of data by NMFS, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

CHAPTER 5. BYCATCH PRACTICABILITY ANALYSIS

Background/Overview

The Gulf of Mexico Fishery Management Council (Council) and South Atlantic Fishery Management Council (South Atlantic Council) are required by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) §303(a) (11) to establish a standardized bycatch reporting methodology for federal fisheries and to identify and implement conservation and management measures to the extent practicable and in the following order: 1) minimize bycatch and 2) minimize the mortality of bycatch that cannot be avoided. The Magnuson-Stevens Act defines bycatch as “fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. The definition does not include fish released alive under a recreational catch-and-release fishery management program” (Magnuson-Stevens Act §3(2)). Economic discards are fish that are discarded because they are undesirable to the harvester. This category of discards generally includes certain species, sizes, and/or sexes with low or no market value.

The National Marine Fisheries Service (NMFS) outlines at 50 CFR §600.350(d) (3) (i) ten factors that should be considered in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable.

Guidance provided at 50 CFR 600.350(d) (3) identifies the following ten factors to consider in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable:

1. Population effects for the bycatch species.
2. Ecological effects due to changes in the bycatch of that species (effects on other species in the ecosystem).
3. Changes in the bycatch of other species of fish and the resulting population and ecosystem effects.
4. Effects on marine mammals and birds.
5. Changes in fishing, processing, disposal, and marketing costs.
6. Changes in fishing practices and behavior of fishermen.
7. Changes in research, administration, and enforcement costs and management effectiveness.
8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources.
9. Changes in the distribution of benefits and costs.
10. Social effects.

The Councils are encouraged to adhere to the precautionary approach outlined in Article 6.5 of the Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries when uncertain about these factors.

Recreational Discard Rates

For species that have a sector specific recreational allocation, no change in the amount of discards is expected as a result of the increase in recreational reporting. By having vessels report on daily or weekly basis versus the current basis, managers have the ability to close the sector in a timelier manner. A season closure could result in an increase in bycatch for those fishermen that continue to fish; however, the overall level of fishing mortality would be expected to decrease. For species that have not reached their annual catch limit (ACL), no change in discards is expected as a result of the increase in frequency of vessel reporting as these species would most likely be retained.

Those species that only have a stock ACL and do not have a recreational sector ACL would be expected to have an increase in the amount of discards when the ACL is reached and the season is closed.

Commercial Discard Rates

The increase in frequency of for-hire vessel reporting will not change the amount of discards for commercially managed federal species.

Sea Turtles, Smalltooth Sawfish, and Other Protected Species Bycatch

No change in sea turtle, smalltooth sawfish, or other potential protected species bycatch is expected as a result of the increase in recreational vessel reporting. The proposed action is unlikely to alter fishing in ways that would jeopardize the continued existence of any endangered or threatened species under the jurisdiction of NMFS or result in the destruction or adverse modification of critical habitat. Protected resources are discussed in Sections 3.2.1.2 and 3.2.2.2 of the Environmental Assessment (EA); the biological impacts are discussed in Sections 4.1.1, 4.2.1, 4.3.1, 4.4.1.

Alternatives Being Considered to Minimize Bycatch

Reductions in dead discards can be accomplished either by reducing the number of fish discarded or reducing the release mortality rate of discards. To reduce the number of discards, management measures must limit fishing effort or change the selectivity of fishing gear in such a way that reduces the harvest of sub-legal fish. To reduce the discard mortality rate, ACLs must not be exceeded or fishing seasons closed.

Practicability Analysis

Criterion 1: Population effects for the bycatch species

This amendment discusses the harvest and reporting of reef fish and coastal migratory pelagics (CMP) species, and thus the net population effects on bycatch is undeterminable. However, season closures could potentially increase the amount of bycatch. A recreational season closure resulting from landings exceeding their ACL could result in an increase in the amount of bycatch should fishers continue fishing for co-occurring species. Bycatch due to management measures such as fixed closed seasons, in-season closures, and ACL payback conditions could

result in loss of yield. However, better data reporting that prevents ACL overages and allows for a species to be closed when an ACL is reached would be expected to reduce the overall level of fishing mortality.

Criterion 2: Ecological affects due to changes in the bycatch of managed species (on other species in the ecosystem)

Relationships among species in marine ecosystems are complex and poorly understood, making the nature and magnitude of ecological effects difficult to predict. Reductions in bycatch and fishing mortality would allow stocks to increase in abundance, resulting in increased competition for prey with other predators. Consequently, it is possible that forage species and competitor species could decrease in abundance in response to in season closures resulting from ACLs being reached or exceeded. However, actions in the amendment that allow for better data reporting to prevent ACL overages and allow for a species to be closed when an ACL is reached, would be expected to reduce the overall level of fishing mortality. Thus, positive ecological effects are expected from the actions proposed in this amendment.

Criterion 3: Changes in the bycatch of other species of fish and invertebrates and the resulting population and ecosystem effects

The biological environment would benefit by the increase in the frequency of vessel reporting. Reef fish and CMP populations, and overall habitat are expected to be affected in a positive manner through this amendment. The increase in the frequency of vessel reporting would assist managers in determining when species are approaching their ACL. By managing landings below their ACL, populations would be healthier and provide for a more stable environment.

Positive impacts to the biological environment include implementing accountability measures to prevent overfishing and maintain stocks at healthy levels in a consistent and structured manner across all fishery management plans.

Criterion 4: Effects on marine mammals and birds

No effects on marine mammals and birds are expected as a result of the increase in vessel reporting. The proposed action is unlikely to alter fishing in ways that would jeopardize the continued existence of any marine mammal and bird species under the jurisdiction of NMFS or result in the destruction or adverse modification of critical habitat. Protected resources are discussed in Sections 3.2.1.2 and 3.2.2.2 of the EA; the biological impacts are discussed in Sections 4.1.1, 4.2.1, 4.3.1, and 4.4.1.

Criterion 5: Changes in fishing, processing, disposal, and marketing costs

Reporting landings more frequently may affect costs associated with fishing operations. Implementing in-season closures would have direct impacts to fishermen. Fishermen would incur losses in revenue due to season closures and would incur greater losses in consumer surplus resulting from a seasonal closure.

Criterion 6: Changes in fishing practices and behavior of fishermen

Seasonal closures could alter angler effort, at least initially, and may affect decisions about when and where to fish. Shifts or changes in fishing locations and seasons could have an effect on fishing behavior and practices that may potentially affect the bycatch.

Criterion 7: Changes in research, administration, and enforcement costs and management effectiveness

Establishing more timely reporting requirements for vessels would be expected to increase enforcement costs and management effectiveness. The increase in the frequency of reporting would be expected to result in more opportunities for non-compliance. This may result in an increasing the burden to law enforcement.

Criterion 8: Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources

Economic and social effects from this proposed amendment are discussed in Section 4.1.

Criterion 9: Changes in the distribution of benefits and costs

The actions in this amendment would increase costs associated with vessel reporting to the actual vessels themselves. As a result of increasing the amount of vessel reporting, the fishing industry should benefit by not exceeding its ACLs as often, which in turns leads to closed seasons and overage paybacks.

Criterion 10: Social effects

Social effects of additional vessel permit requirements would likely be associated with any added time and financial burden for vessels and seafood businesses to meet reporting requirements that will be part of the permit responsibilities.

Conclusions

Analysis of the ten bycatch practicability factors indicates there are potential negative impacts to bycatch and bycatch mortality. However, the benefits of reducing harvest, ending overfishing, and rebuilding the stocks is estimated to outweigh the benefits of further reducing discard mortality.

The Council will need to consider the practicability of implementing the bycatch minimization measures discussed above with respect to the overall objectives of the fishery management plans, the Magnuson-Stevens Act, and the Endangered Species Act.

Bycatch is currently considered to be reduced to the extent practicable in all fisheries subject to this amendment. However, increasing the frequency of reporting may impact bycatch. The precise impacts of these limits are currently unknown, but any potential increase in bycatch is believed to be outweighed by the benefits associated with enforcing ACLs. Better vessel reporting and the ability to prohibit harvest when the ACL is met is expected to decrease the overall level of fishing mortality for a species. For species that have not reached their ACL, no change in discards is expected as a result of the increase in frequency of vessel reporting as these species would most likely be retained. Further, bycatch levels and associated implications will continue to be monitored in the future and issues will be addressed based on new information.

CHAPTER 6. LIST OF PREPARERS AND AGENCIES CONSULTED

| Name | Expertise | Responsibility | Agency |
|-------------------|----------------------------------------------------------------------------------|------------------------------------------|---------------|
| John Froeschke | Fishery biologist/statistician | Co-Team Lead - Amendment Development | GMFMC |
| Rich Malinowski | Fishery biologist | Co-Team Lead - Amendment Development | NMFS/SERO |
| Randy Blankenship | Southeast Branch Chief, Atlantic Highly Migratory Species Management Division | Reviewer | NMFS/SERO |
| Jennifer Cudney | Fish Biologist, SE Branch, Atlantic Highly Migratory Species Management Division | Reviewer | NMFS/SERO |
| Steven Atran | Fishery Biologist | Reviewer | GMFMC |
| Kenneth Brennan | Coordinator, Southeast Region Headboat Survey | Biological analyses | NMFS/SEFSC |
| Assane Diagne | Economist | Economic analyses | GMFMC |
| Nicholas Farmer | Fishery Biologist | Reviewer | NMFS/SERO |
| David Gloekner | Chief, Fisheries Monitoring Branch | Reviewer | NMFS/SEFSC |
| Stephen Holiman | Economist | Economic analyses | NMFS/SERO |
| Ava Lasseter | Anthropologist | Social analyses | GMFMC |
| Mara Levy | Attorney Advisor | Legal review | NMFS/GC |
| Carrie Simmons | Deputy Executive Director | Reviewer | GMFMC |
| Carolyn Sramek | Supervisory Management & Program Analyst | Reviewer | NMFS/SERO |
| Noah Silverman | Natural Resource Management Specialist | National Environmental Policy Act Review | NMFS/SERO |

NMFS = National Marine Fisheries Service
 GMFMC = Gulf of Mexico Fishery Management Council
 SEFSC = Southeast Fisheries Science Center
 SERO = Southeast Regional Office
 GC = General Counsel

CHAPTER 7. REFERENCES

Acropora Biological Review Team. 2005. Atlantic *Acropora* Status Review Document. Report to National Marine Fisheries Service, Southeast Regional Office. March 3. 152p.

GMFMC. 2004. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: shrimp fishery of the Gulf of Mexico, red drum fishery of the Gulf of Mexico, reef fish fishery of the Gulf of Mexico, stone crab fishery of the Gulf of Mexico, coral and coral reef fishery of the Gulf of Mexico, spiny lobster fishery of the Gulf of Mexico and South Atlantic, coastal migratory pelagic resources of the Gulf of Mexico and South Atlantic. Gulf of Mexico Fishery Management Council. Tampa, Florida.

<http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf>

GMFMC. 2005. Final Amendment to the FMPs for: Reef Fish (Amendment 25) and Coastal Migratory Pelagics (Amendment 17). Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607. Available at:

http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management_archives.php.

GMFMC. 2011. Final Generic Annual Catch Limits/Accountability Measures Amendment for the Gulf of Mexico Fishery Management Council's Red Drum, Reef Fish, Shrimp, Coral and Coral Reefs Fishery Management Plans. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607. Available at:

http://www.gulfcouncil.org/fishery_management_plans/generic_management_amendments.php.

GMFMC. 2013b. Framework Action to the Fishery Management Plans for Reef Fish Resources of the Gulf of Mexico and Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic Headboat Electronic Reporting Requirements. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607. Available at:

<http://www.gulfcouncil.org/docs/amendments/Draft%20Electronic%20Reporting%20for%20Headboats%206-18-13.pdf>

GMFMC/SAFMC. 2011. Final Amendment 18 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607.

Available at:

http://www.gulfcouncil.org/fishery_management_plans/migratory_pelagics_management.php.

Gore, R. H. 1992. The Gulf of Mexico: A treasury of resources in the American Mediterranean. Pineapple Press. Sarasota, Florida.

Impact Assessment Inc. 2005a. Identifying communities associated with the fishing industry along the Florida Gulf coast: Volume I, Cantonment to Yankeetown. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries

Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005b. Identifying communities associated with the fishing industry along the Florida Gulf coast: Volume II, Archer to Treasure Island. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005c. Identifying communities associated with the fishing industry along the Florida Gulf coast: Volume III, Apollo Beach to Royal Palm Hammock. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005d. Identifying communities associated with the fishing industry in Louisiana: Volume I, Ascension Parish through Lafayette Parish Communities. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005e. Identifying Communities associated with the fishing industry in Louisiana: Volume II, Lafourche Parish through St. Landry Parish Communities. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at: -
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005f. Identifying communities associated with the fishing industry in Louisiana: Volume III, St. Martin Parish through Vermilion Parish Communities. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2005g. Identifying communities associated with the fishing industry in Texas. Prepared for the U.S. Department of Commerce. Contract number WC133F-03-SE-0603 National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at: <http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Impact Assessment Inc. 2006. Identifying communities associated with the fishing industry in Alabama and Mississippi. Prepared for the U.S. Department of Commerce. National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at:
<http://sero.nmfs.noaa.gov/sf/socialsci/socialsci.htm>

Jepson, M., K. Kitner, A. Pitchon, W. W. Perry, and B. Stoffle. 2005. Potential fishing communities in the Carolinas, Georgia, and Florida: An effort in baseline profiling and mapping.

National Marine Fisheries Service, Southeast Regional Office. St. Petersburg, Florida. Available at: <http://sero.nmfs.noaa.gov/sf/socialsci/pdfs/SA%20Fishing%20Community%20Report.pdf>

Kennedy, V. S., R. R. Twilley, J. A. Kleypas, J. H. Cowan, Jr., S. R. Hare. 2002. Coastal and Marine Ecosystems and Global Climate Change: Potential Effects on U.S. Resources. Pew Center on Global Climate Change.

Liese, C. and D.W. Carter. 2011. Collecting Economic Data from the For-Hire Fishing Sector: Lessons from a Cost and Earnings Survey of the Southeast U.S. Charter Boat Industry. 14 p. In Beard, T. D., Jr., A. J. Loftus, and R. Arlinghaus (editors). The Angler and the Environment. American Fisheries Society, Bethesda, MD.

McEachran, J.D. and J.D. Fechhelm. 2005. Fishes of the Gulf of Mexico, Vol. 2. University of Texas Press. Austin, Texas.

NMFS. 2005. Endangered Species Act – Section 7 consultation on the continued authorization of reef fish fishing under the Gulf of Mexico reef fish fishery management plan and proposed amendment 23. February 15, 2005. National Marine Fisheries Service. St. Petersburg, Florida.

NODC 2013 World Ocean Atlas. NOAA 2013
<http://catalog.data.gov/dataset/world-ocean-atlas-2013-nodc-accession-0114815>

Savolainen, M.A., R. H. Caffey, and R. F. Kazmierczak, Jr. 2012. Economic and Attitudinal Perspectives of the Recreational For-hire Fishing Industry in the U.S. Gulf of Mexico. Center for Natural Resource Economics and Policy, LSU AgCenter and Louisiana Sea Grant College Program, Department of Agricultural Economics and Agribusiness, Louisiana State University, Baton Rouge, LA. 171 p. Available at: <http://www.laseagrant.org/pdfs/Gulf-RFH-Survey-Final-Report-2012.pdf>

APPENDIX A. OTHER APPLICABLE LAW

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for management of stocks included in fishery management plans in federal waters of the exclusive economic zone. However, management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the Act, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the Federal Register and to solicit, consider, and respond to public comment on those rules before they are finalized. The Act also establishes a 30-day waiting period from the time a final rule is published until it takes effect. NMFS can waive this waiting period under certain circumstances.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state’s coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in National Oceanic and Atmospheric Administration (NOAA) regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state’s coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary of Commerce (Secretary), NMFS will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved CZMA programs for these states.

Data Quality Act

The Data Quality Act (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget to issue government wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3) report periodically to Office of Management and Budget on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the Act, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NMFS, when proposing an action for managed stocks that “may affect” critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions may affect but are “not likely to adversely affect” endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are “likely to adversely affect” endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives. NMFS, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

Fish and Wildlife Coordination Act

Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661-667e) provides the basic authority for the Fish and Wildlife Service's involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It also requires Federal agencies that construct, license or permit water resource development projects to first consult with the Service (and the NMFS in some instances) and State fish and wildlife agency regarding the impacts on fish and wildlife resources and measures to mitigate these impacts.

The fishery management actions in the Gulf of Mexico are not likely to affect wildlife resources pertaining to water resource development as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, (Public Law 89-665; 16 U.S.C. 470 *et seq.*) is intended to preserve historical and archaeological sites in the United States of America. Section 106 of the NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects for sites on listed on, or eligible for listing on, the National Register of Historic Places and aims to minimize damage to such places.

Typically, fishery management actions in the Gulf of Mexico are not likely to affect historic places with exception of the *U.S.S. Hatteras*, located in federal waters off Texas, which is listed in the National Register of Historic Places. The proposed actions are not likely to increase fishing activity above previous years. Thus, no additional impacts to the *U.S.S. Hatteras* would be expected.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs.

Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as “depleted,” and a conservation plan is developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fishing activities, and studies of pinniped-fishing activity interactions.

Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries that places all U.S. commercial fishing activities into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishing activity. The categorization of a fishing activity in the List of Fisheries determines whether participants in that fishing activity may be required to comply with certain provisions of the MMPA, such as registration, observer coverage, and take reduction plan requirements.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703) protects migratory birds. The responsibilities of Federal agencies to protect migratory birds are set forth in Executive Order 13186. US Fish and Wildlife Service is the lead agency for migratory birds. The birds protected under this statute are many of our most common species, as well as birds listed as threatened or endangered. A memorandum of understanding (MOU) between NMFS and U.S. Fish and Wildlife Service (FWS), as required by Executive Order 13186 (66 FR 3853, January 17, 2001), is to promote the conservation of migratory bird populations. This MOU focuses on avoiding, or where impacts cannot be avoided, minimizing to the extent practicable, adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between NMFS and FWS by identifying general responsibilities of both agencies and specific areas of cooperation. Given NMFS' focus on marine resources and ecosystems, this MOU places an emphasis on seabirds, but does not exclude other taxonomic groups of migratory birds.

Typically, fishery management actions in the Gulf of Mexico are not likely to affect migratory birds. The proposed actions are not likely to change the way in which the fishery is prosecuted. Thus, no additional impacts are reasonably expected.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure the public is not overburdened with information requests, the federal government's information collection procedures are efficient, and federal agencies adhere to appropriate rules governing the confidentiality of such information. The Act requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishing activity information from the public. None of the alternatives in this amendment are expected to create additional paperwork burdens.

Prime Farmlands Protection and Policy Act

The Farmland Protection and Policy Act of 1981 (7 U.S.C. 4201) was enacted to minimize the loss of prime farmland and unique farmlands as a result of Federal actions by converting these lands to nonagricultural uses. It assures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

The fishery management actions in the Gulf of Mexico are not likely to affect farmlands as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

National Wild and Scenic Rivers System

The National Wild and Scenic Rivers System of 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act safeguards the special character of these rivers, while also recognizing the potential for their appropriate use and

development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

The fishery management actions in the Gulf of Mexico are not likely to affect wetland habitats as the economic exclusive zone is from the state water boundary extending to 200 nm from shore.

North American Wetlands Conservation Act

The North American Wetlands Conservation Act of 1989 (Public Law 101-233) established a wetlands habitat program, administered by the United States Fish and Wildlife Service, to protect and manage wetland habitats for migratory birds and other wetland wildlife in the United States, Mexico, and Canada.

The fishery management actions in the Gulf of Mexico are not likely to affect wetland habitats as the economic exclusive zone is from the state water boundary extending to 200 nautical miles from shore.

Executive Orders (E.O.)

E.O. 12630: Takings

The E.O. on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

E.O. 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Analysis. A regulation is significant if it: 1) Has an annual effect on the economy of \$100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments and communities; 2) creates a serious inconsistency or otherwise

interferes with an action taken or planned by another agency; 3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or 4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

This E.O mandates that 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 and possessions.

E.O. 12962: Recreational Fisheries

This E.O. requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council (NRFCC) responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The NRFCC also is responsible for developing, in cooperation with federal agencies, States and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

E.O. 13089: Coral Reef Protection

The E.O. on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for Essential Fish Habitat (GMFMC 2005), which established additional habitat

areas of particular concern (HAPCs) and gear restrictions to protect corals throughout the Gulf of Mexico. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The E.O. on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

In Amendment 30B, no Federalism issues were identified relative to the action to establish the 30B permit provision. Therefore, consultation with state officials under Executive Order 12612 was not necessary. In Council discussions regarding this framework action, the question of whether the 30B permit provision conflicts with state regulations has been discussed (see Section 1.1), but no determination was made that this constitutes a Federalism issue. Consequently, consultation with state officials under Executive Order 12612 remains unnecessary.

E.O. 13158: Marine Protected Areas

This E.O. requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area. There are several marine protected areas, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf. The existing areas are entirely within federal waters of the Gulf of Mexico. They do not affect any areas reserved by federal, state, territorial, tribal or local jurisdictions.

Essential Fish Habitat

The amended Magnuson-Stevens Act included a new habitat conservation provision that requires each existing and any new FMPs to describe and identify essential fish habitat (EFH) for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements the Council has, under separate action, approved an environmental impact statement (GMFMC 2004b) to address the new EFH requirements contained within the Act. Section 305(b) (2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH.

These actions are not expected to change the way in which the fisheries are conducted in regard to the impact of the fisheries on the environment. The actions, considered in the context of the fisheries as a whole, will not have an adverse impact on EFH; therefore, an EFH consultation is not required.

APPENDIX B. RELEVANT FEDERAL REGULATIONS

Code of Federal Regulations: Title 50

§ 622.2 Definitions and acronyms.

Charter vessel means a vessel less than 100 gross tons (90.8 mt) that is subject to the requirements of the USCG to carry six or fewer passengers for hire and that engages in charter fishing at any time during the calendar year. A charter vessel with a commercial permit, as required under § 622.4(a)(2), is considered to be operating as a charter vessel when it carries a passenger who pays a fee or when there are more than three persons aboard, including operator and crew, except for a charter vessel with a commercial vessel permit for Gulf reef fish or South Atlantic snapper-grouper. A charter vessel that has a charter vessel permit for Gulf reef fish and a commercial vessel permit for Gulf reef fish or a charter vessel permit for South Atlantic snapper-grouper and a commercial permit for South Atlantic snapper-grouper (either a South Atlantic snapper-grouper unlimited permit or a 225-lb (102.1-kg) trip limited permit for South Atlantic snapper-grouper) is considered to be operating as a charter vessel when it carries a passenger who pays a fee or when there are more than four persons aboard, including operator and crew. A charter vessel that has a charter vessel permit for Gulf reef fish, a commercial vessel permit for Gulf reef fish, and a valid Certificate of Inspection (COI) issued by the USCG to carry passengers for hire will not be considered to be operating as a charter vessel provided--

- (1) It is not carrying a passenger who pays a fee; and
- (2) When underway for more than 12 hours, that vessel meets, but does not exceed the minimum manning requirements outlined in its COI for vessels underway over 12 hours; or when underway for not more than 12 hours, that vessel meets the minimum manning requirements outlined in its COI for vessels underway for not more than 12-hours (if any), and does not exceed the minimum manning requirements outlined in its COI for vessels that are underway for more than 12 hours.

Headboat means a vessel that holds a valid Certificate of Inspection (COI) issued by the USCG to carry more than six passengers for hire.

- (1) A headboat with a commercial vessel permit, as required under this part, is considered to be operating as a headboat when it carries a passenger who pays a fee or--

- (i) In the case of persons aboard fishing for or possessing South Atlantic snapper-grouper, when there are more persons

aboard than the number of crew specified in the vessel's COI; or

(ii) In the case of persons aboard fishing for or possessing coastal migratory pelagic fish, when there are more than three persons aboard, including operator and crew.

(2) However a vessel that has a headboat permit for Gulf reef fish, a commercial vessel permit for Gulf reef fish, and a valid COI issued by the USCG to carry passengers for hire will not be considered to be operating as a headboat provided--

(i) It is not carrying a passenger who pays a fee; and

(ii) When underway for more than 12 hours, that vessel meets, but does not exceed the minimum manning requirements outlined in its COI for vessels underway over 12 hours; or when underway for not more than 12 hours, that vessel meets the minimum manning requirements outlined in its COI for vessels underway for not more than 12-hours (if any), and does not exceed the minimum manning requirements outlined in its COI for vessels that are underway for more than 12 hours.

Science and Research Director (SRD), for the purposes of this part, means the Science and Research Director, Southeast Fisheries Science Center, NMFS (see Table 1 of § 600.502 of this chapter).

Subpart B – Reef Fish Resources of the Gulf of Mexico

§ 622.20 Permits and Endorsements .

(b) Charter vessel/headboat permits. For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess Gulf reef fish, in or from the EEZ, a valid charter vessel/headboat permit for Gulf reef fish must have been issued to the vessel and must be on board.

(1) Limited access system for charter vessel/headboat permits for Gulf reef fish. No applications for additional charter vessel/headboat permits for Gulf reef fish will be accepted. Existing permits may be renewed, are subject to the restrictions on transfer in paragraph (b)(1)(i) of this section, and are subject to the renewal requirements in paragraph (b)(1)(ii) of this section.

(i) Transfer of permits--(A) Permits without a historical captain endorsement. A charter vessel/headboat permit for Gulf reef fish that does not have a historical captain endorsement is fully transferable, with or without sale of the permitted vessel.

(B) Permits with a historical captain endorsement. A charter vessel/headboat permit for Gulf reef fish that has a historical captain endorsement may only be transferred to a

vessel operated by the historical captain and is not otherwise transferable.

(C) Procedure for permit transfer. To request that the RA transfer a charter vessel/headboat permit for Gulf reef fish, the owner of the vessel who is transferring the permit and the owner of the vessel that is to receive the transferred permit must complete the transfer information on the reverse side of the permit and return the permit and a completed application for transfer to the RA. See § 622.4(f) for additional transfer-related requirements applicable to all permits issued under this part.

(ii) Renewal. (A) Renewal of a charter vessel/headboat permit for Gulf reef fish is contingent upon the permitted vessel and/or captain, as appropriate, being included in an active survey frame for, and, if selected to report, providing the information required in one of the approved fishing data surveys. Surveys include, but are not limited to--

(1) NMFS' Marine Recreational Fishing Vessel Directory Telephone Survey (conducted by the Gulf States Marine Fisheries Commission);

(2) NMFS' Southeast Headboat Survey (as required by § 622.26(b)(1));

(3) Texas Parks and Wildlife Marine Recreational Fishing Survey; or

(4) A data collection system that replaces one or more of the surveys in paragraph (b)(1)(ii)(A), (1), (2), or (3) of this section.

(B) A charter vessel/headboat permit for Gulf reef fish that is not renewed or that is revoked will not be reissued. A permit is considered to be not renewed when an application for renewal, as required, is not received by the RA within 1 year of the expiration date of the permit.

(iii) Requirement to display a vessel decal. Upon renewal or transfer of a charter vessel/headboat permit for Gulf reef fish, the RA will issue the owner of the permitted vessel a vessel decal for Gulf reef fish. The vessel decal must be displayed on the port side of the deckhouse or hull and must be maintained so that it is clearly visible.

(iv) Passenger capacity compliance requirement. A vessel operating as a charter vessel or headboat with a valid charter vessel/headboat permit for Gulf reef fish, which is carrying more passengers on board the vessel than is specified on the permit, is prohibited from harvesting or possessing the species identified on the permit.

(2) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a

person aboard must adhere to the bag limits. See the definitions of "Charter vessel" and "Headboat" in § 622.2 for an explanation of when vessels are considered to be operating as a charter vessel or headboat, respectively.

(3) If Federal regulations for Gulf reef fish in subparts A or B of this part are more restrictive than state regulations, a person aboard a charter vessel or headboat for which a charter vessel/headboat permit for Gulf reef fish has been issued must comply with such Federal regulations regardless of where the fish are harvested.

§ 622.26 Recordkeeping and Reporting.

(b) Charter vessel/headboat owners and operators--(1) General reporting requirement--(i) Charter vessels. The owner or operator of a charter vessel for which a charter vessel/headboat permit for Gulf reef fish has been issued, as required under § 622.20(b), or whose vessel fishes for or lands such reef fish in or from state waters adjoining the Gulf EEZ, who is selected to report by the SRD must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2) of this section.

(2) Reporting deadlines--(i) Charter vessels. Completed fishing records required by paragraph (b)(1)(i) of this section for charter vessels must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.

Subpart Q – Coastal Migratory Pelagic Resources (Gulf of Mexico and Atlantic)

§ 622.370 Permits.

(b) Charter vessel/headboat permits. (1) For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess, in or from the EEZ, Gulf coastal migratory pelagic fish or South Atlantic coastal migratory pelagic fish, a valid charter vessel/headboat permit for Gulf coastal migratory pelagic fish or South Atlantic coastal migratory pelagic fish, respectively, must have been issued to the vessel and must be on board.

(i) See § 622.373 regarding a limited access system for charter vessel/headboat permits for Gulf coastal migratory pelagic fish.

(ii)

(ii) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the bag limits. See the definitions of "Charter vessel" and "Headboat" in § 622.2 for an explanation of when vessels are considered to be operating as a charter vessel or headboat, respectively.

§ 622.374 Recordkeeping and Reporting.

(b) Charter vessel/headboat owners and operators--(1) General reporting requirement--(i) Charter vessels. The owner or operator of a charter vessel for which a charter vessel/headboat permit for Gulf coastal migratory pelagic fish has been issued, as required under § 622.370(b)(1), or whose vessel fishes for or lands Gulf or South Atlantic coastal migratory fish in or from state waters adjoining the Gulf or South Atlantic EEZ, who is selected to report by the SRD must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2)(i) of this section.

(2) Reporting deadlines--(i) Charter vessels. Completed fishing records required by paragraph (b)(1)(i) of this section for charter vessels must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.

APPENDIX C. CONSIDERED BUT REJECTED

2.4 Action 4: Amend the Gulf Reef Fish, South Atlantic Snapper Grouper, Coastal Migratory Pelagics, and Atlantic Dolphin and Wahoo Fishery Management Plans to Specify Certain Aspects of Reporting for For-Hire Vessels

Alternative 1 (No Action). There is no specified time for data to be made available to the public and to the Councils.

Alternative 2. Specify the following data flow via electronic reporting:

- a) Logbook data collected via authorized platform, ex. web, tablet, phone, or VMS application
- b) Data submitted to Atlantic Coastal Cooperative Statistics Program (ACCSP) or GulfFIN;
- c) Data integrated by ACCSP or GulfFIN into single composite data set;
- d) Composite data set distributed to appropriate agencies for analyses and use.

Sub-alternative 2a. Apply to charter vessels reporting.

Sub-alternative 2b. Apply to headboat reporting.

Alternative 3. Specify the following aspects of electronic reporting:

- a) NMFS and/or ACCSP develop a compliance tracking procedure that balances timeliness with available staff and funding resources.
- b) NMFS is to use validation methods developed in the Gulf of Mexico logbook pilot study as a basis to ensure that the actual logbook report is validated and standardized validation methodologies are employed among regions.
- c) NMFS is to require and maintain a comprehensive permit/email database of participants.
- d) NMFS is to include procedures for expanding estimates for non-reporting.
- e) NMFS is to allow multiple authorized applications or devices to report data as long as they meet required data and transferability standards.

Sub-alternative 3a. Apply to charter vessel reporting.

Sub-alternative 3b. Apply to headboat reporting.

Discussion

The technical subcommittee recommends a multi-faceted approach where a number of reporting platforms can be used so long as the minimum data standards and security protocols are met. Data standards would need to be developed and the subcommittee agreed that NOAA Fisheries, the GulfFIN, and ACCSP could work collaboratively to develop appropriate standards.

The subcommittee recommends this process for data storage and management:

1. Logbook data collected via authorized platform, ex. web, tablet, phone, or VMS application
2. Data submitted to ACCSP or GulfFIN;
3. Data integrated by ACCSP or GulfFIN into single composite data set;
4. Composite data set distributed to appropriate agencies for analyses and use.

This process could eliminate duplicate reporting for some participants (e.g., South Carolina

headboats and charter vessels) so long as appropriate data standards are in place and the respective agencies agree to confidentiality standards, which would allow sharing and accepting one another's data for use. Elimination of duplicate reporting (e.g., separate state and federal reports) would be a substantial benefit to participants in this survey program and could mitigate any additional reporting requirements for comparison to the current MRIP survey program.

The South Atlantic Council is concerned about the extensive delays in tracking recreational catches. The current South Atlantic blueline tilefish recreational ACL versus recreational catches is currently unknown pending receipt of the first wave of MRIP data (should be available 45 days after the end of February) and any headboat catches. Part of the delay is that the Council has specified the recreational ACL in pounds and this requires the numbers of fish to be converted to pounds. This adds an unspecified period of time after the MRIP data are released for the SEFSC to apply their conversion factors and provide a catch estimate. The South Atlantic Council is considering specifying recreational ACLs in numbers of fish so that the headboat sector (and the charter vessel sector once this amendment is approved) can be tracked weekly. Specifying the recreational ACL in numbers of fish will also reduce the delay in using the MRIP data to track recreational ACLs.

Action 4 addresses the following recommendations from the Technical Sub-Committee:

- Development of compliance tracking procedures that balance timeliness with available staff and funding resources.
- Use validation methods developed in the Gulf of Mexico logbook pilot study as a basis to ensure that the actual logbook report is validated and standardized validation methodologies are employed among regions.
- Require and maintain a comprehensive permit/email database of participants.
- Include procedures for expanding estimates for non-reporting.
- Allow multiple authorized applications or devices to report data as long as they meet required data and transferability standards.

The technical subcommittee recommends building upon the validation methodology developed in the Gulf MRIP pilot study.

The technical subcommittee recommends use of an MRIP certified methodology for validation with the following elements: Gulf MRIP pilot study methodologies, including dockside validation of catch and vessel activity, and maintenance of site and vessel registries.

The technical subcommittee recommends dual survey methods (existing and new) for no less than three years. Data from the new program would not be expected to provide management advice during the first year of operation. Moreover, this would allow the possibility of an initial phase-in or limited implementation to identify and solve significant problems prior to implementation for all participants.

The technical subcommittee recommends that the Councils move forward with development of a

reporting system that includes federally permitted for-hire vessels while also exploring ways to determine the impact of state permitted vessels on landings estimates of federally managed species. Long term, the subcommittee recommends that both state and federally permitted charter vessels participate in this census to include the entire fleet of charter vessels harvesting federally managed species.

Weekly electronic dealer and headboat reporting are fully implemented. However, there are still delays in having updated landings available to the public for their use in planning trips and to the Councils for monitoring ACLs. A solution, in the Atlantic, would be to have the raw weekly data fed to ACCSP and made available to the public via the ACCSP website. The “official” numbers for quota closures would continue to be the numbers maintained by NMFS and available on the NMFS website but this would provide more timely and useful updates to the public.

The result would be updated and current catch data available on a daily basis for the public, states, NMFS, and the Councils to use in monitoring ACLs and planning fishing trips.

APPENDIX D. MINIMUM DATA ELEMENTS

Background

The Gulf Council (Council) is considering a generic amendment that would implement electronic reporting for federally permitted Gulf of Mexico for-hire vessels. The Council requested additional review and input from their Data Collection Technical Committee (Committee), specifically focusing on the recommended data elements that are necessary to improve fisheries and socioeconomic data in the Gulf of Mexico for-hire fishery. The Committee reviewed a list of data elements collected by 23 for-hire programs in the Gulf and Atlantic regions and a list of potential data elements for consideration in the Gulf of Mexico for-hire fishery. The meeting focused on the review and subsequent recommendations of this committee about the data elements to be included as part of the for-hire electronic logbook program. The discussions were guided by the Council objective to keep the reporting as simple as possible, but adequate to achieve a timely and accurate estimate of catch and effort from the for-hire fleet. The Committee reviewed a list of data elements that could be incorporated in a for-hire data collection program. The Committee categorized each element into one of the following categories: Essential, Recommended, or Not Recommended.

Essential Elements

The Committee characterized 21 variables as “Essential” meaning they are necessary to achieve the minimum objectives of the program. These minimum elements are presented in **Table 1**. The Committee emphasized that the reporting requirements should be as simple as possible to complete, noting vessel operators will need to submit the fishing report before completing each trip. Many of the elements necessary to identify an individual trip (e.g., permit number, vessel number, trip type, trip identifier, and hail-out time) could be auto-completed by the reporting software at the beginning of each trip (i.e., submitted via hail-out) and would

require little effort by the vessel operator. This greatly improves data quality, validation, and vessel specific effort information. Several additional variables could be configured when the software is initially installed and rarely modified. For example ‘trip type’ could be defaulted to ‘for-hire’ and only changed occasionally when other trips types are made. These variables would be specified at the beginning of each trip and would not require action from the vessel operator for the remainder of the for-hire trip. Primary target species could also be auto-populated with a default to simplify reporting. This variable is essential for stock assessments and economic analysis. While target species may change during trip due to conditions on the water, bias may exist if defined after a trip (i.e., you targeted what you caught).

Variables reported at hail-out

Expected landing time, location, and the number of anglers were recommended as variables to be provided during the hail-out prior to initiating the trip. Expected landing time and location would support increased efficiency of dockside validation and increase the sample size of biological data that is used for stock assessments and management.

At-sea reporting

The Committee recommended five variables be included in the at-sea report: species harvested, number harvested, number released, disposition of released fish, and primary depth fished (Table 1). These variables comprise the most important elements necessary to estimate harvest of the for-hire fleet. Disposition of released fish was only recommended for HMS species; this query could be automated to only appear when an HMS species was reported discarded. The reporting protocol would build upon existing software that would support fast, intuitive data entry that would be validated through dockside intercepts. The submission of these

data would be provided during the hail-in for each trip and would complete the data submission requirements for each for-hire trip.

Recommended Data Elements

The Committee provided recommendations on a set of variables that were deemed important, yet, beyond the bare minimum need to achieve an estimate of catch and effort from the for-hire fleet. These recommended elements are available in Table 2 and generally considered supplementary (e.g., minimum and maximum depth fished) or provide additional socioeconomic information about the for-hire fishery. For example, fuel price, gallons used, and number of paying customers could be provided to better characterize economic and social impacts of for-hire fishing. However, some of these data may be collected more efficiently by a sample of the fleet (e.g., fuel price) and there was concern that too many fields may reduce reporting compliance and stakeholder support.

Data Elements Not Recommended

The Committee recommended that several data elements be removed from consideration as part of the for-hire reporting program. These elements are listed in Table 3. The rationale for removal was varied. Some elements were considered too burdensome to collect relative to the value added to the data (e.g., hook size, number of lines fished), potentially ambiguous (e.g., number of crew members fishing) or difficult to validate (e.g., charter fees). The Committee discussed that these variable could provide important information but again, was guided by the objective to focus on the minimum elements to characterize catch and effort of the fleet.

Table D1. List of essential data elements as recommended by the Technical Data Committee at their September 2016 meeting.

| Variable | Description | Comments | Committee Recommended? | Submission Type |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|
| Permit Number | Federal for-hire permit number for the vessel | <i>Owner could configure initial account with all Permit Numbers; NMFS can links and validate to Vessel ID, which is easier for captain to report and easier for agent to validate</i> | Essential | Auto-complete |
| Vessel Number | USCG vessel id | <i>Provided by captain, could be prefilled or selected from drop down menu to save time.</i> | Essential | Auto-complete |
| Trip Type | Commercial/Headboat /Charter/Private/Other (incl. research trips) | <i>Helps law enforcement identify trip and associated regulations that apply</i> | Essential | Auto-complete with custom defaults |
| Trip Identifier | Unique identifier for current trip assigned at Hail-Out; cannot obtain new trip identifier until current trip's final logbook is received. | <i>Critical to maintain data integrity and to ensure trip reports are completed in timely manner.</i> | Essential | Auto-complete |

Table D1 cont. List of essential data elements as recommended by the Technical Data Committee at their September 2016 meeting.

| | | | | |
|----------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------|
| Landing Location | Location for vessel landing, transmitted to law enforcement | <i>Critical for dockside validation; will need call service for weekends</i> | Essential | Auto-complete with custom defaults |
| Landing Date | Date for vessel landing, transmitted to law enforcement | <i>Critical for dockside validation; will need call service for weekends</i> | Essential | Auto-complete with custom defaults |
| Landing Time | Time for vessel landing, transmitted to law enforcement | <i>Estimate provided at Hail-out, Actual potentially collected 30 min in advance of landing (1 hr: HBS Collaborative, 3 hr: Commercial - 1 hr window)</i> | Essential | Provide at hail-out |
| Primary Method of Fishing | Primary Method {troll, drift, bottom, spear} used on the trip | <i>Critical for accurate CPUE computations; gear impacts selectivity, discard rates</i> | Essential | Auto-complete with custom defaults |

Table D1 cont. List of essential data elements as recommended by the technical data committee at their September 2016 meeting.

| Variable | Description | Comments | Committee | Submission Type |
|-------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Anglers | Number of anglers fishing on the vessel (distinct from number of passengers and crew) | <i>Critical metric for CPUE computations ([anglers+fishing crew] X fishing hours = angler-hours)</i> | Essential | Provide at hail-out |
| Number of Crew | Number of crew on the boat | <i>Useful for economic analysis, bag limit analysis, etc.</i> | Essential, included in current SRHS | Auto-complete with custom defaults |
| Hours Fished | Hours spent fishing (avg. per angler) | <i>Effort metric for CPUE computations used for stock assessment indices of abundance</i> | Essential | Auto-complete with custom defaults |
| Primary Target Species | Primary species targeted on trip | <i>Critical metric for CPUE computations, as not all trips targeting a species land the species, but the effort is still effort directed towards the species.</i> | Essential for stock assessments and economic analysis; target species may change during trip due to conditions on the water; however, bias may exist if defined after a trip (i.e., you targeted what you caught). Might need a few aggregate fields like "Reef Fish," "Migratory Pelagics," "HMS Pelagic Species," "Coastal Sharks," "No Intended Target." Might be useful to have software auto-populate "default" target species or carry forward selected target species from previous trip. | Auto-complete with custom defaults |

Table D1 cont. List of essential data elements as recommended by the technical data committee at their September 2016 meeting.

| | | | | |
|-----------------------|-----------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------|
| Species | Species caught on trip | <i>Critical for ACL monitoring</i> | Essential | At-sea report |
| Retained Catch | Number of each species caught on trip | <i>Critical for ACL monitoring</i> | Essential | At-sea report |
| Released Catch | Number of each species released on trip | <i>Critical for stock assessment</i> | Essential | At-sea report |
| Disposition | Status of discarded species | <i>Useful for stock assessment</i> | Essential for HMS targeted species (if HMS targeted species reported as discarded, this question pops up) | At-sea report |

Table D1 cont. List of essential data elements as recommended by the technical data committee at their September 2016 meeting.

| | | | | |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------|
| | | | | |
| Area | Area fished at set intervals from real-time or archived GPS track | <i>Important for evaluation of barotrauma, assignment of fishing to jurisdiction, evaluation of spatial management, understanding impacts of climate change on stock distribution, safety at sea</i> | Essential (Auto-populated) | Auto-complete |
| Primary Depth Fished | Self-reported Primary depth fished in feet (what depth was your gear? – this is the critical question for barotrauma, not the depth of the bottom) | <i>Critical to evaluation of barotrauma and associated release mortality</i> | Essential; Min, Max, and Primary Depth collected by SRHS starting in 2013. | At-sea report |
| Hail-out Time | Time vessel leaves dock | | Required by Council | Auto-complete |
| Hail-in Time | Time vessel returns to dock | | Required by Council | Auto-complete |

Table D1 cont. List of essential data elements as recommended by the technical data committee at their September 2016 meeting.

| | | | | |
|-----------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| <p>Trip Duration</p> | <p>Duration of Trip (hours)</p> | <p><i>Easily computed from Hail-Out and Hail-In, but less useful than Hours Fished for CPUE computations</i></p> | <p>Could be easily calculated from Hail-in and Hail-out if needed [add Hail-in time and Hail-out time to database]; essential for continuity of data for trip type assignments for SRHS</p> | <p>Auto-complete; Based on hail-out/hail-in times</p> |
|-----------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|

Table 2. Data elements recommended by the Technical Data Committee at their September 2016 meeting.

| Variable | Description | Comments | Committee Recommended? | Submission Type |
|---------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Secondary Target Species | Secondary species targeted on trip | <i>Some vessels may target multiple species, especially vessels making multi-day trips.</i> | Recommended | Auto-complete with custom defaults |
| Min Depth Fished | Self-reported Min depth fished in feet | <i>Critical to evaluation of barotrauma and associated release mortality</i> | Recommended | At-sea report |
| Max Depth Fished | Self-reported Max depth fished in feet | <i>Critical to evaluation of barotrauma and associated release mortality</i> | Recommended | At-sea report |
| Vessel Length | Length of vessel in feet | <i>Owner could configure account with information for all vessels, NMFS can link and validate.</i> | Recommended (auto-populated) | Auto-complete |
| Fuel Quantity | Estimated gallons of fuel used on trip | <i>Useful to assess economics of the for-hire sector</i> | Recommended, included in current SRHS. May be possible to compute from VMS track rather than require operator to report. | Recommended, included in current SRHS. May be possible to compute from VMS track rather than require operator to report. |
| Fuel Price | Price per gallon paid for fuel used on trip | <i>Useful to assess economics of the for-hire sector</i> | Recommended, included in current SRHS. Secondary data sources exist for this information. | Recommended, included in current SRHS. Secondary data sources exist for this information. |

Table 2 cont. Data elements recommended by the Technical Data Committee at their September 2016 meeting.

| Variable | Description | Comments | Committee Recommended? | Submission Type |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Passengers | Number of passengers (not including crew) | <i>Used to compute total trip fee (website posted headboat cost/person X passengers), essential for bag limit analysis</i> | Recommended; note some passengers may not have paid, which introduces some bias in the economic analysis | Recommended; note some passengers may not have paid, which introduces some bias in the economic analysis |
| Secondary Method of Fishing [optional] | Secondary Method {troll, drift, bottom, spear} used on the trip; field not required, optional if applicable to the trip | <i>Critical for accurate CPUE computations; gear impacts selectivity, discard rates</i> | Suggested as “Optional” field | Select from list |

Table 3. Data elements not recommended by the Technical Data Committee at their September 2016 meeting.

| Variable | Description | Comments | Committee Recommended? |
|--------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Number of Hooks | Mean number of hooks in the water | <i>Useful for CPUE, difficult for large boats with many anglers</i> | Not recommended |
| Pay Type | Per person, per group, or no charge (mixed pay types defaults to per person) | <i>Useful to assess economics of the for-hire sector; and delineation of for-hire sub-sectors</i> | Not recommended |
| Hook Manufacturer | Manufacturer of hooks used to catch each species (if hook gear reported) | <i>Useful for CPUE computations; hook size impacts selectivity - hook sizes vary by manufacturer</i> | Not recommended |
| Hook Number | Number of hooks used | <i>Useful to convert angler-hours to hook-hours for CPUE computations</i> | Not recommended |
| Hook Size | Size of hook used | <i>Useful for CPUE computations; hook size impacts selectivity - hook sizes vary by manufacturer</i> | Not recommended |
| # of Crew Fishing | Number of crew that were fishing on the boat | <i>Critical metric for CPUE computations ([anglers+fishing crew] X fishing hours = angler-hours)</i> | Not Recommended - Difficult to define – what if a crew member deploys the line and the angler lands the fish? |

Table 3 cont. Data elements not recommended by the Technical Data Committee at their September 2016 meeting.

| Variable | Description | Comments | Committee Recommended? |
|------------------------|-----------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Lines | Mean number of lines being fished | Useful for CPUE, difficult for large boats with many anglers | Not recommended for Headboat; Potentially useful for Charter – if vessel is trolling this is probably a more accurate measure of effort than number of anglers |
| Charter Fee | Total for-hire fees collected from all passengers for this trip | Critical for ANY economic analysis/assessment | Not recommended in eLogbook, but highly recommended for Separate survey. Can also be obtained online. Vessel operator may not have this information available prior to hitting dock. |
| Crew Pay | Total compensation received by hired crew for this trip | Useful to assess economics of the for-hire sector | Not recommended in eLogbook, but highly recommended for Separate survey. Requesting tip information may reduce compliance. Vessel operator may not have this information available prior to hitting dock. |

APPENDIX E. SOUTHEAST REGION HEADBOAT SURVEY FORMS

Southeast Region Headboat Survey
(kenneth.brennan@noaa.gov) My Account Sign out

Dashboard

Trip Report

New Trip Report

Past Trip Reports

Inactivity Report

Inactivity Reports

Manage

Manage Captains

Species Favorites

Admin Panel

Manage Areas

Manage Species

Manage Vessels

Manage Users

Export Data

Maps

Area Maps

Videos

Getting Started

Create a New Trip Report

Trip Details:

Trip Report #: **215**

Depart Date/Time: Return Date/Time:

Vessel: Captain:

Passenger Info:

of Anglers (customers that fished): # of Paying Passengers (anglers + non anglers): # of Crew (excluding captain):

Fuel: **Depths Fished (ft.):**

Fuel used (gallons): Price per Gallon (estimate):

Minimum: Maximum: Primary:

Location:

Lat/Long Degrees:

Latitude Minutes: Longitude Minutes:

[SAVE TRIP REPORT INFORMATION](#)

Figure D1. Example Southeast Region Headboat Survey trip report form for headboats.

Catch Information

- Show Species Grid
- Show All Species
- Order Species By Most Reported

Species: Number Kept: Number Released:

SAVE CATCH INFORMATION

| | Species Name | Number Kept | Number Released | |
|------|--------------------------|-------------|-----------------|--------|
| Edit | ALMACO JACK | 5 | 0 | Delete |
| Edit | BANDED RUDDERFISH | 7 | 0 | Delete |
| Edit | ATLANTIC SHARPNOSE SHARK | 0 | 14 | Delete |
| Edit | BLACK SEABASS | 25 | 300 | Delete |
| Edit | GAG | 2 | 1 | Delete |
| Edit | LITTLE TUNNY | 2 | 0 | Delete |
| Edit | RED PORGY | 11 | 38 | Delete |
| Edit | RED SNAPPER | 0 | 21 | Delete |
| Edit | REMORA | 0 | 3 | Delete |
| Edit | SPOTTAIL PINFISH | 45 | 0 | Delete |
| Edit | GRAY TRIGGERFISH | 77 | 0 | Delete |
| Edit | VERMILION SNAPPER | 132 | 48 | Delete |

Figure D2. Example Southeast Region Headboat Survey catch report form for headboats.

APPENDIX F. TECHNICAL SUBCOMMITTEE REPORT TO
THE SOUTH ATLANTIC AND GULF OF MEXICO
FISHERY MANAGEMENT COUNCILS:
RECOMMENDATIONS FOR ELECTRONIC LOGBOOK
REPORTING

11/26/2014

**Technical Subcommittee Report to the South
Atlantic and Gulf of Mexico Fishery
Management Councils: Recommendations for
Electronic Logbook Reporting**



November 2014

This page intentionally blank

ABBREVIATIONS USED IN THIS DOCUMENT

| | |
|---------|----------------------------------------------------------------|
| ACCSP | Atlantic Coastal Cooperative Statistics Program |
| EEZ | Exclusive Economic Zone |
| ELB | electronic logbook |
| FHS | for-hire-survey |
| FWC | Florida Fish and Wildlife Conservation Commission |
| FIN | Fisheries Information Network |
| GulfFIN | Gulf of Mexico Fisheries Information Network |
| GMFMC | Gulf of Mexico Fishery Management Council |
| GSMFC | Gulf States Marine Fisheries Commission |
| HMS | highly migratory species |
| MRIP | Marine Recreational Information Program |
| NOAA | National Oceanic and Atmospheric Administration |
| NCDENR | North Carolina Department of Environment and Natural Resources |
| NFWF | National Fish and Wildlife Foundation |
| NMFS | National Marine Fisheries Service |
| NRC | National Research Council |
| PPS | proportional probability sampling |
| SAFMC | South Atlantic Fisheries Management Council |
| SCDNR | South Carolina Department of Natural Resources |
| SERO | Southeast Regional Office |
| SRHS | Southeast Region Headboat Survey |
| SEFSC | Southeast Fisheries Science Center |
| TPWD | Texas Parks and Wildlife Department |
| VMS | vessel monitoring system |

TABLE OF CONTENTS

| | |
|-------------------------------------------------------------------------|-----|
| Executive Summary | 100 |
| Section 1. Background..... | 102 |
| Section 2. Objectives | 103 |
| Section 3. Technical Subcommittee Members..... | 104 |
| 3.1 Membership | 104 |
| 3.2 Timeline | 104 |
| Section 4. Recommendations..... | 105 |
| 4.1 Mandatory or voluntary participation | 105 |
| 4.2 Survey or census | 106 |
| 4.3 Reporting frequency | 107 |
| 4.4 Data collection | 107 |
| 4.5 Data storage and management | 108 |
| 4.6 Validation and estimation | 109 |
| 4.7 Accountability measures | 112 |
| 4.8 Calibration with existing survey | 113 |
| 4.9 Should state permitted for-hire vessels be required to participate? | 114 |
| 4.10 Program coordination | 114 |
| 4.11 Budgetary implications | 114 |
| Section 5. Challenges..... | 119 |
| 5.1 Calibration with existing survey | 119 |
| 5.2 Reporting burden | 119 |
| 5.3 Compliance | 119 |
| 5.4 Collaboration with states | 120 |

EXECUTIVE SUMMARY

Catch from recreational anglers comprises a substantial proportion of total catch for many species in the regions managed by the Gulf of Mexico and South Atlantic Fishery Management Councils. For-hire charter vessels are an important component of the recreational fishery both in terms of fishing effort and harvest. There is a need to improve data collection practices for charter vessels to address evolving needs of science and management and to capitalize on the improvements of emerging electronic reporting technologies. The Gulf of Mexico and South Atlantic Fishery Management Councils are considering changes in management for these purposes and formed a technical subcommittee to provide recommendations to implement electronic logbook reporting for charter vessels in the Gulf of Mexico and South Atlantic Fishery Management Councils respective jurisdictions.

Currently, for-hire data collection programs gather information on fishing effort and catch by marine recreational anglers fishing on professionally licensed for-hire vessels (including charter, guide, and large party boats). National Oceanic and Atmospheric Administration Fisheries, in coordination with the states, Atlantic Coastal Cooperative Statistics Program, and Fisheries Information Network, support regional programs to collect these statistics, with the ultimate goal of building a system of data collection programs that are responsive to regional needs and are coordinated at the national level to provide standard data elements for both regional and national assessments of fish stocks and associated fisheries management.

The technical subcommittee was formed from state and federal biologists and resource managers that have the requisite experience to develop best practices for an improved for-hire data collection program. The technical subcommittee was instructed to provide these recommendations by December 1, 2014 and this report reflects these recommendations. The group met May 27-28, 2014 and drafted initial recommendations for the Gulf of Mexico and South Atlantic Fishery Management Councils' review. This guidance has been integrated into the report to the extent practicable yet, the recommendations remain those of the technical subcommittee.

The subcommittee recommends a census style, electronic reporting system that builds upon the Gulf of Mexico electronic logbook pilot program, the electronic reporting program for headboats, and the recently implemented electronic dealer reporting program. A brief overview of the recommendations is below:

- Complete census of all participants;
- Mandatory, trip level reporting with weekly electronic submission. Give flexibility to require submission more frequently than weekly if necessary. Give flexibility to declare periods of inactivity in advance;
- Development of compliance tracking procedures that balance timeliness with available staff and funding resources;

- Implementation of accountability measures to ensure compliance;
- Use validation methods developed in the Gulf of Mexico logbook pilot study as a basis to ensure that the actual logbook report is validated and standardized validation methodologies are employed among regions;
- Minimize reporting burden to anglers by reducing (or preferably eliminating) paper reporting and eliminating duplicate reporting;
- Maintain capability for paper-based reporting during catastrophic conditions;
- Require and maintain a comprehensive permit/email database of participants;
- Develop and implement the program in close coordination with Marine Recreational Information Program, Southeast Regional Office, Southeast Fisheries Science Center, highly migratory species, state agencies, Atlantic Coastal Cooperative Statistics Program, and Gulf Fisheries Information Network;
- Include procedures for expanding estimates for non-reporting; and,
- Allow multiple authorized applications or devices to report data as long as they meet required data and transferability standards.

The technical subcommittee has provided these recommendations within the framework of finite fiscal and personnel resources with consideration of reporting burden and technology requirements for charter vessel operators. The recommended program should be flexible enough to accommodate changes in technology or funding availability without compromising the integrity of the long-term data series. The technical subcommittee also realizes that advances in data collection technologies will continue and the program will require evaluation, and likely subsequent improvement to meet the evolving needs of science and management.

SECTION 1. BACKGROUND

Catch from recreational anglers comprises a substantial proportion of total catch for many species in the regions managed by the Gulf of Mexico and South Atlantic Fishery Management Councils (GMFMC, SAFMC). For-hire data collection programs gather information on fishing effort and catch by marine recreational anglers fishing on professionally licensed for-hire vessels (including charter, guide, and large party boats). National Oceanic Atmospheric Administration (NOAA) Fisheries, in coordination with the states, Atlantic Coastal Cooperative Statistics Program (ACCSP), and Fisheries Information Network (FINs), supports regional programs to collect these statistics, with the ultimate goal of building a system of data collection programs that are responsive to regional needs and are coordinated at the national level to provide standard data elements for both regional and national assessments of fish stocks and associated fisheries management.

Recreational harvest from for-hire vessels in the Southeast Region are monitored through a combination of effort and dockside intercept surveys. The Marine Recreational Information Program's (MRIP) for-hire survey (FHS) and the Southeast Region Headboat Survey (SRHS). The FHS estimates charter vessel catches of state and federally managed species off the U.S. Atlantic and Gulf coast states, with the exception of Texas and more recently Louisiana. The Texas Parks and Wildlife Department (TPWD) conducts their own creel survey to estimate private and charter landings. Since 1993, South Carolina has administered a paper-based logbook reporting program for every licensed six-pack charter operator. These data are primarily used for state management and quota monitoring for federally managed species occurs as part of the MRIP for-hire survey. North Carolina is also developing an electronic logbook (ELB) system for their own use with the goal of supplanting the MRIP for-hire survey once fully operational and compatible with MRIP. In recent years, interest by constituents and the Councils has been growing to implement electronic reporting requirements in the for-hire sector. There is general distrust of MRIP landings estimates for the for-hire survey and managers and fishermen have expressed a need for more timely and accurate data to support fishery monitoring, science, and management. Additionally, the National Research Council's (NRC) review of recreational survey methods concluded that in most cases charter boats should be required to maintain logbooks of fish landed and kept. These factors led to an ELB pilot study of Texas and Florida charter vessels in 2010-11 and new electronic reporting regulations for headboats in 2014. Four additional projects have also been funded by MRIP or the National Fish and Wildlife Foundation (NFWF) in 2014 to test new approaches for monitoring charter vessel catch and effort. The GMFMC and SAFMC have also passed motions at recent meetings expressing their interest in electronic reporting by charter vessels and they formed this technical subcommittee to develop recommendations for the Councils' consideration by December 1, 2014, on how to best achieve an electronic reporting system for charter vessels. The technical subcommittee met May 27-28, 2014 to develop recommendations to the Councils. The technical subcommittee reached consensus of several aspects on a proposed program and identified a framework for implementation.

SECTION 2. OBJECTIVES

The Gulf of Mexico and South Atlantic Fishery Management Councils appointed this technical subcommittee (membership list below) to develop recommendations to implement an improved data collection program to support the needs of science, fisheries management, and address stakeholder concerns about data quality and redundancy in reporting. Specifically, the technical subcommittee was charged with developing recommendations to implement electronic reporting for charter vessels in the Gulf of Mexico and US South Atlantic in support of the following objectives:

- Increasing the timeliness of catch estimates for in-season monitoring;
- Increasing the temporal (and/or spatial) precision of catch estimates for monitoring;
- Providing vessel-specific catch histories for management;
- Reducing biases associated with collection of catch statistics; and,
- Increasing stakeholder trust and buy-in associated with data collection.

SECTION 3. TECHNICAL SUBCOMMITTEE MEMBERS

3.1 Membership

- Gregg Bray – GSMFC
- Ken Brennan – SEFSC
- Mike Cahall – ACCSP
- Mike Errigo – SAFMC
- Mark Fisher - TPWD
- John Froeschke – GMFMC
- Eric Hiltz – SCDNR
- Doug Mumford – NCDENR
- Ron Salz – MRIP
- Beverly Sauls – FWC
- George Silva – HMS
- Andy Strelcheck – SERO

3.2 Timeline

- May 2014 – Technical subcommittee meeting in Tampa, Florida
- June 2014 - Provide meeting summary to Councils for review and guidance;
- July 2014 - Technical subcommittee conference call to discuss Councils’ review and guidance;
- September 2014 - Technical subcommittee webinar to discuss items needed to complete the report;
- November 2014 - Draft report sent to subcommittee for review;
- December 1, 2014 - Provide report to Gulf and South Atlantic Councils.

SECTION 4. RECOMMENDATIONS

The technical subcommittee discussed trade offs and limitations of potential modifications to fisheries reporting in for-hire fisheries. The subcommittee agreed (by consensus) on preferred approaches for several aspects and discussed barriers to implementation of a new program. The subcommittee solicited and received preliminary input from both Councils following the May 27-28 meeting. This guidance has been integrated into the report to the extent practicable yet, the recommendations remain those of the technical subcommittee.

The subcommittee emphasized that the program should *not* be designed around a single species, and should be flexible enough to accommodate different reporting requirements for different segments of the for-hire fleet. For example, if federally permitted vessels were required to report more frequently during the recreational red snapper season, other vessels that do not participate in this fishery should be able to continue reporting at their normal frequency. Similarly, an electronic reporting system should be able to accommodate vessels already required to carry vessel monitoring system (VMS) units for participation in commercial fisheries without necessarily requiring all for-hire vessels to report through VMS. Although not currently required, the Gulf Council expressed interest in using VMS and hail-out, hail-in protocols to improve effort estimates. This practice certainly could improve the quality of effort estimation in the for-hire fleet, although, implementation would not be without challenges. The cost of a VMS program both in terms of vessel equipment and agency staff/infrastructure would require additional, long-term funding (see section about costs). This may be beyond current resource availability. Rather than recommend fleet-wide implementation of VMS and hail-out, hail-in requirements, the subcommittee recommends structuring the charter fishery monitoring program such that it is scaleable and expandable as management needs, technology, and funding availability change. This recommendation would allow improved data collection in the near term building on the recently implemented electronic reporting system for southeast region headboats (i.e., weekly, electronic reporting) and the Marine Recreational Information Program (MRIP) charter vessel pilot program, yet would not require full implementation of VMS to move beyond the current process.

The current survey methodology was deemed inadequate to meet the objectives posed to the group (although not necessarily the original intent of the charter vessel survey). Specifically, timeliness, bias reduction, and stakeholder buy-in could be improved with an electronic reporting system without the inherent expense and time for implementation of VMS technology in the charter fleet (of course, the introduction of new biases is possible). These improvements are necessary given the requirement to establish annual catch limits for federally managed species and close the fishery when the target harvest level has been caught each year. This requirement for in-season quota monitoring is far beyond the management needs when the original charter vessel survey was designed and implemented and the guidance herein attempts to match the data collection effort to the needs of the current and future fisheries management.

4.1 Mandatory or voluntary participation

The technical subcommittee discussed participation in any new charter vessel monitoring program. Specifically, the subcommittee considered if participation in the program by charter vessel owner/operators could be voluntary or if mandatory participation is necessary. Voluntary reporting programs can be advantageous in that reporting burden is reduced (or absent) from participants that do not wish to participate. This would also reduce the number of reports that require processing for catch and effort estimation. However, in absence of a complete sample, estimation procedures are necessary. Estimation procedures can be accurate and robust in a well-designed survey, however, likely at the expense of reduced timeliness. Developing estimates of total catch from a volunteer program is problematic as the proportion of participants may be highly variable through time or across the survey area and volunteer participants may not be representative of all possible participants in this survey. This pattern has been demonstrated previously (e.g., angler avidity) in other studies of volunteer programs and will bias estimates when expanded to the total sector. Voluntary programs would also require careful consideration of the characteristics of the participants and those who choose not to participate as it is impossible to compare catch patterns with participants and non-participants; and an assumption that they are identical is necessary but likely inaccurate. The subcommittee agreed that the potential for bias is too great to recommend any voluntary reporting program and suggested that any program (i.e., census or survey) require reporting from participants be mandatory if selected (e.g., Southeast Region Headboat Survey (SRHS)).

The subcommittee agreed that the potential for bias is too great to recommend any voluntary reporting program and mandatory participation is necessary for vessel/owneroperators selected. This is recommended to best achieve the overarching objectives of the proposed program.

4.2 Survey or census

Both census and statistical surveys can (and are) used to estimate catch and effort in marine fisheries. Surveys are beneficial in that a representative sample of anglers (as opposed to the entire "population" of anglers in the fishery) and their catch is used to estimate the total catch. However, management often requires these estimates over relatively small areas, short-time scales, or for rare event species. In these situations, survey estimates sometimes lack the precision necessary or desired for management decisions. The common remedy is to increase sample effort (i.e., sample size) to achieve desired precision levels, however, the necessary sample size may exceed program resources. An additional challenge of surveys is that the strata (e.g., area, time-period) require complete coverage before making an estimate. In practice, this means that surveys generally have a longer lag between the time fishing occurs and when the resulting data are available for use.

A census provides a sum of the total effort and catch by tabulating these metrics from all participants in the fishery. In theory, reporting and subsequent use of these data in management can be rapid as no additional estimation procedures are necessary and the report submission frequency can be established (e.g., weekly) to balance management needs with reporting burden on fishery participants. In practice, estimating catch and effort from a census can be challenging if some participants do not report their catch and effort data within the specified reporting

periods. In this event, the census is incomplete and requires an expansion factor to calculate the total catch and effort. As with any survey design, this estimation routine requires additional time, resources, and reduces precision of the estimate. In extreme cases, expanding an incomplete census to a total estimate can be difficult or impossible if the proportion of non-compliant participants is large or if the non-compliant participants are markedly different than those that are reporting as required. Nonetheless, this capability is essential in a real-world census and is important to consider when developing reporting requirements (frequencies and accountability measures) and minimum acceptable lag-time for use in fisheries management.

The technical subcommittee recommends the development and implementation of a electronic logbook *census* program to estimate catch and effort for southeast region charter vessels, including procedures for expanding for non-reporting. This recommendation was based in part on the inability of the current survey to meet the needs of science and management applications and the requirement of timeliness beyond which is readily achievable through a survey approach.

4.3 Reporting frequency

The subcommittee discussed how often reports need to be submitted to provide timely data for science and management. Frequent reporting has at least two benefits. Reporting as frequently as practicable reduces recall error/bias when producing catch reports. Frequent reporting also can make these data available for use sooner. Currently, the Gulf of Mexico Fishery Management Council (GMFMC) and South Atlantic Fishery Management Council (SAFMC) require electronic reporting on a weekly basis for commercial seafood dealers and federally permitted headboat operators. Similarly, the subcommittee recommends mandatory weekly reporting, or at shorter intervals if necessary (e.g., The Gulf Council may want to require daily logbook submission during the recreational red snapper season) for a new charter vessel program. A second recommendation was that reports be due from the prior fishing week as soon as practicable. Commercial seafood dealer reports must be submitted by the Tuesday following the previous fishing week (Monday through Sunday). This was considered preferable over the headboat reporting requirements where trip reports are due one week after the end of the fishing week. The reduced lag addresses both advantages identified above.

The technical subcommittee recommends trip level reporting with weekly submission due the Tuesday following each fishing week. This would include no activity reports that could be submitted in advance if periods of inactivity are known. The technical subcommittee discussed that a daily reporting requirement may not be feasible or enforceable, however, reporting systems and user interfaces should be designed to encourage "real-time" at-sea reporting of catch and catch related data elements (e.g. fishing location, fishing method, target species).

4.4 Data collection

A variety of software applications are available for data collection and submission including web, smart phone, and tablet based technology. Web-based software provide the capability to report fisheries data after completing the trip. Smart phone or tablet technology could be used for at-sea or real time reporting of catch and effort. This approach may limit the complexity of reporting options but could provide enhanced validation methods because catch and effort data could be submitted before returning to port allowing enhanced dockside validation. Smart phone and tablet technology can also allow for data input without a current network connection and are also capable of recording vessel positions during a trip via GPS (a far cheaper technology than VMS, but not in real-time).

The subcommittee recommends a multi-faceted approach where a number of reporting platforms can be used so long as the minimum data standards and security protocols are met. Data standards would need to be developed and the subcommittee agreed that National Oceanic and Atmospheric Administration (NOAA) Fisheries, the Gulf of Mexico Fisheries Information Network (GulfFIN), and Atlantic Coastal Cooperative Statistics Program (ACCSP) could work collaboratively to develop appropriate standards.

These recommendations encompass two overarching objectives of the monitoring program: 1) Flexibility for specific regions, species, or time periods; 2) A flexible framework to allow incorporation of improved technologies as they become available. Electronic monitoring and reporting capabilities are rapidly evolving and the options available in the near-future may far exceed the current suite of tools. It is necessary to allow (and encourage) this development such that it can be leveraged effectively to meet the needs of fisheries management.

4.5 Data storage and management

The subcommittee discussed data storage and management that would be necessarily expanded from the status quo in a census based monitoring program. The ACCSP and GulfFIN expressed willingness to handle these raw data and indicated this could be accomplished with extant resources.

The subcommittee recommends this process:

1. Logbook data collected via authorized platform, ex. web, tablet, phone, or VMS application
2. Data submitted to ACCSP or GulfFIN;
3. Data integrated by ACCSP or GulfFIN into single composite data set;
4. Composite data set distributed to appropriate agencies for analyses and use.

This process could eliminate duplicate reporting for some participants so long as appropriate data standards are in place and the respective agencies agree to confidentiality standards, which would allow sharing and accepting one another's data for use. Elimination of duplicate reporting (e.g., separate state and federal reports) would be a substantial benefit to

participants in this survey program and could mitigate any additional reporting requirements for comparison to the current Marine Recreational Information Program (MRIP) survey program.

4.6 Validation and estimation

A successful electronic for-hire program will require adequate validation of catch and effort data and will require collaboration among state, federal, and fishery information network (FIN) programs. A census is likely to be incomplete and estimation procedures for adjusting catch estimates will need to be developed in cooperation with MRIP. The time lag necessary to expand an incomplete census to an estimate (of harvest or effort) should be built into the timeliness need for science and management applications. The Gulf MRIP pilot program tested new validation procedures and provided guidance on improvements necessary before full implementation. The pilot program was successful in that electronic reporting was used (almost exclusively) and supported many of the goals (e.g., more timely, simplified reporting process) yet, many participants failed to submit reports within the required time frame complicating the use of these data for management. The rates of compliance increased over the length of the pilot study period and similar result would be expected with full implementation highlighting the need for validation and an estimation procedure to calculate total catch and effort.

The technical subcommittee recommends building upon the validation methodology developed in the Gulf MRIP pilot study. An overview of the proposed methodology is below.

Dockside Validation of Logbook Trip Reports (Catch and Effort)

Validation procedures are critical to assessing the accuracy and completeness of submitted logbook reports. Critical components of validation include the creation and review of a site and vessel registry, and methods to validate catch and effort of self-reported data. There is currently a MRIP funded project; *Pilot Project; Validation Methods for Headboat Logbooks*, which is testing dockside sampling methods that could be used to validate headboat logbooks. Results from this project will be available in the spring of 2015.

Site and Vessel Registry

A registry of all vessels required to report via logbooks should include detailed docking location information for each vessel. The port city and mailing address for owners of all federally permitted vessels (both active and non-active) is available from the permit frame maintained by National Marine Fishery Service (NMFS) Southeast Regional Office (SERO), and may be used as a starting point for indentifying where vessels are located. A regularly updated list of all active charter vessels (both federal and state permitted) with docking site information is also maintained in states where the MRIP for-hire-survey (FHS) is administered. From the vessel registry, a list of all known docking locations should be generated and each site should be given a unique identification code. Information contained in the site list should also include site location descriptions, site telephone numbers, contact person at the site, GPS location coordinates, and the total number of vessels located at the site. The site registry should be used to randomly select sites for dockside validation assignments (described below).

Validation of Catch

Dockside assignments for validating harvest should be randomly selected from the site registry and stratified by region (e.g. state or sub-region within large states) using probability proportional to size (PPS) sampling with replacement, with the size measure being the number of vessels at each site. This method is used in statistical sampling designs where sample clusters (e.g. sites where charter vessels dock) differ widely with respect to the number of sample units (charter vessels) contained within. PPS sampling selects sites with a higher number of vessels more frequently and prevents potential sample bias by insuring that vessels at low pressure sites do not have a higher probability for selection. Sample days should be distributed across weeks and across weekend/weekday strata, and more weight should be given towards high fishing activity periods (summer and weekends). It is recommended that the site selection program be run monthly by a regional coordinating entity, such as Gulf of Mexico Fishery Management Council (GMFMC), who provides draw files to local coordinators (states or other entities). Local coordinators should report tallies for the number of completed assignments and successful interviews to the regional entity weekly.

During an assignment, field samplers should arrive at the assigned site at least one hour before half-day charter fishing trips are expected to return. For sites where overnight fishing trips take place, field staff should call or visit the site the day before the assignment to determine if overnight trips are returning and arrive on site early if necessary to intercept those vessels. Upon arrival, samplers should survey the site and attempt to locate each vessel listed on the vessel register for that site. Each vessel at the site should be recorded on an Assignment Summary Form and coded as one of the following:

- 1 = vessel in
- 2 = vessel out, charter fishing (this must be verified)
- 3 = unable to validate (vessel sold, moved to unknown location, etc.)
- 4 = vessel out, NOT charter fishing (this must be verified)
- 5 = vessel out, fishing status unknown (use when unable to verify the fishing status)

For vessels coded as 2 (out charter fishing), the field sampler should attempt to verify the expected return time and record this time on the Assignment Summary Form. As each vessel returns from fishing, the sampler should record on a separate Dockside Intercept Survey Form the vessel name, vessel ID number, and the return date and time. Samplers should first approach the vessel operator for permission to weigh and measure all harvested fish, and the sampler should then observe the harvested catch and record the total number of fish for each species, as well as length at the mid-line (mm) and weight (kg) of whole fish that can be measured. After the catch is inspected, the field sampler should then conduct an interview in person with a crew member (captain and/or mate). It is important to conduct interviews directly with vessel operators, rather than with charter vessel clients, since the purpose of the dockside validation is to measure recall error and bias in trip data recorded by vessel operators on logbook trip reports. During the in-person interview, the following information should be recorded:

- Departure date
- Departure and return time

- Number of passengers (fishing and non-fishing, not including crew)
- Number of anglers (total number of passengers that fished at any time during the trip)
- Number of crew, including captain
- Target species
- Primary area fished (crew should be asked to identify the statistical area where the majority of fishing took place during the trip using statistical maps provided)
- The minimum and maximum depths (in feet) fished for the trip
- The percent of fishing time spent fishing in federal waters, state waters, and inland waters
- Primary fishing methods (bottom fishing, drifting, trolling, spear fishing)
- Hours fished (number of hours spent with gear in the water)
- For each species released or could otherwise not be observed by the field sampler, the total number released for each disposition:
 - 1 – Thrown back alive
 - 3 – Eaten/plan to eat
 - 4 – Used for bait/plan to use for bait
 - 5 – Sold/plan to sell
 - 6 – Thrown back dead/plan to throw away
 - 7 – Other purpose

Samplers should remain on site until the last vessel known to be out fishing has returned (with the exception of overnight trips).

Validation of Vessel Activity and Inactivity (Effort)

Validation of vessel activity (or inactivity) is critical to determining compliance with logbook reporting requirements. Information on whether or not a vessel is in or out of port on a particular day can be matched with logbook records or hail out/hail in requirements to determine if vessel activity was accurately reported. To validate vessel activity and inactivity before reporting in the logbook reporting system, sites should be clustered into groups of sufficient size that all sites within the selected region may be visited within a 6 to 8 hour time period, including driving time. Site clusters should be selected each week within a month using simple random sampling, without replacement. For small states where all sites may be visited in a single day, sites may all be included in a single cluster that is validated each week.

During a scheduled vessel activity validation assignment, the field sampler should visit all sites within a selected vessel activity validation region and attempt to verify the fishing status for

all vessels at each site within that region. The sampler should record the fishing status and time for each vessel on a Vessel Status Validation Form using the following codes:

- 1 – Vessel in
- 2 – Vessel out, charter fishing (must be verified)
- 3 – Unable to validate
- 4 – Vessel out, not charter fishing (must be verified)
- 5 – Vessel out, status unknown

If possible, the sampler should verify the fishing status with someone at the dock or in the booking booth. If unable to verify the fishing status of a vessel, the sampler should use code 5.

Dockside validation will also serve the secondary, and essential, function of collecting biological samples from the for-hire fishery. These samples are necessary to characterize the catch for use in stock assessments and to monitor the health of the stocks. If practicable, the subcommittee recommends using observers on six-pack charter vessels. Additionally, VMS in conjunction with hail-out, hail-in to improve validation could be considered to improve validation and data quality, although at the expense of additional cost and reporting burden.

The subcommittee recommends use of an MRIP certified methodology for validation with the following elements: Gulf MRIP pilot study methodologies, including dockside validation of catch and vessel activity, and maintenance of site and vessel registries.

The following additional elements should also be considered:

- At-sea observer coverage; and,
- Fine-scale discard data, depths of capture, area fished, release mortality.

If VMS and hail in/hail out requirements are implemented, methods for validation could be modified as VMS technicians could validate when trips occur through vessel position coordinates.

4.7 Accountability measures

Procedures to ensure timely and accurate reporting of data are essential to the success of any program. Late or missing reports can reduce accuracy (recall bias), increase uncertainty (e.g., requires procedure to estimate catch from missing reports), and can prevent timely use of these data for science and management. The Councils recently began requiring electronic submission of reports from commercial seafood dealers. Dealer reports and the associated problems with late or missing reports were discussed at length by the Councils. The Councils now require timely

submission (weekly, with reports submitted by the Tuesday following the previous fishing week) and that seafood dealers are *only* authorized to purchase seafood if they are up to date on previous reports. A similar procedure should be developed for charter vessels requiring submission of previous reports to maintain a valid charter vessel permit and take passengers on for-hire trips. The subcommittee recognizes that accountability will be challenging and costly to implement due to the mobility, turnover and sheer number of charter vessels.

The principle objective is to encourage compliance without issuing fines and/or penalties. However, the full range of potential accountability measures should be enumerated in consultation with NOAA General Counsel through development of management regulations and penalty schedules. Similar (or identical) reporting requirements should be established between the South Atlantic and Gulf of Mexico management regions that will ease reporting burden and aid in compliance. Extensive outreach, training (as necessary), positive messaging, and industry participation in the design of the data collection system should aid in reporting compliance and meeting the goals of the program.

The subcommittee recommends accountability measures and reporting requirements similar to those implemented for commercial seafood dealers in the southeast region (i.e., weekly submission of trip level reports, including periods of no activity due Tuesday following each week). A charter vessel owner/operator would only be authorized to harvest or possess federally managed species if previous reports have been submitted by the charter vessel owner/operator and received by National Marine Fisheries Service (NMFS) in a timely manner. Any delinquent reports would need to be submitted and received by NMFS before a charter vessel owner/operator could harvest or possess federally managed species from the EEZ or adjacent state waters.

4.8 Calibration with existing survey

Transitioning into the proposed program will require an upstart period of at least one year to conduct outreach and ensure a high level of compliance. **The subcommittee recommends dual survey methods (existing and new) for no less than three years.** This overlap in survey periods will provide a basis to calibrate the new census results to the historical catch and effort data from the existing charter vessel survey. Historical catch data are critical inputs for science (e.g., stock assessments) and management (e.g., season length) and implementation of a new system without calibration would compromise the value of the historical catch information. Additionally, implementation of the new program is likely to have start-up difficulties that require modification, as such, *the existing survey would not be expected to provide the best scientific information available (at least for the first year)* until the new program is deemed operational.

Data from the new program would not be expected to provide management advice during the first year of operation. Moreover, this would allow the possibility of an initial phase-in or limited implementation to identify and solve significant problems prior to implementation for all participants.

4.9 Should state permitted for-hire vessels be required to participate?

The subcommittee discussed the objectives of the proposed program (i.e., improved estimates of catch both in terms of timeliness and accuracy), as well as the importance of mandating participation from state permitted for-hire vessels. The possibility of state vessels landing federally managed species in state waters does exist but the magnitude of those landings is unknown at this time, but expected to be relatively small for most federally managed species. The difficulties in establishing rules to mandate state vessel participation may be too great and should not be a barrier to developing a reporting program for federally permitted vessels. However, incorporation of state vessels into the program should be a long-term objective that would aid in timeliness and accuracy of data from the entire for-hire fleet and could simplify validation protocols that would not require distinguishing between state and federally permitted vessels.

The subcommittee recommends that the Councils move forward with development of a reporting system that includes federally permitted for-hire vessels while also exploring ways to determine the impact of state permitted vessels on landings estimates of federally managed species. Long term, the subcommittee recommends that both state and federally permitted charter vessels participate in this census to include the entire fleet of charter vessels harvesting federally managed species.

4.10 Program coordination

The subcommittee discussed that the success of the program requires a smooth and well-coordinated program throughout the region. This is to meet timeliness needs, improve accuracy (and precision), and minimize duplication of effort.

To this end, the subcommittee recommends that GulfFIN and ACCSP committees work jointly with end users (i.e., MRIP, Southeast Regional Office (SERO), Southeast Fisheries Science Center (SEFSC), highly migratory species (HMS), and state agencies) to coordinate this new reporting program. Both quality control and quality assurance units in the program to ensure data meets required standards. A timeline for program implementation must be developed with the Councils, states, and other agencies.

4.11 Budgetary implications

The vision of the subcommittee is that the proposed census program may be funded through MRIP and incorporate MRIP certified validation and estimation procedures but operation would be decentralized from MRIP to regional and state entities through their FINs. **It is expected that the census approach recommended by this subcommittee would result in additional costs for monitoring compliance and validating trip activity. Additional infrastructure and personnel may be necessary to maintain and process these data.**

Electronic Logbook Costs

Cost estimates are an important component to the development of any new reporting program, and provide resource managers and scientists with a sense of how much funding is needed to support both implementation and maintenance of a program. Costs for electronic reporting may include: software development, reporting and/or monitoring hardware, monthly service fees, and personnel for data management, validation, and estimation. Costs are incurred both by the government, as well as fishermen who report these data. The following provides a summary of estimated costs for the electronic reporting program developed by the Technical Subcommittee. Cost estimates from existing programs and pilot studies, such as MRIP, the Southeast Headboat Survey, the commercial coastal logbook program, and the MRIP electronic logbook pilot study, are also provided for comparative purposes. Implementation of a new reporting program would require side-by-side comparative testing for calibration purposes, and those costs are not considered herein. Costs for observer coverage are also not included. Rather, costs are focused on the initial implementation, ongoing administration, data management, and statistical estimation of an electronic reporting program in the Gulf of Mexico and South Atlantic.

Current and Pilot Study Program Costs

The MRIP is the primary source of charter for-hire data in the Southeast Region. MRIP collects catch and effort data from both state-licensed and federally-permitted charter vessels from North Carolina through Mississippi. Charter vessel catch and effort data are also collected by the Louisiana Department of Fish and Wildlife and Texas Parks and Wildlife Department through creel surveys, and side-by-side comparison testing is planned for Louisiana in 2015. Annually, MRIP spends approximately \$4.3 million dollars to conduct dockside sampling and validation in the Southeast Region (North Carolina to Louisiana) for both private and charter vessels. Costs for specifically conducting charter sampling were not estimated, as those costs are difficult to estimate due to a combination of factors (survey procedures, contractual pricing, fixed costs and staffing/administrative considerations), but obviously would be less than the overall costs indicated above. An additional \$600 thousand dollars is spent conducting the for-hire telephone survey annually. A total of 3,920 charter vessels are currently included in the MRIP for-hire survey frame.

Headboat catch for 145 vessels is monitored through electronic logbooks (ELB) by the SEFSC. A total of 13 federal, state, and contract personnel are involved in administering the program and monitoring fishing activity from North Carolina to Texas, including biological sampling and validation of reports of landings and effort. Costs for the program include salaries and benefits, vehicles, travel, supplies, and software development and maintenance. Total funding for the Southeast Region Headboat Survey (SRHS) is approximately \$888 thousand dollars, which equates to \$6,124 per vessel annually.

The SEFSC coastal logbook program for commercial fisheries is a paper-based logbook program, which obtains data from about 3,000 permit holders (vessels). Annually, the SEFSC spends \$775 thousand dollars for data entry, personnel, printing, storage, software maintenance, and overhead for this program. These costs do not include Trip Interview Program sampling,

which is used for validation and biological sampling of commercial landings. The costs also do not include compliance enforcement.

Lastly, MRIP conducted an ELB pilot study in 2011. The study included 410 vessels from the Florida Panhandle and Port Aransas, Texas. Costs for the pilot program included \$213.5 thousand dollars for start-up expenses, including a stakeholder workshop, software development, certified letters, outreach meetings, and working group meetings. Project expenses for logbook reporting and validation for one-year totaled \$385.6 thousand dollars. These expenses included salaries and overhead for a full-time coordinator, a database manager, and four field staff. Expenses were also included for travel and training expenses, equipment, printing costs, at-sea observer passenger fares, and GSMFC administrative costs. The average cost per vessel was \$1,340 for Texas vessels and \$658 for Florida vessels. Many more vessels were concentrated in a small geographic area in the Florida Panhandle, resulting in lower costs relative to Texas. In-kind contributions from National Marine Fisheries Service and state employees were not included for many staff who served on the project team for the pilot study and conducted analyses, customer service, and database management. Therefore costs presented in the final report are less than the true costs of the project. On average, the cost per vessel as reported in the pilot study was \$911 after excluding observer passenger fares and paper-based logbook printing.

Table 1. Estimated Costs for an Electronic Logbook Program. Estimates are based on 2,555 federally permitted charter vessels. Headboat vessels are excluded from cost estimates, as well as vessels already possessing a commercial reef fish permit and VMS unit.

| Activity | Cost Type | Estimated Expenses | Comments/Source |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Software Development | Start-up (gov't) | \$100,000 | Costs for Web site/app development. These costs could be reduced if existing software applications (SE Headboat Survey or iSnapper) are used instead of any new software developed. However, modifications of data fields, data storage and data export procedures would be required to accommodate the increased number of vessels. |
| Hardware/database infrastructure | Start-up (gov't) | \$25,000 | Purchase of a server to store data. |
| Hardware/database maintenance | Reoccurring (gov't) | \$20,000 | There would be reoccurring costs for hardware/software and database maintenance. |
| Database manager(s) and administration | Reoccurring (gov't) | \$150,000 | Salaries and administrative costs for database management. |
| Certified Letters | Start-up, with period reoccurring compliance letters (gov't) | \$15,858 | 2,643 vessels @ \$6 per letter |
| Stakeholder Outreach Workshops | Start-up (gov't) | \$30,000 | 15 meetings @ \$2,000 per meeting |
| Field Samplers – Salaries, Benefits, and Overhead | Reoccurring (gov't) | \$3,392,000 | 53 port agents @ 50 vessels per port agent. \$64,000 for salary, benefits, and overhead per port agent – source SE Headboat Survey. If costs per vessel (\$658-\$1,340) from MRIP pilot study are used, then total costs range from \$1.74 to \$3.54 million. |
| Data Analyst(s) – Salary and Benefits | Reoccurring (gov't) | \$215,000 | 1 Gulf and 1 South Atlantic analyst @ GS-13 salary + benefits |
| Training, Travel, and Equipment for Field Samplers | Reoccurring (gov't) | \$158,700 | ~\$60 per vessel – source MRIP pilot study; costs are higher for more remote areas vs. ports with large concentrations of vessels. |
| Enforcement and Compliance Monitoring – Enforcement officer salaries, benefits, and overhead. | Reoccurring (gov't) | \$800,000 | Data timeliness is critical for a logbook program. Additional compliance monitoring and enforcement for misreporting and non-compliance with reporting will be required. To properly conduct compliance an increase of 5 Enforcement Officers and 1 |

| | | | |
|----------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | Supervisory Enforcement Officer are estimated to be needed. |
| VMS units (if required) | Start-up (gov't or industry) | \$5,750,000 (low estimate) \$7,750,000 (high estimate) (Reimbursement to fishermen for the purchase of VMS units may be available from NOAA Fisheries' Electronic Monitoring Grant Fund, but this money is currently not in hand and OLE would need to request funds through the budgetary process) | Currently 107 charter for-hire vessels have a commercial reef fish permit and VMS unit and another 145 vessels participate in the SE Headboat Survey. Approximately 2,500 charter for-hire vessels would need to obtain a VMS, if required. Costs for VMS units range from \$2,300 to \$3,800. Up to \$3,100 is currently authorized for reimbursement. |
| VMS installation | Start-up (industry) | \$500,000 (low estimate) \$1,500,000 (high estimate) | 2,500 vessels x \$600 for marine technician to install VMS unit. Installation costs range from \$200 to \$600 depending upon proximity of vessel to marine electrician. |
| VMS personnel | Reoccurring (gov't) | \$530,000 | Salary and benefits for five VMS technical staff (monitor 500+ vessels each) and one OLE Helpdesk person. |
| VMS annual service charges | Reoccurring (industry) | \$1,800,000 | \$60 per month per vessel; \$720 annually per vessel x 2,500 vessels |
| VMS unit software | Reoccurring (gov't) | \$50,000 | If VMS units will report any unique information, units will need to have initial and periodically updated software installed at a cost up to \$50,000. |
| Total Costs (w/o VMS) | | \$170,858 (Start-up) \$4,735,700 (Reoccurring) \$4,906,558 (Start-up + reoccurring) | |
| Total Costs (w/ VMS) | | \$6,420,858 (Start-up – low est.) \$9,420,858 (Start-up – high est.) \$7,115,700 (Re-occurring) \$13,536,558 (Total – low est.) \$16,536,558 (Total – high est.) | If VMS is required, some expenses for port sampling validation of fishing effort and enforcement compliance may be reduced. |

SECTION 5. CHALLENGES

5.1 Calibration with existing survey

The subcommittee recommends the use of dual survey methods (existing and new) for no less than three years. This overlap in survey periods will provide a basis to calibrate the new census results to the historical catch and effort data from the existing charter vessel survey. Historical catch data are critical inputs for science (e.g., stock assessments) and management (e.g., season length) and implementation of a new system without calibration would compromise the value of the historical catch information. Additionally, implementation of the new program is likely to have start-up difficulties that require modification, as such, the *proposed census would not be expected to provide the best scientific information available (at least for the first year)* until the new program was deemed operational.

5.2 Reporting burden

Although frequent reporting with as short as practicable lags between end of fishing period and report submission is desirable, the burden of reporting on vessel operators is an important concern. Wherever feasible, the reporting burden should be minimized. Implementation of this new program would require additional reporting burden over the status quo. To mitigate this requirement, the subcommittee recommends reducing duplicate reporting (submission of reports to multiple agencies, possibly in different formats) to ease reporting requirements. For example, charter vessels selected for the current For-Hire telephone survey should be able to submit their data electronically satisfying the submission requirements for both programs.

5.3 Compliance

Ensuring compliance is likely the biggest barrier to achieving the objectives for this program; more timely data with improved accuracy and stakeholder confidence. The Marine Recreational Information Program (MRIP) Gulf logbook pilot project was negatively affected by late or missing reports from participants. In a census program, this is detrimental to both timeliness and accuracy as complete catch estimates cannot be generated with missing reports. Late reporting also affects accuracy because of recall bias (i.e., difficult to remember what was caught several weeks earlier). In addition, an incomplete census will require an estimation procedure to account for un-reported landings that requires time and adds uncertainty to the final catch and effort estimates.

Adequate accountability measures are essential to achieving high compliance rates (i.e., 100% timely reporting). The subcommittee recommended an approach similar to the accountability measures recently developed for commercial seafood dealers and headboats. Briefly, commercial seafood dealers are only authorized (i.e., possess valid permit) to purchase seafood if their weekly purchase reports have been submitted. As is the case with headboat

reporting, charter boats would not be allowed to harvest or possess federally managed species from the Exclusive Economic Zone (EEZ) or adjacent state waters until previous trip (including no activity) reports have been submitted. The effectiveness of this accountability measure is dependent of the capability of law enforcement to enforce reporting requirements. **The subcommittee recommends consultation with the Office of Law Enforcement and National Oceanic and Atmospheric Administration (NOAA) General Counsel to explore the selection of appropriate and enforceable accountability measures.**

5.4 Collaboration with states

Individual States would be tasked with data collection and validation within their collective states. State requirements vary regarding reporting of fishery data with some states (e.g., South Carolina) requiring the submission of paper-based reporting. Other states (e.g., North Carolina) are progressing rapidly toward electronic logbooks with the other states within this range. **Long term, the subcommittee recommends that both state and federally permitted charter vessels participate in this census to include the entire fleet of charter vessels harvesting federally managed species.** In the near-term, implementation of electronic logbook reporting for the federally permitted for-hire fleet would substantially improve the data collection program but not depend on delays and uncertainties associated with requiring similar regulations for state-permitted vessels at this time. Consideration of only federally permitted vessels would ease the implementation of this process with the caveat that a large proportion of charter vessels would not be included in the census and their catch (and effort) would have to be estimated via other means that would reduce effectiveness of the census program. However, for state-permitted vessels, requiring electronic reporting without duplicate paper reporting may require legislative changes in some states (e.g., South Carolina) and there is uncertainty if or when this could be accomplished.