Modifications to Gulf of Mexico For-hire Data Collection Program

Draft Generic Amendment to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico and the Fishery Management Plan for the Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region

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COVER SHEET

Draft Generic Amendment to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico and Fishery Management Plan for the Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region Including Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
AM	accountability measures
B	biomass
BiOp	biological opinion
B_{MSY}	stock biomass level capable of producing an equilibrium yield of MSY
Council	Gulf of Mexico Fishery Management Council
CS	consumer surplus
CZMA	Coastal Zone Management Act
DLMTool	Data Limited Methods Tool
DPS	distinct population segment
DWG	deep-water grouper
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EIS	environmental impact statement
EJ	environmental justice
ELMRP	Estuarine Living Marine Resources Program
ESA	Endangered Species Act
HMS	Highly Migratory Species

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CHAPTER 1. INTRODUCTION

1.1 Background

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 information about catch, effort, and discards is necessary to achieve OY from federally managed fish stocks. The recreational fishing sector includes both private and for-hire components. Within the for-hire component, both charter vessels and headboats are issued federal Gulf of Mexico (Gulf) charter vessel/headboat permits (hereinafter referred to as for-hire permits) under the Fishery Management Plans (FMPs) for the Reef Fish Resources of the Gulf of Mexico (Reef Fish FMP) and Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico and Atlantic Region (CMP FMP). The regulations at 50 C.F.R. § 622.2 provide general definitions of "charter vessel" and "headboat." The main difference between these vessels, as defined, is whether they hold a valid certificate of inspection (COI) issued by the U.S. Coast Guard (USCG) to carry more than six passengers: specifically, headboats hold a COI while charter vessels do not. However, for purposes of reporting fisheries data, the NMFS Southeast Fisheries Science Center (SEFSC) selects a limited number of vessels to participate in the Southeast Region Headboat Survey (SRHS), based on more detailed criteria that are intended to capture the larger capacity for-hire vessels. These criteria are:

1) Vessel licensed to carry greater than or equal to 15 passengers.
2) Vessel is federally permitted.
3) Vessel charges primarily per angler (i.e., by the "head").

Therefore, for the purpose of this amendment, **for-hire** vessels are those who possess a Gulf federal charter vessel/headboat permit. Within that distinction, a vessel can be classified as a headboat or charter vessel depending on a particular determination by the USCG regarding passenger occupancy. A vessel without a valid COI to carry more than six passengers is defined as a **charter vessel**. A headboat is permitted to carry more than 6 passengers at a time. In addition to the USCG definition, some headboats are selected by the SEFSC's to participate in the SRHS and will be referred to herein as **SRHS headboats**. However, some USCG defined headboats do not participate in the SRHS. In these cases, those vessels will be described as **charter vessels**. The polygon indicates the two categories of vessels that are considered charter vessels for the purpose of this amendment (Figure 1.1.1). Many vessels carry additional for-hire permits in the South Atlantic/Atlantic and for Highly Migratory Species (HMS) permit (Figure 1.1.2).

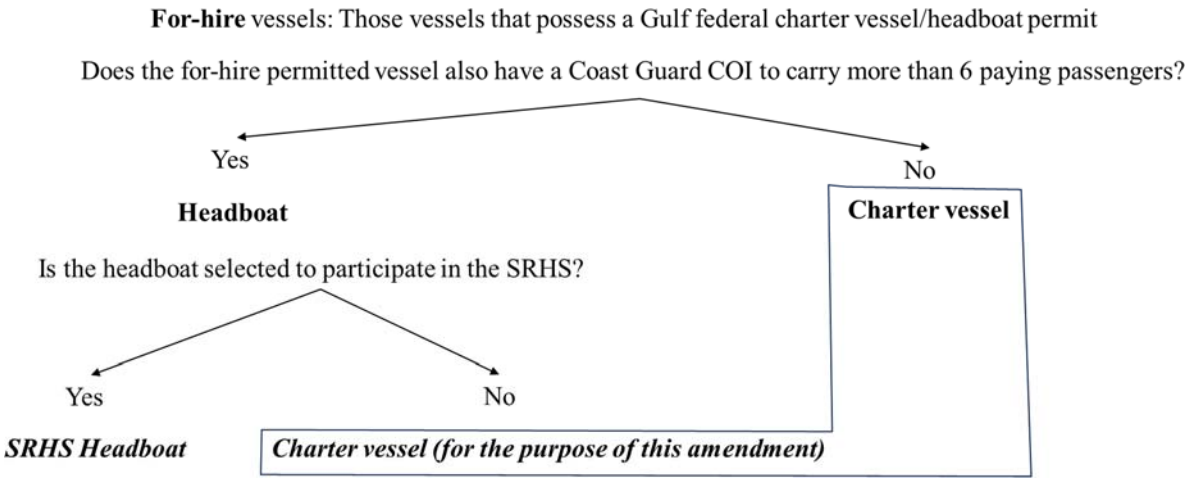

Figure 1.1.1. Description of terms for categorizing vessel types addressed in this amendment. The polygon indicates the two categories of vessels that are considered charter vessels herein.

Figure 1.1.2. Jurisdictional boundaries of the Gulf (blue), South Atlantic (orange), Mid-Atlantic (green), and New England (peach) Fishery Management Councils. Note: the Atlantic Region for CMP species includes the South Atlantic and Mid-Atlantic Council areas.

The for-hire component of the recreational sector harvests a substantial proportion of the annual catch limit (ACL) for several federally managed fish species in the Gulf. Table 1.1.1 shows average sector-specific landings for federally managed reef fish and CMP species for the most recent five years (2019-2023). Recreational private sector landings are generated from the

Marine Recreational Information Program (MRIP) Fishing Effort Survey (FES), LA Creel Survey and the Texas Parks and Wildlife (TPWD) Survey. Recreational for-hire landings estimates are generated from the SRHS for headboats and MRIP's For-Hire Survey (FHS) for charter vessels. A more detailed description of for-hire landings as well as some selected species-specific results are available in Appendix A.

Table 1.1.1. Mean annual estimate and percent of landings in pounds (lb) whole weight (ww) by sector in the Gulf from 2019-2023.

Fleet/Sector	5-year Average Landings (lb ww)	Percent of total landings
Commercial	16,166,650	28.6
For-hire	7,638,079	13.6
Private	32,687,028	57.8

The Council's intent with the new reporting program is to have a regular 5-year review once this amendment and rule are effective to discuss ways to improve the program and take any necessary actions to accomplish these agreed upon improvements. In addition, this review would be used for developing new goals for the program. The content of the review will be determined by Council in cooperation with NMFS and will be used to inform any possible program modifications to address management and stock assessment needs.

1.2 Current For-Hire Data Collection Programs

The Gulf of Mexico Fishery Management Council (Council) is considering alternatives that would require electronic reporting of fishing trip information from all for-hire vessels possessing a federal Gulf for-hire reef fish or a federal Gulf for-hire CMP permit. The Council recognizes that improved data reporting in these fisheries could reduce the likelihood that ACLs are exceeded and accountability measures are triggered. Data elements collected using electronic logbooks are also likely to improve estimates of bycatch and discard mortality rates for many federally managed finfish species in the Gulf.

1.2.1 Charter Vessel Data Collection Programs

Federal Marine Recreational Information Program For-Hire Survey and Access-Point Angler Intercept Survey

Final MRIP for-hire estimates for the eastern Gulf (Mississippi, Alabama, and Florida) are the product of estimated effort from the MRIP FHS and catch estimates generated from MRIP's Access-Point Angler Intercept Survey (APAIS) under the program's for-hire mode. For the for-hire mode, state managed APAIS samplers interview individual anglers on charter vessels while the MRIP FHS interviews the for-hire vessel operators. While MRIP categorizes participants in this data collection program as "for-hire", this amendment will address these vessels as charter throughout.

To assess fishing effort in the for-hire component, MRIP samplers contact charter vessel

operators (a weekly sample of 10% of the fleet) by telephone to conduct the FHS for fishing effort (Table 1.2.1.1). Charter vessel operators are required to report all trips taken during selected weeks (effort only) whenever they are selected to participate in the MRIP survey. The FHS has a stratified design, with for-hire vessels as sampling units, and is stratified by state, sub-state region (applicable to Florida only), vessel type (charter or headboat [as defined by the USCG]), and sample week within the two-month wave. The sample week is Monday through Sunday. Prior to the sample selection, the sample frame is sorted by three additional variables, creating three additional implicit strata: business county, vessel length, and permit type. The business county variable is the county from which the vessel operates. In addition to these three variables, a uniform random variable is created and used to order vessels within the business county, vessel length, and permit type groups. Sample selection is then systematically done without replacement at the stratum level (by vessel type, state, sub-state region [in Florida], sample week, and by the implicit strata from the sample frame sorting process: business county, vessel length, and permit type). The FHS has a fixed sampling rate of 10% within strata. In addition, there is a minimum sample size requirement of three vessels from each stratum.

Table 1.2.1.1. Required MRIP FHS trip effort reporting elements for charter vessels.

Reporting Elements
Number of vessel trips with paying passengers in the sample week
Date of each vessel trip
Mode of each vessel trip (charter or headboat)
State/county and site where vessel trip returned
Distance from shore where each vessel trip occurred
Area fished
Number of anglers who fished on each vessel trip
Hours of actual fishing activity
Method of fishing (e.g., casting, drifting, trolling)
Target species
The return time for each vessel trip

Data source: MRIP Survey Design and Statistical Methods for Estimation of Recreational Fisheries Catch and Effort document.[1]

To assess catch, APAIS uses a voluntary dockside intercept survey to collect information on landings and discards (Table 1.2.1.2). The APAIS program collects catch data from individual anglers returning to public fishing access sites (e.g., boat ramps, piers, beaches, jetties, bridges or marinas). Trained interviewers administer the survey and collect data on the number and disposition (e.g., harvested or released) of each fish species caught, length and weight measurements of individual fishes, and angler-specific information about the fishing trip. Data are collected monthly and are used to calculate catch rates (mean catch per angler trip) every two months as preliminary wave estimates, and then at the end of each year as final annual estimates.

[1] https://www.fisheries.noaa.gov/resource/document/mrip-survey-design-and-statistical-methods

Table 1.2.1.2. Information collected in the APAIS of recreational anglers that is conducted at public marine fishing access points.

Reporting Elements
Location
Mode (shore, private, rental boat, for-hire vessel)
General area fished (i.e., inland, state territorial sea, or federal exclusive economic zone)
Species identification
Total number of each species by disposition (e.g., observed harvest [Type A], reported harvest [Type B1], and released alive [Type B2])
Length and weight of individual fishes (when possible)
Area fished
Fishing mode

The APAIS applies a time-space sampling method (i.e., sampling at predetermined fishing access sites during specific date and time intervals), with a stratified, multi-stage cluster design. This type of design maximizes sampling efficiency and the spatiotemporal extent of the survey. The sample frame for this target population consists of a list of fishing access sites, which have been clustered (by both level of fishing pressure and geographic location) and crossed with a date-time calendar. Site-day-times are selected in proportion to their fishing pressure. APAIS sampling is stratified across time, geographically (by sub-region of the coast, state and sub-state region) and by site groups based on primary fishing mode. Temporally, there are four strata: year, month, kind-of-day (i.e., weekdays, weekends, holidays), and time interval (i.e., day intervals 8 AM-2 PM and 2 PM-8 PM, night intervals of 2 AM-8 AM and 8 PM-2 AM, and peak interval of 11 AM-5 PM). MRIP surveyors sample at high activity sites more frequently, but include low activity sites to obtain a representative sample and capture variation in fishing activity. When any recreational fisherman is encountered the location, mode (e.g. shore, private, or for-hire), general area fished, fish species, number of fish, disposition of angler's catch (e.g. observed harvest, report harvest, or released alive) is recorded. When possible, the length and weight of harvested fish is also documented. The number of charter vessels with a valid and renewable Gulf for-hire permit by homeport state from 2016 through 2020 are provided in Table 1.2.1.3.

Table 1.2.1.3. Number of charter vessels that held a valid and renewable federal Gulf for-hire permit by homeport state from 2016-2020.

Year	AL	FL	LA	MS	TX	Non- Gulf	Total
2016	135	813	124	35	244	35	1,386
2017	142	820	122	33	228	31	1,376
2018	140	829	125	32	219	22	1,367
2019	148	840	117	31	206	21	1,363
2020	152	832	114	29	209	18	1,354

To improve MRIP FHS response rates, an advance letter is mailed to the representatives of all selected vessels one week before the reference week (i.e., two weeks before the phone interview). The letter details the dates of the reference week that representatives will be asked about during the interview, the contact information of the organization conducting FHS interviews, and a log sheet with the questions that will be asked. Respondents are encouraged to complete the log sheet prior to the call, as it may reduce the potential for recall bias and decrease the time needed to complete the survey over the phone. Cooperation levels are defined as follows: either cooperative, where the vessel representative responds to telephone interviews, or non-cooperative, where the vessel representative does not respond or refuses to participate. To enforce the mandatory reporting requirement to FHS for charter vessels in the Gulf, 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 seven attempts for a selected week, the final interview status is "unsuccessful contact" (Table 1.2.1.4). Vessel representatives that are non-cooperative are kept in the sample frame but are automatically coded as a refusal and are not actually contacted if selected for sampling. The percent of selected vessels that are unable to be contacted by phone may be quite high in some strata. The vessel directory is updated regularly based on input from APAIS samplers, state FHS coordinators and vessel representatives. The directory can also be updated with information obtained during the telephone survey.

For-hire fishing effort is estimated in numbers of angler trips per sub-region, state (and sub-state region in Florida), two-month wave, vessel type, and fishing area (inshore, nearshore, and offshore). To get a total effort wave estimate, the effort estimate component is corrected by two other estimate components – the coverage adjustment calculated from APAIS and a reporting error from a validation study conducted in conjunctions with FHS. The FHS wave estimates are summed to produce cumulative and total annual effort estimates. More details on the estimation can be found in the MRIP Survey Design and Statistical Methods for Estimation of Recreational Fisheries Catch and Effort document.

Table 1.2.1.4. Recent annual FHS and APAIS values. The number of trips intercepted by APAIS, and FHS number of trips reported by phone sampling 10% of the program participants in Mississippi, Alabama, an Florida, number of FHS vessels selected for the phone survey, FHS response rate (operator agreed and answered the survey), FHS percentage of contacted charter vessel operators that refused the survey, and FHS percent of operators who could not be contacted by the MRIP sampler.[2]

Year	APAIS trips sampled	FHS raw reported trips	Vessels selected	Response rate	Refusal rate	Non-contact rate
2019	1,262	6,329	10,523	57%	13%	29%
2020	1,047	6,840	12,570	63%	11%	25%
2021	1,872	6,004	10,338	60%	11%	29%
2022	1,620	4,827	10,335	58%	9%	32%
2023*	2,264	4,659	10,113	62%	6%	32%

* Those data reported for 2023 are considered preliminary and were pulled by Gulf States Marine Commission on March 12, 2024

Final MRIP for-hire estimates for the eastern Gulf (Mississippi, Alabama, and Florida) are the product of estimated effort from the MRIP FHS and catch rates generated from APAIS. These regional estimates are reported in six two-month waves and annual timeframes. Catch estimates multiple the catch rates from APAIS by the wave total effort estimates from FHS. The voluntary reporting of dock-side landings, no-access to private landings sites, and telephone survey refusal rate contribute to uncertainty in for-hire estimation. Increasing the reporting frequency along with enhanced data collection and validation could improve quota monitoring, stock assessments, and catch and discard estimates.

State of Louisiana LA Creel Program and Texas Parks and Wildlife creel survey

Since 2014, Louisiana generates weekly estimates of catch and effort through their LA Creel program (Table 1.2.1.5). LA Creel uses a combination of data collected dockside (access point survey) and through weekly phone and email effort surveys to estimate recreational saltwater fish harvests. The LA Creel program consists of biologists conducting interviews at public fishing sites, with charter captains and groups of saltwater anglers about their fishing activities. LA Creel provides weekly recreational fishery information to aid in the management of Louisiana's fishery resources. It is composed of an on-site access-point survey and two weekly effort surveys stratified across five basins. The access point survey provides estimated catch rates per trip. One effort survey generates estimated private angler effort in the form of total angler trips and the other does the same for charter trips. Licensed private anglers are stratified across geographical regions and Louisiana's Recreational Offshore Landings Permit (ROLP) holders, while licensed charter captains are stratified between those with and without ROLP permits. Using licensed anglers provides a clearly defined angler frame with high quality contact information, while stratifying within this frame allows LA Creel to account for differences in fishing activity across

[2] https://www.fisheries.noaa.gov/s3/2023-05/MRIP-Survey-Design-Statistical-Methods-April-2023.pdf

the state. Access point survey assignments are randomly drawn based on fishing pressures weighted by the types of activities present and the total angler activity. LA Creel boasts production of weekly landings at the basin level on just a two-week delay, which can reduce recall bias and provide near real time landings estimates that can be used in monitoring recreational quotas and identifying impacts to recreational landings from short term events. LA Creel contacts for-hire captains via telephone at random, with a goal of reaching 30% of captains who fish offshore (those who hold a ROLP) and 10% who fish inshore (who do not hold a ROLP). During red snapper season, LA Creel contacts 100% of captains who hold offshore permits.[3]

Table 1.2.1.5. Information collected from charter vessel operators by Louisiana's LA Creel program.

Reporting Elements
Number of trips per day
Trip length
Date of trip
Area fished (basin where majority of fish were harvested)
Public or private launch used
Number of paying clients
Primary and secondary target species
Harvest by species
Discards by select species

Texas Parks and Wildlife Department (TPWD) conducts their own creel survey to estimate private and charter landings in Texas.[4] TPWD Sport-boat Angling Survey uses dockside interviews at recreational boat access sites to generate catch and effort estimates for finfish species caught by private boat and charter operators off the Texas coast. Texas reports recreational data in high (May 15 through November 20) and low (November 21 through May 14) activity periods. Creel surveys are conducted from 10 AM to 6 PM at specified boat-access sites along the Texas coast. Over 1,000 surveys are scheduled annually on randomly selected weekdays and weekends in proportion to the amount of fishing activity at each site. Charter vessel catch and effort data in Texas are monitored by the Texas Parks and Wildlife Department's Coastal Creel Survey (Table 1.2.1.6). 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.

[3] https://www.lafisheriesforward.org/wp-content/uploads/2024/02/LFF_FastFacts_LaCREEL_2024-01-ADA.pdf
[4] https://tpwd.texas.gov/fishboat/fish/didyouknow/coastal/creel.phtml

Table 1.2.1.6. Information collected from anglers on charter vessels in the Texas Parks and Wildlife creel survey.

Reporting Elements
Species identification
Trip start time
Total number of each species caught
Length individual fishes (6 fish of each species)
Number of anglers
Angler county of residence
Bay of Gulf area fish caught
Bait and gear used
Target species

Like all surveys, both the Louisiana and Texas state surveys have inherent uncertainty. Both LA Creel and the TPWD survey are only conducted in their state and therefore cannot generate Gulf-wide estimates. LA Creel is comparable in survey methodology to the MRIP design. The TPWD survey only produces landings estimates and reports every six-months. This time frame limits in-season monitoring for short fishing seasons (e.g., weeks or months). Both state effort surveys, like APAIS, are also limited to intercepting anglers at public access points and their willingness to answer dockside interview questions, and in the case of LA Creel, the effort (telephone survey) portion of the program (Table 1.2.1.7).

Table 1.2.1.7. Annual (2019-2023) estimated for-hire effort from the state of Louisiana collected from the LA Creel program. LA Creel effort estimates are calculated in angler trips (column 2). The annual average number of anglers per for-hire trip was calculated using vessel captains reports to the LA Creel telephone effort survey (column 3). This provided an approximate estimate of the annual number of for-hire vessel trips (column 4). Column 5 is the number of for-hire trips sampled that were also contacted by the effort telephone surveyors within the same week and then tabulated for the entire year. The annual number of conducted telephone surveys is represented in column 6. Of those conducted surveys (highlighted in gray), the table also presents the percentages of those survey where a for-hire captain accepted and completed the survey (column 7), the captain was unable to be reached by phone; and therefore, did not complete the survey (column 8), and the percentage of surveys where the captain was successfully contacted by phone but refused to participate in the survey (column 9).

Year	Estimated Charter Angler Trips	Average Anglers per boat	Annual Estimated Vessel Trips	Trips Sampled Dockside	Number of Telephone Surveys	Responded	No contact	Refused
2019	168,571	3.54	47,628	176	5,729	68%	31%	1%
2020	115,424	3.70	31,200	166	5,617	70%	29%	1%
2021	163,233	3.33	48,970	251	6,148	66%	28%	1%
2022	162,620	3.29	49,459	146	5,218	68%	30%	2%
2023	177,812	3.30	53,828	193	6,282	65%	34%	1%

1.2.2 Southeast Region Headboat Survey

As explained above, the SEFSC selects the larger capacity for-hire vessels that charge primarily by angler to report fisheries data via the SRHS. Reporting effort and landings information is mandatory in the SRHS (Table 1.2.2.1).

Table 1.2.2.1. Required data reporting elements for SRHS headboats.

Reporting Elements
Vessel name/Vessel number
Captain's name
Departure date and time
Return date and time
Trip type (charter, headboat, commercial, or private recreational)
Number of anglers and paying passengers
Number of crew
Fuel used (gallons)
Price per gallon
Depths Fished (feet)-Min/Max/Primary
Fishing location (latitude/longitude, degrees, minutes)
Species - numbers kept and released (for released, number descended or vented)

The number of SRHS headboat vessels reporting landings to the SRHS by Gulf state between 2019 and 2023 are provided in Table 1.2.2.2. Participants in the SRHS can be intercepted dockside by samplers that collect biological samples and validate effort and logbooks upon returning from a fishing trip. On average, approximately 9% of trips were intercepted by dockside samplers from 2019-2023 (Table 1.2.2.3).

Table 1.2.2.2. The number of SRHS headboat vessels reporting landings to SRHS by Gulf state from 2019-2023.

Year	AL	FL	LA	MS	TX	Total
2019	10	41	2	3	16	72
2020	9	39	2	2	16	68
2021	9	40	2	2	17	70
2022	8	40	2	2	16	68
2023	8	41	1	2	16	68

Table 1.2.2.3. The annual number of SRHS trips taken and number of trips intercepted in the Gulf by dockside samplers from 2019-2023.

Year	# Trips	# Trips Sampled	% Trips sampled
2019	9,488	997	11%
2020*	7,905	146	2%
2021*	10,514	295	3%
2022*	9,838	570	6%
2023	8,954	642	7%
		5-year average	**6%**

*Years when the number of sampled trips was limited due to safety restrictions from the COVID pandemic.

1.3 History of the Southeast For-Hire Integrated Electronic Reporting (SEFHIER) program

The development of any data collection program requires a suite of data fields to collect pertinent fisheries information, a means to validate the accuracy of the collected data, a final estimation procedure, and a mechanism to enforce program compliance. These elements are needed to increase precision and accuracy of collected effort and catch information, interpret program results, and reduce estimate uncertainty. For example, a dockside intercept by an independent surveyor can be used to validate a logbook report completed by a for-hire vessel operator. When these survey design components are integrated they can produce outputs that can be used for stock assessments (e.g., index for a model), management needs (e.g., in-season monitoring or season duration projection analysis), or both.

To increase the accuracy, precision, and timeliness to for-hire data collection in the Gulf, the Council approved an amendment to the Reef Fish FMP and CMP FMP in May 2017 titled, "Modifications to Charter Vessel and Headboat Reporting Requirements" to mandate federally permitted reef fish and CMP for-hire owners and operators to electronically report fishing effort and catch information. This amendment was developed based, in part, on recommendations from a technical subcommittee that was convened in 2014 to develop recommendations to implement electronic reporting for the for-hire vessels in the Gulf and U.S. South Atlantic. The subcommittee was charged with investigating methods to increase the timelines of catch estimates for in-season monitoring, increase the temporal and spatial precision of catch estimates for monitoring, provide vessel-specific catch histories for management, reduce biases associated with catch statistics, and increase stakeholder buy-in and trust around data collection. The report by this group (Appendix C) revealed the trade-offs and limitations on several key aspects of electronic reporting in the for-hire fisheries, such as participation requirements, survey versus census requirement, reporting frequency, data collection applications, accountability measures, validation and estimation requirements, and calibration to existing data stream requirements. Additionally, in September 2016 the Data Collection Technical Committee identified a minimum number of essential data elements that would be needed to achieve program goals (Appendix D).

Initially the Gulf and South Atlantic Fishery Management Council (Councils) developed a joint amendment to implement for-hire electronic reporting in the southeast region. As the intended requirements began to differ between the Councils, the joint amendment was separated into two amendments, one for each region. Gulf federal for-hire permit holders were required to submit electronic trip declarations for every trip (e.g., dock to dock) the vessel made on water, submit a logbook for every for-hire fishing trip prior to offloading fish, land only at approved landing locations, and have an operational NOAA Fisheries type approved Vessel Monitoring System (VMS) to log vessel positional data. The Gulf program also used a dockside survey to estimate total catch and effort that would account for un-reported trips and mis-reported or un-reported catch. The South Atlantic Southeast For-hire Integrated Electronic Reporting (SEFHIER) program requires weekly reporting for federally permitted fishermen in the Atlantic and does not have a declaration or VMS requirement. Owners and operators of vessels that have both a federal South Atlantic and a Gulf for-hire permit were required to meet the Gulf SEFHIER program's more stringent program requirements. Owners and operators of vessels that have both a Greater Atlantic or Mid-Atlantic and a Gulf federal for-hire permit were required to report to the Gulf SEFHIER program. Each amendment was implemented with separate rulemaking in January 2021; however, the United State Court of Appeals for the Fifth Circuit set aside the Gulf SEFHIER final rule in February 2023.

Dual permitted vessels that had both a federal Gulf for-hire and a Gulf commercial reef fish permit had to meet the reporting requirements of both the for-hire permit and the commercial reef fish permit. The Gulf SEFHIER trip declaration form was a combination of fields typically found in a declaration and fields found in a pre-landing notification (commonly called hail-in and hail-out forms, respectively). The commercial reef fish requires a separate declarations and pre-landing notifications. Due to these differences, the SEFHIER declaration form have different data fields than the commercial reef fish forms. Additionally, the SEFHIER declaration data, which could be submitted from an application, was not able to be accepted by the VMS system that contained the commercial data due to security concerns. Therefore, dual permitted (commercial and for-hire) vessels had to declare their trip to each program separately. This created unnecessary burden on dual commercial reef fish and for-hire permitted vessels, and the agency was working towards technical solutions to resolve this burden while keeping the data systems secure. The type of trip taken determined what logbook was submitted and where the information was sent. Neither program required a logbook for the other sector. The South Atlantic SEFHIER program requires a "Did Not Fish" report when there is no fishing by that vessel for that week within the for-hire sector. Commercial vessels are required to submit "Did Not Fish" reports monthly, when no fishing occurs within the commercial sector. Therefore, a vessel that did not fish in either the for-hire or the commercial fishery for a month had to submit four for-hire Did Not Fish reports and one commercial Did Not Fish report. Did Not Fish reports are used analytically to determine latent activity within a sector and determine compliance within a sector and should not be combined across sectors.

Prior to this amendment, an exempted fishing permit (EFP) was authorized to evaluate the viability of an allocation-based management strategy for improving the conservation of marine resources and economic stability and performance of the headboat fleet.[5] This EFP utilized an

[5] https://noaa-sero.s3.amazonaws.com/drop-files/cs/hbc_pilot_final_report_final.pdf

electronic reporting system to track all transactions in real-time and utilize the federal commercial reef fish VMS. For headboat vessels that participated in this program, the VMS hardware and software was used to submit trip declarations, submit pre-landing notifications, and track positioning of the vessels. The VMS enabled a transparent monitoring system for the selected vessels. Vessels were also required to land only at approved landing sites. The final report's conclusions acknowledged the challenges and successes of the program. The report found that there was a learning curve for captains in using the VMS hardware/software system to submit declarations and pre-landing notifications. Despite the low participation level, this program required staff at state agencies to send weekly e-mails to remind captains to submit their information in the time required. The report also acknowledged that biological samples of sufficient sample size by region were needed to adequately convert numbers of fish caught into pounds of fish. Insufficient sample sizes by region would reduce the certainty of the estimate for pounds landed, especially as many quotas are in pounds of fish and not the number of fish. Port agents and law enforcement officers and agents provided feedback about the program, highlighting the benefit of having email notification of declarations and pre-landing notifications, the benefit of landing locations, and estimated the number of fish on board (as opposed to an estimated weight). This program used a 1-hour notification for pre-landing information, which was deemed insufficient by law enforcement based on breadth of the areas they cover. Law enforcement suggested future programs adopt a 3-hour notification window or combining together the declaration with critical pre-landing notification.

The Gulf SEHFIER program was implemented in two phases, requiring trip reporting beginning on January 4, 2021, and then requiring VMS units by March 1, 2022. The trip reporting phase required all for-hire vessels not in the SRHS to report to the Gulf SEFHIER program. Vessels in SRHS were still required to report to the SRHS program but had the additional SEFHIER reporting requirements to submit declarations, submit logbooks prior to offload, and land only at approved landing locations. NMFS created technical specifications for vendors to create applications for use within the SEFHIER program. All software vendors needed to have their SEFHIER application type approved by NMFS before it could be used in the Gulf SEFHIER program. Type approval included rigorous testing of the application to ensure it met the technical requirements. A NMFS collaborative partner group and a software vendor application were approved for use: Atlantic Coastal Cooperative Statistical Program's eTRIPS/Mobile – version 2 application and Bluefin Data's VESL application. As part of the type approval, vendors were required to maintain 24/7 customer service help for their application users. The eTrips/Mobile application is based on requirements to meet several federal and state partners' needs for data collection, and changes to the form are made via committee and consensus. Both trip reporting software applications (VESL and eTRIPS/Mobile) are free to download on a mobile device. In addition to the software applications that could be installed on phones or tablets, the agency also authorized the use of forms submitted through a VMS unit. Based on the technology and transmission process and costs, these forms were less interactive than software applications. Despite this, many fishermen chose to submit information through their VMS units.

Prior to the implementation of the VMS portion of the program, the agency worked to ensure that cellular VMS systems were able to be approved for use under the VMS program. Allowance of

cellular units, often referred to as store and forward units, was finalized in 2020.[6] VMS units needed to be selected and purchased by the permit holder, for every for-hire permitted vessel. There is a VMS reimbursement program available to federal permit holders from The Pacific States Marine Fisheries Commission (PSMFC), in collaboration with NOAA Fisheries. This reimbursement program is subject to availability of funds. More information can be found on the PSMFC website, at psmfc.org/program/vessel-monitoring-system- reimbursement-program-vms. The reimbursement program requires the VMS unit to be installed by an approved VMS vendor, to qualify for the reimbursement. This reimbursement program prioritized reimbursement funding to Gulf for-hire permitted vessels through April 30th, 2022, at which point prioritization were processed in the order they were received. Initially the reimbursement amount was $3,100, but due to a reduction in the reimbursement funding NOAA's Office of Law Enforcement released a Fishery Bulletin in April of 2022 stating that the "maximum reimbursable amount for the purchase of VMS units in programs that allow cellular VMS units" (including SEFHIER) would be $950.[7] The reduced reimbursement allocation still allowed permit holders to get fully reimbursed for two of the available cellular VMS units.

Once the Gulf SEFHIER program was implemented, two major concerns from program participants were brought to the Council. The first was apprehension among the industry that should their VMS unit incur an unexpected malfunction it would result in the vessel being unable to move on the water until the VMS unit was repaired – potentially resulting in a loss of revenue for the for-hire operator. While the satellite units have been in use since 2007 in the commercial fishery with low rates of failure, the cellular VMS units were new to the agency and this sector, with unknown rates of failure. In response, the Council and NMFS developed a framework action that would allow for an exemption to the VMS requirement in the event of an unanticipated VMS failure.[8] A second concern was raised regarding the requirement that a vessel must declare every time the vessel intends to move on water (i.e., from dock to dock). This included trips for non-fishing activities (e.g., obtaining fuel, ice). Program participants argued that the objective of the program was monitoring for-hire fishing effort and that non-fishing declarations were overly burdensome. To address this issue, the Council and NMFS developed a second framework action that only required a federal for-hire vessels to declare for any type of fishing or chartered activity.[9] Both of these framework actions had been approved by the Council and transmitted to NMFS for review but had not been implemented before the program was set aside by the United States Court of Appeals for the Fifth Circuit Court on February 23, 2023.

The court concluded that based on the evidence in the administrative record the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) did not authorize NMFS to require the 24-hour 7-day-per-week VMS for this program because it was duplicative of the requirements for logbooks and declarations and there was no enforcement issue (e.g., non-compliance) to require a system to verify self-reported data. The Court also noted that the agency did not show that the monetary and privacy costs outweighed the benefits of having VMS. The Court also noted that the agency did not show data to determine that the for-hire

[6] https://www.govinfo.gov/content/pkg/FR-2020-07-08/pdf/2020-14600.pdf
[7] https://www.fisheries.noaa.gov/bulletin/noaa-fisheries-announces-changes-vms-reimbursement-program
[8] https://gulfcouncil.org/wp-content/uploads/VMS-Failure-FA_FINAL_9.8.22.pdf
[9] https://gulfcouncil.org/wp-content/uploads/F-4a-Abbr-FA-Trip-Declaration-Mods-1.20.23.pdf

industry was a closely-regulated industry, unlike the commercial industry. For closely-regulated industries, it may not be necessary to conduct a search for this location data. The Court also concluded that the rule was not promulgated in compliance with the Administrative Procedure Act because NMFS failed to address comments that raised privacy concerns under the Fourth Amendment to U.S. Constitution and did not provide proper notice that the logbook would require the type of economic data required in the final rule.[10] Due to this ruling, the regulations that were in effect prior to the implementation of the Gulf SEFHIER program currently apply and vessels that hold only a federal Gulf for-hire permit are not required to report to SEFHIER or use a VMS. Gulf for-hire permitted vessels selected to report to the SRHS program are still required to report to SRHS as they did prior to implementation of SEFHIER (i.e., weekly electronic reports). The MRIP for-hire telephone survey (along with APAIS; in the states of Mississippi, Alabama, and Florida), LA Creel, and the Texas Parks and Wildlife creel survey are still in place.

In April 2023, the Council decided to start work on a new amendment to reinstate some version of the Gulf SEFHIER program.[11] To aid in this effort, the Council established an Ad-hoc Charter For-hire Data Collection Advisory Panel (AP) and established a charge for the group.[12] The AP convened January 10-11, 2024, and made a series of recommendations to the Council.[13] The AP recommended several program goals and objectives as modified from the 2014 Technical Report and these objectives were approved by the Council at their January 2024 meeting (Table 1.3.1).

Table 1.3.1. Charter For-hire Data Collection AP proposed program objectives to reestablish a Gulf charter data collection program. The Council has reviewed and approved the below program objectives.

Proposed objectives for new charter data collection program
Increase the timeliness of catch estimates for in-season monitoring
Increase the temporal (and/or spatial) precision of catch estimates for monitoring
Reduce biases associated with collection of catch and effort data
Increase stakeholder trust and buy-in associated with data collection

Additionally, during the Council's January 2024 meeting, the Council made several motions that would maintain a number of the same components from the original Gulf SEFHIER program, consistent with the Ad-hoc Charter For-hire Data Collection AP recommendations. These components include requiring trip declarations and logbooks (Table 1.3.2), maintaining the same trip-level reporting frequency and the same considerations for at-sea safety (where a logbook could be completed within 30 minutes of docking, but before offloading catch). However, the AP recommended that trip declarations be required only for for-hire fishing trips.

[10] The Court considered the plaintiffs argument that the VMS requirement violated the Fourth Amendment and expressed concerns, based on the evidence in the record, about the requirement as applied to for-hire vessels but did not rule on this issue.
[11] https://gulfcouncil.org/wp-content/uploads/GMFMC_Motions-Report_Apr2023-FINAL.pdf
[12] https://gulfcouncil.org/wp-content/uploads/04.-Council-charge-to-AP.pdf
[13] https://gulfcouncil.org/wp-content/uploads/AdHocCharterForHireAP_meeting-summary_1_16_24.pdf

Table 1.3.2. List of suggested trip declaration and logbook data fields to be retained from the original Gulf SEFHIER program. These data fields were endorsed by the Ad-hoc Charter For-hire Data Collection AP and subsequently recommended by the Council.

Trip Declaration Data Fields	Logbook Data fields
Vessel registration number	Actual start and return date/time
Captain's name	Angler and passenger count
Departure date and time	Crew count
Estimated return data and time	General area fished
Departure location	Average depth fished
Trip type	Individual species data (whether kept or discarded)
	Whether fishing occurred (Yes/No)
	Primary gear used
	Primary target species

The field names defined in Table 1.3.2 represent the AP's recommendation; however, several of these recommendations have slightly different names than those data fields used in the former Gulf SEFHIER program. The AP was largely supportive of retaining the trip declaration and logbook data fields and it is highly likely that any new Gulf for- hire data collection program would largely retain the names of these data fields of the original SEFHIER program. Therefore, while the function of many of the AP's recommended data fields is the same, program participants will see a slightly different name on the trip declaration and logbook report. Table 1.3.2 provides a list of how several of the AP's recommended data field will appear on the trip declaration and logbook forms.

Table 1.3.2. List of AP recommended fields and the data field name in the previous Gulf SEFHIER program declaration and logbook. The names used in the original Gulf SEFHIER program will likely be retained in the new for-hire data collection program.

AP Recommended Field	Name new program will use
Departure Location	Landing Location
Crew Count	Number of Crew
General Area Fished	Primary Area Fished
Average Depth Fished	Primary Fishing Depth
Individual Species Data	(Catch is reported at the species level – both retained and discarded)
Whether Fishing Occurred	Trip Activity (did fishing occur? yes/no)

Although the AP only recommended the fields listed in Table 1.3.1, some fields are missing that are needed for either administrative purposes (e.g., the ability for the compliance algorithm to match a declaration to a logbook), or to estimate fishing effort. These additional fields are listed

in Tables 1.3.3 and 1.3.4, along with justification.

Importantly, although a field may be necessary for administrative purposes, some reporting software vendors may develop an application that pulls information from the declaration into the logbook. If the application is working in this way, the individual would not need to enter data for the field in both the declaration and logbook.

Table 1.3.3. Additional field needed in the trip declaration, including justification.

Field	Justification
Trip Activity	Trip activity (intended fishing: Yes/No) informs whether a logbook is expected, and is used by NOAA Fisheries to automate compliance tracking

Table 1.3.4. Additional fields needed in the logbook, including justification.

Field	Justification
Registration Number	Needed for administrative purposes, as part of criteria needed to automate matching a declaration to the corresponding logbook for compliance tracking purposes
Captain's Name	Needed for administrative purposes, as part of criteria needed to automate matching a declaration to the corresponding logbook for compliance tracking purposes
Trip Type	Needed for administrative purposes, as part of criteria needed to automate matching a declaration to the corresponding logbook for compliance tracking purposes
Fishing Hours	Critical for estimating fishing effort
End Port/Landing Location	Since it may differ from the intended Landing Location provided in the declaration
Start Port	Allows for quantification of trip starting point to ending point, and is required in eTRIPS mobile 2 for their other partners (i.e., a one stop reporting requirement)

1.4 Purpose and Need

The *purpose* of this amendment is to improve the accuracy, precision, and timeliness of landings, discards, and fishing effort data from federally permitted for-hire vessels within the recreational sector of the Gulf reef fish and CMP fisheries. Improvements would increase stakeholder trust and buy-in associated with data collection. Another purpose is to collect economic information related to the operational costs and earning of federally permitted for-hire vessels participating in the Gulf reef fish and CMP fisheries.

The *need* for this action is to improve management and monitoring of the federally permitted for-hire component of the recreational sector of Gulf reef fish and CMP fisheries to prevent overfishing while achieving, on a continuing basis, the OY.

1.5 Management history

Reef Fish Fishery

The following amendments to the Reef Fish FMP contain actions that pertain to the for-hire component of the recreational sector, including permit and reporting requirements.

Amendment 11 (1996) to the Reef Fish FMP required that charter vessels and headboats fishing in the exclusive economic zone (EEZ) off the Gulf states 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/headboat permits for reef fish and CMP in the EEZ off the Gulf states. The purpose of this moratorium was to limit future expansion in the recreational for-hire component while the Council monitored the impact of the moratorium and considered the need for a more comprehensive effort management system for the for-hire fleet. NMFS' promulgation of the regulations implementing Reef Fish Amendment 20/CMP Amendment 14 established an effective date of December 26, 2002, for-hire operators in the EEZ off the Gulf states to have a valid limited access "moratorium permit," in place of the prior open access charter vessel/headboat permit. From this date, limited access permits would be required for for-hire vessels to legally engage in fishing activities in the EEZ off the Gulf.

On December 17, 2002, NMFS published an Emergency Rule that deferred implementation of the permit moratorium from December 26, 2002, until June 16, 2003, because the final rule implementing the permit moratorium contained an error regarding eligibility. This error needed to be resolved before the moratorium could take effect to ensure that no qualified participants were wrongfully excluded. The emergency automatically extended the expiration date of valid or renewable "open access" permits for reef fish and CMP until June 16, 2003. The emergency rule included additional measures that extended deadlines for issuance of "moratorium permits" and the appeal process.

Amendment 25 (2006) to the Reef Fish FMP/Amendment 17 to the CMP FMP established a limited access system on charter vessel/headboat permits for reef fish and CMP that extended the 3-year permit moratorium. 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 charter vessel/headboat permit for reef fish 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 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.

Amendment 40 was approved in April 2015. This amendment divided the recreational red snapper quota into two component sub-quotas, with the federal for-hire component allocated 42.3% of the recreational quota and the private angling component allocated 57.7% of the red snapper recreational quota. This division sunsets three calendar years after implementation. Season closures are determined separately for each component based on the component's annual catch target (ACT). The final rule to implement this amendment published on April 22, 2015.

CMP Fishery

The following amendments to the CMP FMP contained actions that pertained to the for-hire component 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 CMP species have federal permits.

Amendment 14 (2002) to the CMP FMP/Amendment 20 to the Reef Fish FMP established a 3-year moratorium on the issuance of charter vessel/headboat permits. See discussion above for Amendment 20 to the Reef Fish FMP, which describes the amendment and corresponding Emergency Rule.

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

Framework Action (2013) modified the frequency of headboat reporting to a weekly basis (or at intervals shorter than a week if notified by the 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.

Amendment 20A (2014) to the CMP FMP prohibited the sale of recreationally caught king and Spanish mackerel with the following exceptions: 1) the sale of fish caught on for-hire trips on

dual-permitted vessels in the Gulf region, and 2) the sale of fish caught in state-permitted tournaments in both the Gulf and Atlantic regions and donated to a state or federally permitted dealer, as long as the proceeds from the dealer sale are donated to charity.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Establish Frequency and Mechanism of Data Reporting for For-hire Vessels

This action only applies to vessels issued a valid Gulf of Mexico (Gulf) for-hire permit for reef fish or Gulf coastal migratory pelagic (CMP) species, that ***do not*** participate in the National Marine Fisheries Service (NMFS) Southeast Region Headboat Survey (SRHS).

Alternative 1: No Action. The owner or operator of a charter vessel or headboat issued a valid Gulf for-hire permit for reef fish or CMP species, or whose vessel fishes for or harvests such reef fish or CMP species in or from state waters adjoining the applicable Gulf or Gulf exclusive economic zone (EEZ), and who is selected to report by the NMFS through the Marine Recreational Information Program (MRIP), or the state of Louisiana's LA Creel program, or Texas Parks and Wildlife Creel survey voluntarily report catch information when requested by a dockside surveyor.

Alternative 2: Require that the owner or operator of a charter vessel or headboat issued a valid Gulf for-hire permit for reef fish or Gulf CMP species to submit trip, catch, and effort information for ***each trip*** via electronic reporting (via NMFS approved software). If fish are harvested during the trip, electronic reporting is required prior to offloading fish. If fishing did not occur within a monthly period, a "Did Not Fish" report would be required to be submitted.

Alternative 3: Require that the owner or operator of a charter vessel or headboat issued a valid Gulf for-hire permit for reef fish or CMP species to submit trip, catch, and effort information for ***each trip daily*** within 24 hours of trip end via electronic reporting (via NMFS approved software). If fishing did not occur within a monthly period, a "Did Not Fish" report would be required to be submitted.

Discussion:

Alternative 1 (No Action) would maintain the reporting requirements of the three charter for-hire data collection programs within the Gulf. The details of these current data collection programs are outlined in Chapter 1.2. LA Creel provides weekly estimates of catch in the for-hire component, while MRIP generates 2-month "wave" estimates, and Texas Parks and Wildlife provides 6-month catch estimates for the for-hire component. The three programs have a dockside intercept component to verify catch by a program sampler. Sampling sites are selected using a probabilistic survey design approach based on high use or low use areas. No private landings sites are sampled in these programs and submission of catch data is voluntary for the angler. Dockside intercepts are conducted on the fishing angler and not necessarily the charter/headboat vessel owner or operator.

The timeliness level of catch estimation in **Alternative 1** (ranging from weekly to 6 months) is less than that considered in either **Alternative 2** or **3** (trip-level or daily, respectively). As data timeliness, precision, and accuracy have been identified as goals for a new Gulf charter for-hire

data collection program, an increase in reporting frequency would best achieve this objective. **Alternatives 2** and **3** would require the owner or operator of a charter vessel that has been issued a charter vessel/headboat permit for Gulf reef fish or Gulf CMP species to submit fishing reports (i.e., logbooks) electronically via a NMFS-approved software application at the specified frequencies. Requiring logbooks would add technological complexity compared to the status quo (**Alternative 1**), and some form of trip validation (e.g. dockside intercepts) would still be needed to estimate any mis- or non-reporting in the self-reported logbook data. However, trip level reporting is anticipated to greatly improve the precision and timeliness of landings estimates for annual catch limit (ACL) monitoring.

Alternative 2 would require vessel owners or operators with a charter vessel/headboat permit for Gulf reef fish or Gulf CMP species to submit a logbook for each trip. The logbook would need to be submitted electronically and received by NMFS prior to offload of the fish. If no fish are retained on a for-hire fishing trip, a logbook form would still have to be submitted within 30 minutes of arriving at the dock (end of the trip). If more than one for-hire fishing trip occurred on a single day, logbook would need to be submitted before offloading fish at the end of each trip. Under **Alternative 2**, the reported catch of a charter vessel can be verified a dockside intercept surveyor or port agent when the vessel returns to the dock and offloads fish, improving the likelihood of capturing the mis- and non-reporting uncertainty in the self-reported logbook data. Once a logbook is submitted in the software application, it becomes locked and therefore the submitter would no longer have the ability to modify the submitted logbook after being interviewed, which improves the likelihood of estimating any mis- and non-reporting in the self-reported logbook data. Although, **Alternative 2** offers charter vessel requires reporting of logbooks before offloading every trip, this should improve data quality and accuracy by reducing recall bias, improve stakeholder confidence in the final estimates of catch and effort, and reduce uncertainty associated with these data when used in science or management applications. To accomplish trip-level reporting, federal for-hire permit holders would need to have a NMFS- approved software reporting application on their mobile device or personal computer (PC) to submit the logbook.

Alternative 3 would require for-hire fishing trip reporting by vessel owners and operators at daily level, rather than a trip level as stipulated in **Alternative 2**. The Gulf of Mexico Fishery Management Council's (Council) Charter For-hire Ad hoc Advisory Panel (AP) discussed the possibility of reporting frequencies other than before offload for each for-hire fishing trip. Several AP members advocated for the trip level reporting frequency, rather than daily or weekly reporting. They indicated that, during the busy summer months especially, logbook data can be difficult to tabulate during multi-trip days or over the course of a week. The volume of catch can be substantial over several trips which may result in longer intervals of time to fill out multiple logbook forms, all at the end of the day (for example). Additionally, several AP members reported that memory retention was better when considering catch at a trip level, which not only lessened the amount of time to complete the logbook but also increased the accuracy of their data reporting.

In 2020, NMFS implemented a fishery management plan (FMP) amendment developed by the South Atlantic Fishery Management Council (South Atlantic Council) that requires charter vessels with South Atlantic federal charter vessel/headboat permits, while operating as a charter

vessel to submit fishing records to NMFS weekly, or at intervals shorter than a week if notified by NMFS via electronic reporting (via NMFS approved hardware and software) (85 FR 10331 Feb. 24, 2020). Weekly reporting represents a level of precision that is difficult to directly input into a stock assessment analysis and is more uncertain when informing management advice such as season duration projections. For these reasons, and those recommended by the AP, the Gulf Council does not consider weekly reporting frequency as a reasonable alternative because it would not achieve the data collection program's purpose and need.

A South Atlantic federal for-hire vessel permittee who is also subject to electronic reporting requirements in other regions is required to comply with the federal electronic reporting program that is more stringent, regardless of where they are fishing. This requirement was put in place to prevent vessels with multiple federal for-hire permits from more than one region having to report to multiple systems. Because the Gulf reporting requirements considered in this action would require trip-level or daily reporting, the Gulf requirements may be considered more stringent than the South Atlantic weekly reporting requirements if the same data elements are required. Under those circumstance, vessels issued both Gulf and South Atlantic federal for-hire permits would be able to comply with both programs by complying with the Gulf requirements. Greater Atlantic Regional Fishery Office (GARFO) federally permitted vessels or vessels with a federal permit from any other region possessing a Gulf charter/headboat reef fish or CMP permit would be required to submit two logbooks: one in accordance with GARFO (or other region) requirements and one in accordance with the Gulf charter/headboat reef fish or CMP permit reporting requirements. However, few Gulf-federally permitted vessels travel the distance necessary to fish in areas other than the South Atlantic. In the future, these systems and fishing record requirements may become exchangeable but, until such time, these vessels would be required to report to different programs separately. Alternatively, dual permit holders (e.g. dual GARFO and federally permitted, non-SRHS, for-hire vessels) could use a software reporting application that supports "one-stop-reporting" (OSR), like e-TRIPS Mobile, and only need to submit one logbook to meet all their permit requirements.

If a vessel owner who was issued a Highly Migratory Species (HMS) Charter/Headboat permit also has a permit issued in a non-HMS fishery that is required to report, any landings should be reported, as required, under the appropriate NMFS regional vessel logbook program in addition to any HMS reporting requirements. NMFS has proposed modifying or expanding reporting requirements for Atlantic HMS, as described in a proposed rule published on September 6, 2024.[14] The reporting requirements for the HMS Charter/Headboat permits selected as preferred alternatives in the proposed rule differ from those proposed within this amendment. Vessel owner/operators that holds both a Gulf for-hire and a HMS Charter/Headboat permit would be subject to the most stringent regulation associated with either permit. For example, depending on which alternatives are ultimately implemented, a vessel owner/operator who possesses both of these permits could be required to report their catch logbook prior to offload (the Gulf For-hire permit regulations are more stringent on reporting timing) and report economic data every trip (the HMS Charter/Headboat permit regulations are more stringent on the frequency of reporting timing). Currently, owners or operators of HMS Charter/Headboat permitted vessels must call in

[14] https://www.federalregister.gov/documents/2024/09/06/2024-19892/atlantic-highly-migratory-species-electronic-reporting-requirements

or electronically report all bluefin tuna landings and dead discards, all non-tournament landings of Atlantic blue marlin, Atlantic white marlin, roundscale spearfish, and Atlantic sailfish, and all non-tournament and non-commercial landings of North Atlantic swordfish to NMFS within 24 hours of completing a trip. In the ANPR, NMFS considered an electronic logbook requirement for owners or operators of vessels with HMS Charter/Headboat permits, as well as timing requirements for submission of electronic logbooks.

Did Not Fish Reports are necessary to validate periods of non-fishing activity. Establishing a period of non-fishing activity aids in improving the accuracy and precision of effort estimation for the fleet. Did Not Fish Reports also aids in assessing the level of compliance for logbook reporting. Non-reporting of trips (due to an omission error or willing incompliance) is also considered issue when estimating catch from logbook reports. This extra level of effort validation compliments the hail-in/out combination and provides more certainty in the data being reported from the program.

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

This action only applies to vessels issued a valid federal for-hire permit for reef fish or Gulf CMP species that ***do participate*** in the SRHS.

Alternative 1: No Action. The owner or operator of a headboat issued a valid federal for-hire permit for reef fish or Gulf CMP species, or whose vessel fishes for or harvests such reef fish or CMP species in or from state waters adjoining the applicable Gulf or Gulf EEZ, and who is selected to report by NMFS 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 NMFS) 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.

Alternative 2: Require that the owner or operator of a headboat issued a valid charter vessel/headboat permit for reef fish or Gulf CMP species to submit fishing records for ***each trip*** via electronic reporting (via NMFS approved software). If fish are harvested during the trip, electronic reporting is required prior to offloading fish.

Alternative 3: Require that the owner or operator of a charter vessel or headboat issued a valid charter vessel/headboat permit for reef fish or Gulf CMP species to submit ***daily*** fishing records via electronic reporting (via NMFS approved software).

Discussion:

Alternative 1 (No Action) would continue to require the owner or operator of a federally permitted headboat with a Gulf charter/headboat for reef fish or CMP permit to submit logbooks weekly (or at intervals less than a week if requested by NMFS), due 7 days after the end of each week (Sunday). This requirement was implemented through the Framework Action to Modify Headboat Reporting Requirements in the Gulf and South Atlantic (GMFMC 2013b). The SRHS represents a relatively long-term data collection program within the Gulf and has been used as a fishery-dependent index to inform several species stock assessments. However, the SRHS is limited to only small number of vessels which meet the program's definition of a headboat and are included in the survey. Since headboats represent a fraction (~1%) of all Gulf federally permitted charter for-hire vessels and are unique in their operations (taking large numbers [some up to ~ 100] of paying passengers on a single trip), and additional data collection survey extended to other participants in the industry is desirable for fishery management.

Alternative 2 would require the owner or operator of a federally permitted headboat with a Gulf charter/headboat for reef fish or CMP permit to submit a logbook for each trip to NMFS prior to offloading fish. If no fish are retained on a for-hire trip, the logbook would have to be submitted within 30 minutes of arriving at the dock (end of the trip). If more than one trip occurred on a single day, the logbook would need to be submitted before offloading fish at the end of each trip.

Alternative 2 would offer the greatest ability to prevent ACL overages and minimize errors associated with recall bias. Under **Alternative 2**, a dockside intercept surveyor or port agent would likely interview the vessel after the logbook has been submitted, improving the likelihood of capturing the mis- and non-reporting uncertainty in the self-reported logbook data. Once a logbook is submitted in the software application, it becomes locked and therefore the submitter would no longer have the ability to modify the submitted logbook after being interviewed, which improves the likelihood of estimating any mis- and non-reporting in the self-reported logbook data. Although, **Alternative 2** offers headboat operators the least flexibility in how and when they prepare and submit their trip reports and could be burdensome during periods of peak activity or inclement weather, it should improve data quality and accuracy, improve stakeholder confidence in the final estimates of catch and effort, and reduce uncertainty associated with these data when used in science or management applications.

Alternative 3 would require the owner or operator of a federally permitted headboat with a Gulf charter/headboat for reef fish or CMP permit to submit a daily, electronic report to NMFS by noon the day following each for-hire fishing trip. **Alternative 3** could reduce the likelihood of exceeding ACLs and reduce recall error compared to **Alternative 1** but would not result in as much of a reduction relative to **Alternative 2. Alternative 3** would add additional burden and reduce flexibility in comparison to **Alternative 1**; however, increased memory recall (therefore quicker completion of logbooks) and increased likelihood of capturing mis- or non-reporting through the dockside intercepts (done by Port Agents, for SRHS) may be better realized in **Alternative 2** with trip level reporting.

2.3 Action 3: Trip Notification and Effort Reporting Requirements

Alternative 1: No Action. There are currently no trip notification requirements for federally permitted reef fish or Gulf CMP species charter/headboat vessels. A vessel issued a federal commercial reef fish permit is required to submit a trip notification and declare the intent of the trip.

Alternative 2: Require that the owner or operator of a charter vessel or headboat issued a valid charter vessel/headboat federal permit for reef fish or Gulf CMP species submit a trip declaration for trips that will be engaging in any type of fishing *or for-hire* activity.
Option a: Charter vessels
Option b: SRHS Headboats

Alternative 3: Require that the owner or operator of a charter vessel or headboat issued a valid federal charter vessel/headboat permit for reef fish or Gulf CMP species submit a trip declaration for trips that will be engaging in any type of fishing activity.
Option a: Charter vessels
Option b: SRHS Headboats

Discussion:

Action 3 considers adding a requirement to provide a notification to NMFS declaring the intent to initiate a for-hire trip, return from a for-hire trip, or both. This action is anticipated to provide better estimates of effort with an improved validation process as compared to the current MRIP phone survey (charter vessels) and SRHS (headboats). This action is also anticipated to better inform law enforcement officers when a for-hire vessel is leaving the dock as well as the type of trip based on the declaration at hail-out. Under **Alternative 1** (No Action), federally permitted for-hire vessels do not have any trip notification requirements.

Alternative 2 would require trip declarations for trips engaging in any type of fishing or any chartered activity. Fishing trip types would include commercial, for-hire, and private recreational fishing activities, as well as trips fishing for bait. Chartered activity would include any other activity with paying passengers[15] on board the vessel, such as sunset or dolphin cruises. **Alternative 2** would provide the for-hire fleet the flexibility to complete non-fishing non-charted activities without needing to submit a declaration. Requiring declarations for trips engaging in fishing or any chartered activity would also assist in determining fleet characteristics (e.g., percentage of time for other activities like cruises to supplement business or commercial activity) and decreases the administrative burden for a charter for-hire data collection program through use of automation to identify non-compliance.

[15] In the definition of "charter fishing" the Magnuson-Stevens Fishery and Conservation Management Act refers to "passenger for hire" as defined in 46 U.S. Code § 2101. That "means a passenger for whom consideration is contributed as a condition of carriage on the vessel, whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person having an interest in the vessel." Consideration means "an economic benefit, inducement, right, or profit including pecuniary payment accruing to an individual, person, or entity, but not including a voluntary sharing of the actual expenses of the voyage, by monetary contribution or donation of fuel,

food, beverage, or other supplies."

Alternative 3 would require a trip declaration only when engaging in fishing activities. As in **Alternative 2**, fishing trip types would include commercial, for-hire, and private recreational fishing activities, as well as trips fishing for bait. However, in **Alternative 2** a declaration would need to be submitted any time a trip occurs with a paying passenger on board (including for a sunset cruise or dolphin watching), while in **Alternative 3** a declaration would only need to be submitted when at least one paying passenger is participating in commercial, for-hire or private recreational fishing activities.

A mandatory trip declaration prior to leaving the dock (**Alternatives 2** and **3**) would improve effort estimates as it would directly tabulate the number of fishing trips in comparison to **Alternative 1**, which relies on a sample of the fleet, is subject to assumptions that the sample represents the behavior of the entire fleet and is associated with uncertainty when expanding the sample estimates to the behavior of the entire fleet. Timeliness in data collection is a main objective of the Council's for-hire data collection program; therefore, mandatory declarations that improve estimates of effort, aid law enforcement, and improve the likelihood of dockside intercepts to capture non- and mis- reporting is necessary to achieve the program's purpose and need.

During the implementation of the original Gulf SEFHIER program, several participants raised concerns with the Council that the trip declaration, which was required every time the vessel left a dock, was overly burdensome. To address this issue, the Council developed a framework action to modify the trip declaration, but that action was not implemented because the Gulf SEFHIER program was set aside (see Section 1.3). The language reflected in **Alternative 2** is the same language approved by the Council in the previous framework action. This alternative, in addition to providing the benefits noted above relative to the status quo (**Alternative 1**), would also address a previous issue from the Gulf SEFHIER program and account for this situation during the development of a new for-hire data collection program.

The South Atlantic SEFHIER program requires a "Did Not Fish" report when there is no fishing by that vessel for that week within the for-hire sector. Commercial vessels are required to submit "Did Not Fish" reports monthly, when no fishing occurs within the commercial sector. Therefore, a vessel that did not fish in either the for-hire or the commercial fishery for a month has to submit a for-hire "Did Not Fish" report and one commercial "Did Not Fish report". Did Not Fish" reports are used analytically to determine latent activity within a sector and determine compliance within a sector and should not be combined across sectors, as described under **Action 1**.

2.4 Action 4: Establish Reporting of Economic Data for For-hire Vessels

This action only applies to vessels issued a valid Gulf charter vessel/headboat permit for reef fish or CMP species, that do not participate in the NMFS SRHS.

Alternative 1: No Action. There is currently no requirement for the reporting of economic data for federally permitted reef fish or Gulf CMP species charter/headboat vessels. Currently, a dually-permitted charter/headboat vessel issued a federal commercial reef fish permit is required to submit an economic data survey to the commercial program for one year if selected.

Alternative 2: Require that the owner or operator of a charter vessel or headboat issued a valid federal charter vessel/headboat permit for reef fish or Gulf CMP species submit economic data as part of the logbook when the vessel is engaging in any type of chartered fishing or chartered activity.

Alternative 3: Require that the owner or operator of a charter vessel or headboat issued a valid federal charter vessel/headboat permit for reef fish or Gulf CMP species submit economic data as part of the logbook when the vessel is engaging in any type of chartered fishing or chartered activity, if selected. Annually, a stratified random sampling design of permitted vessels will be used for selecting vessels that are required to report economic data. The Southeast Fisheries Science Center will determine the strata (based on previous years' data and minimum sample sizes by strata) sufficient for providing scientific and management advice.

Discussion:

Alternative 1 would not require any level of economic data reporting relative to **Alternative 2** and **Alternative 3**. Relative to **Alternative 2** and **Alternative 3**, **Alternative 1** would result in the least burden because owners or operators would not be required to report any information in addition to the trip declaration and logbook. However, **Alternative 1** would not allow for the collection of any economic data to inform the effects analysis for comparing fishery management plan amendment alternatives, the allocation of disaster relief funds, or science-based fisheries management in general (e.g., optimum yield, allocation). Hence, such data would need to be collected in a different manner or survey, possibly leading to alternative burden hours. Also, the NMFS would incur further costs to create a separate data collection program or platform to collect the economic data. Finally, the absence of any owner or operator reported economic data would create an issue for disaster requests. If the states do not have the requisite revenue data for a fishery to demonstrate how much revenue has decreased because of an alleged disaster, then the state cannot include such losses in their request.

Both **Alternative 2** and **Alternative 3** allow for the collection of economic data; and therefore, require more burden on the captain or operator. The intent is to ask three additional economics questions (trip fee, fuel used in gallons, and price of fuel used per gallon) as part of each logbook. The trip fee and fuel information would inform the assessment of economic effects of management measures. The anticipated additional time burden of completing these three

economic questions in the logbook would be minor for each trip. However, these economic data are essential for informing the economic effects portion of policy documents, allocating disaster relief funding, and science-based fisheries management in general (e.g., optimum yield, allocation).

Alternative 2 and **Alternative 3** allow for the collection of economic data and are a vast improvement over the status quo of no systematic economic data collection in the Gulf for-hire sector. **Alternative 2** is a census. Hence, any aggregation or summary statistics of the data, i.e., "results", are facts without sampling uncertainty (other biases are possible due to non-response). This represents the best data that can be collected. In comparison, **Alternatives 3** only collects data from a subset of vessels leading to a smaller dataset. When analyzing these data, sample statistics are used to estimate population results. The results are random variables with sampling uncertainty. At a given confidence level, e.g., 95%, the population mean (or total) will lie within a margin of error, or confidence interval, around the sample mean (or extrapolated total), e.g., sample data provides results such as "with 95% certainty, the mean charter fee in the Gulf of Mexico is between $900 and $1100." In general, the smaller the sample size, the larger the margin of error or confidence interval becomes.

Alternative 2 would be the most time intensive for the for-hire sector as it would require all captains to complete the trip fee, fuel used in gallons, and price of fuel used per gallon questions for each for-hire fishing trip. The trip fee question elicits revenue, i.e., gross income, for a for-hire trip. It is not possible to derive individual level net revenue, i.e., profit or the operator's income, based on these three questions alone, as most costs are not be collected on the logbook form, e.g., crew pay and all fixed costs for the vessel. This additional information would come from other sources (e.g., annual cost surveys).

Alternative 3 collects data from a sample of vessels and therefore reduces program participants' burden hours while still collecting the economic data needed. By taking a statistical sampling approach (vs. the census approach of **Alternative 2**), only a portion of vessels are required to provide economic data at a given time. On the downside, as mentioned above, results based on sample data are estimates with statistical uncertainty attached. It should be noted that sampling at the trip level instead of the vessel level would be statistically preferable but cannot be implemented due to technological constraints in electronic reporting applications at this time. Sampled vessels will be required to provide economic data on all their eligible trips for a one-year period. The additional burden hours imposed on selected vessels is equivalent to those under **Alternative 2** during the year they are selected for, while additional burden hours for non-selected vessels are zero. Over multi-year periods, the estimated annual burden hours per vessel will tend toward the sampling fraction times the burden hours under **Alternative 2**. As an illustration (assuming a vessel is selected once within a 5-year period), with a 20% vessel sample fraction, a vessel making 200 trips per year over 5 years would be expected to provide econ data on 200 of the 1000 trips taken, but all the expected burden would occur in the single year they are selected (1 out of 5).

For **Alternative 3**, the Southeast Fisheries Science Center will develop a method for vessel stratification and determine the minimum sample size for each vessel stratum in a manner motivated by- and sufficient for- providing data-based scientific and management advice for this

sector. During the first year of a logbook, a 20% simple random sample of permitted vessels will be selected for economic reporting. In subsequent years, the previous years' logbook data will be used to develop a stratification of vessels, guided by anticipated management needs and a desire to minimize the overall sample size. The strata will be iteratively developed over the first few years of the program as the Center learns more about this fishery. Strata might be defined on permit or vessel characteristics (from the permit application), on activity levels or species caught during the last year(s), on areas fished, or on state, port, or other variables available for the full population. A stratification design requires that every vessel be uniquely assigned to one (and only one) stratum.

In a stratified random sampling design, a different sample size can be selected for each stratum, allowing the researcher to minimize the overall sample size while maintaining a given level of statistical precision. Beyond that, working with strata allows for the over- and under-sampling of particular vessel strata and, by extension, sub-populations of trips. The anticipated sampling design will have two components. The annual "base sample" will collect only enough data (lower sample size) to annually generate results for the overall population, and the major sub-populations thereof. The second component will focus on collecting enough data (more than the "base sample") for one smaller sub-population to ensure that meaningful results can be generated for this sub-population (enough statistical precision to be meaningful). Each year, the focus will shift to a different smaller sub-population, selected based on anticipated management need. This multi-year "rotation" of focus across the fishery will ensure that economic results will be available for many sub-elements of the population, while keeping reporting burden lower, though at the cost of not having annual updates of the results for smaller subgroups (snapshots instead of time-series). This approach is very similar to the one currently employed by the Center in the commercial sector of the federal GOM fisheries.

The Center does not anticipate sampling, at the aggregate, more than 20% of the vessels in any one year, and possibly less. The "base sample" might be 10% or less, but only last year's reported data will provide enough information to make an informed sample size determination for the subsequent year. It should be noted that vessels assigned to a small strata might face higher inclusion probabilities (up to certainty, i.e., census) in those years that this particular strata is the object of study.

In summary, the choice of census or sample should be driven by judgments about the tradeoff between burden hours and privacy of the respondents versus the precision of the economic result. In any case, collecting the fee data together with the logbook has extensive benefits at minimal costs over **Alternative 1**.

CHAPTER 3. LIST OF PREPARERS AND REVIEWERS

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GMFMC = Gulf of Mexico Fishery Management Council; NOAA GC = National Oceanic and Atmospheric Administration General Counsel; SEFSC = Southeast Fisheries Science Center; SERO = Southeast Regional Office of the National Marine Fisheries Service.

CHAPTER 4. AGENCIES, ORGANIZATIONS AND PERSONS CONSULTED

The following have or will be consulted:

National Marine Fisheries Service
Southeast Fisheries Science Center
Southeast Regional Office
Protected Resources
Habitat Conservation
Sustainable Fisheries (including Atlantic Highly Migratory Species Management Division)

NOAA General Counsel
Environmental Protection Agency United States Coast Guard

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APPENDIX A. INVESTIGATION OF FOR-HIRE LANDINGS IN THE GULF OF MEXICO

LAPP/DM Branch
NOAA Fisheries Service
Southeast Regional Office
March 2024

The Gulf of Mexico Fishery Management Council (Council) is considering alternatives that would require electronic reporting of fishing information from for-hire vessels possessing a federal Gulf charter / headboat reef fish or federal Gulf Charter / headboat coastal migratory pelagic (CMP) permit. Improvements to data reporting in the for-hire fleet could reduce the likelihood that annual catch limits (ACLs) are exceeded or prevent accountability measures from being triggered. This report aims to quantify the proportion of reef fish and coastal migratory pelagic species harvested by the for-hire fleet in the Gulf of Mexico.

Data Sources

The Southeast Fisheries Science Center (SEFSC) generates monitoring datasets that are used to track landings for all federally managed species in the commercial and recreational sector. Commercial landings are aggregated from dealer reports and are considered a census of landings for all commercial vessels.

Landings for the recreational sector are estimated from a combination of state and federal surveys. The two state surveys that generate recreation landings estimates come from Texas and Louisiana. The Texas Parks and Wildlife Department Sport-boat Angling Survey uses dockside interviews at recreational boat access sites to generate catch and effort estimates for finfish species caught by private boat and charter operators off the Texas coast. Louisiana Department of Wildlife & Fisheries uses the combination of a dockside intercept survey and phone/email survey to estimate recreational saltwater harvests from shore, private boat and charter trips in their state (LA Creel).

Federally administered surveys generate landings estimates for all headboat vessels and landings from shore, private boat and charter vessels not covered by the Texas or Louisiana state surveys. The Southeast Regional Headboat survey produces landings estimates for species caught by headboats operating in the southeastern United States by combining dockside intercept and logbook data. Federal estimates of shore, private boat and charter anglers were initially generated by the Marine Recreational Fisheries Statistics Survey (MRFSS), which used a combination of dockside intercept survey and phone effort survey data to estimate landings. This survey was replaced by the Marine Recreational Information Program (MRIP) in 2008 to improve precision, accuracy and timeliness of recreational catch estimates. MRIP uses the Access Point Angler Intercept Survey (APAIS) to collect dockside catch data from anglers fishing from shore, private boats and charter vessels. Fishing effort data for the shore and private boat fishing modes was collected by the Coastal Household Telephone Survey (CHTS) and charter effort was estimated from data collected by the For-Hire Survey (FHS). In 2018, the CHTS was replaced by a mail survey, the Fishing Effort Survey (FES). The changes to the federal survey over time has led to recreational landings being estimated in three different currencies associated with the major changes to the surveys. MRFSS units represent the earliest iteration of the federal survey, MRIP

(CHTS) incorporates updates to the dockside APAIS and implementation of the improved CHTS phone survey, and MRIP (FES) incorporates the change from a phone to mail effort survey. The SEFSC creates three separate final recreational landings data sets that combine TPWD, LA Creel and SRHS landings estimates with either the MRFSS, MRIP (CHTS), or MRIP (FES) survey estimates. Catch limits for federally managed species are monitored with the recreational currency associated with the last stock assessment for each species.

Landings Summaries

The proportion of reef fish and coastal migratory pelagic species harvested by the for-hire fleet was calculated to show the contribution of this fleet to overall landings in the Gulf of Mexico. First, landings estimate weight units were standardized across species to a common unit, pounds whole weight. Any species with landings reported only in gutted weight were converted to whole weight with an appropriate conversion. Landings estimates were further subsetted to include the last 5 years of complete data (2019-2023) for only the species managed in the reef fish and coastal migratory pelagic fishery management plans. Landings estimates for all species in the reef fish and coastal migratory pelagic fishery management plans were pooled annually by fleet or sector to demonstrate the proportions associated with either the recreational sector or for-hire fleet in the Gulf of Mexico (**Table 1**).

Table 1. Description of annual landings aggregations by fleet and sector.

Landings Summaries
Recreational Sector vs Commercial Sector
Recreational Fleets (For-Hire and Private) vs Commercial Sector
For-Hire Fleet vs Non For-Hire Landings (Private and Commercial)

Federally managed species are monitored with various recreational currencies, but generating landings summaries with a combination of currencies may skew the relative contribution from each fleet or sector based on the number of species monitored with each currency. Instead, landings summaries were generated twice, comparing commercial landings to recreational landings using MRIP (CHTS) or MRIP (FES) units separately. The proportion of overall landings attributed to the for-hire fleets was 23.5% when using recreational estimates that incorporate MRIP (CHTS) units and 13.6% when using MRIP (FES) units (**Figure 1** and **2**). While the different recreational units show a 10% difference in the proportion of for-hire landings, the average weight of landings are almost equal for the for-hire fleet over the last 5 years (**Table 2**).

In addition to investigating the overall contribution of landings from the for-hire fleet in the Gulf of Mexico, the landings of ten key species were reviewed. Six of the species are managed with a set allocation of landings between the recreational and commercial sector: gag, gray triggerfish, greater amberjack, king mackerel, red grouper, and red snapper. These species are economically and biologically important to both sectors, but an upper limit is placed on the total landings for each sector. Most of these species have higher landings percentages for species caught by the commercial sector, with the exception of gray triggerfish (**Figure 3** and **4**). Despite higher landings for the commercial sector, the for-hire fleet has higher landings than the private recreational fleet for gray triggerfish, king mackerel, and red grouper. The remaining four species investigated were gray snapper, lane snapper, Spanish mackerel, and vermilion snapper.

These stocks species tended to have higher recreational landings as compared to commercial landings (**Figure 5** and **6**). These trends hold up whether the recreational units are in MRIP (CHTS) or MRIP (FES) units.

Table 2. Mean annual estimate and percent of landings by sector / fleet in the Gulf of Mexico from 2019-2023.

Sector / Fleet	5 Year Average Landings (lb ww)	Percent of Landings (%)
Landings Include MRIP (CHTS) Units		
Commercial	16,166,650	49.3
For-Hire	7,647,156	23.5
Private	9,093,101	27.2
Landings Include MRIP (FES) Units		
Commercial	16,166,650	28.6
For-Hire	7,638,079	13.6
Private	32,687,028	57.8

Data Sources: Commercial ACL Monitoring File – April 2024, SEFSC CHTS ACL Monitoring File – April 2024, SEFSC FES ACL Monitoring File – April 2024

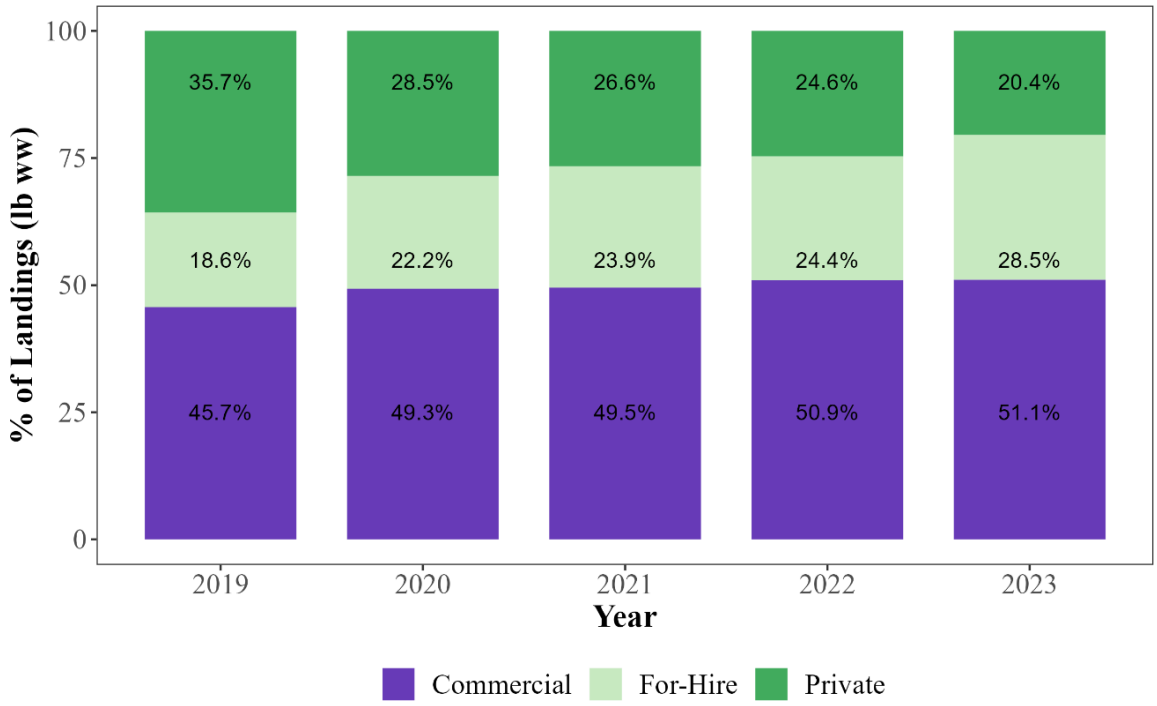


Figure 1. Percentage of annual landings by sector / fleet from 2019-2023, using recreational

estimates that incorporate MRIP (CHTS) units.

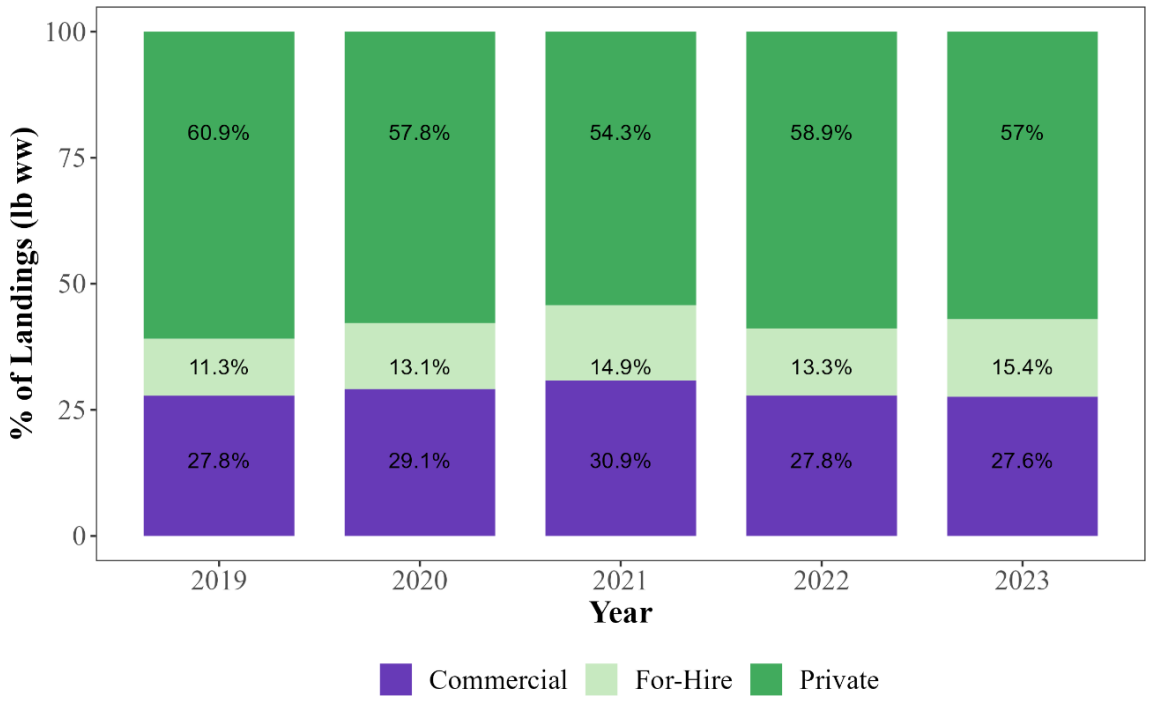


Figure 2. Percentage of annual landings by sector / fleet from 2019-2023, using recreational estimates that incorporate MRIP (FES) units.

Figure 3. Annual landings by sector / fleet for key species harvested in the Gulf of Mexico and

managed via sector allocation. Recreational estimates incorporate MRIP (CHTS) units.


Sector Allocation
gag
gray triggerfish
greater amberjack
king mackerel
red grouper
red snapper
Landings (lb ww)
Year
Commercial
For-Hire
Private
2019
2020
2021
2022
2023

Figure 4. Annual landings by sector / fleet for key species harvested in the Gulf of Mexico and managed via sector allocation. Recreational estimates incorporate MRIP (FES) units.

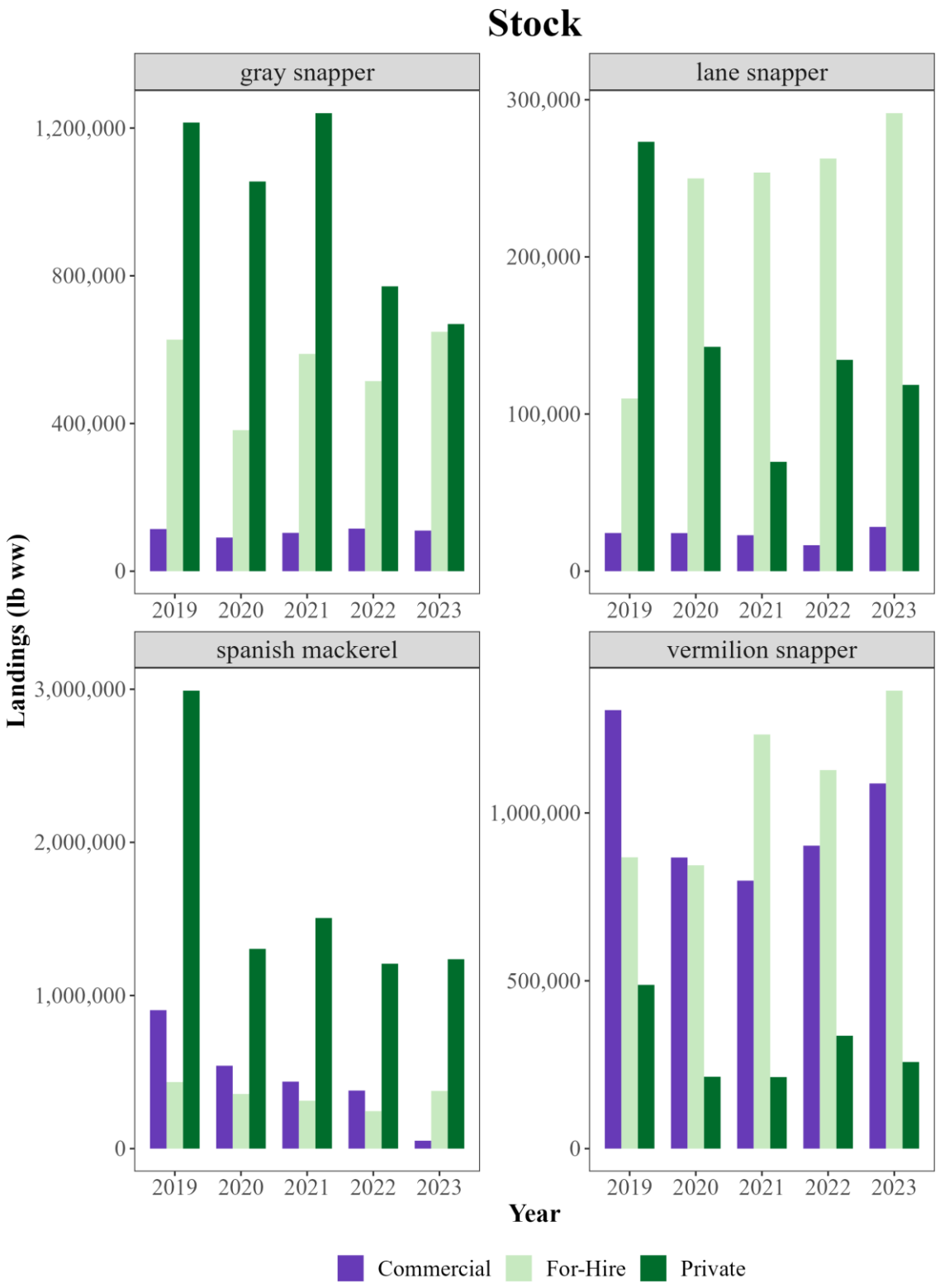


Figure 5. Annual landings by sector / fleet for key species harvested in the Gulf of Mexico and managed as stocks with a single ACL. Recreational estimates incorporate MRIP (CHTS) units.

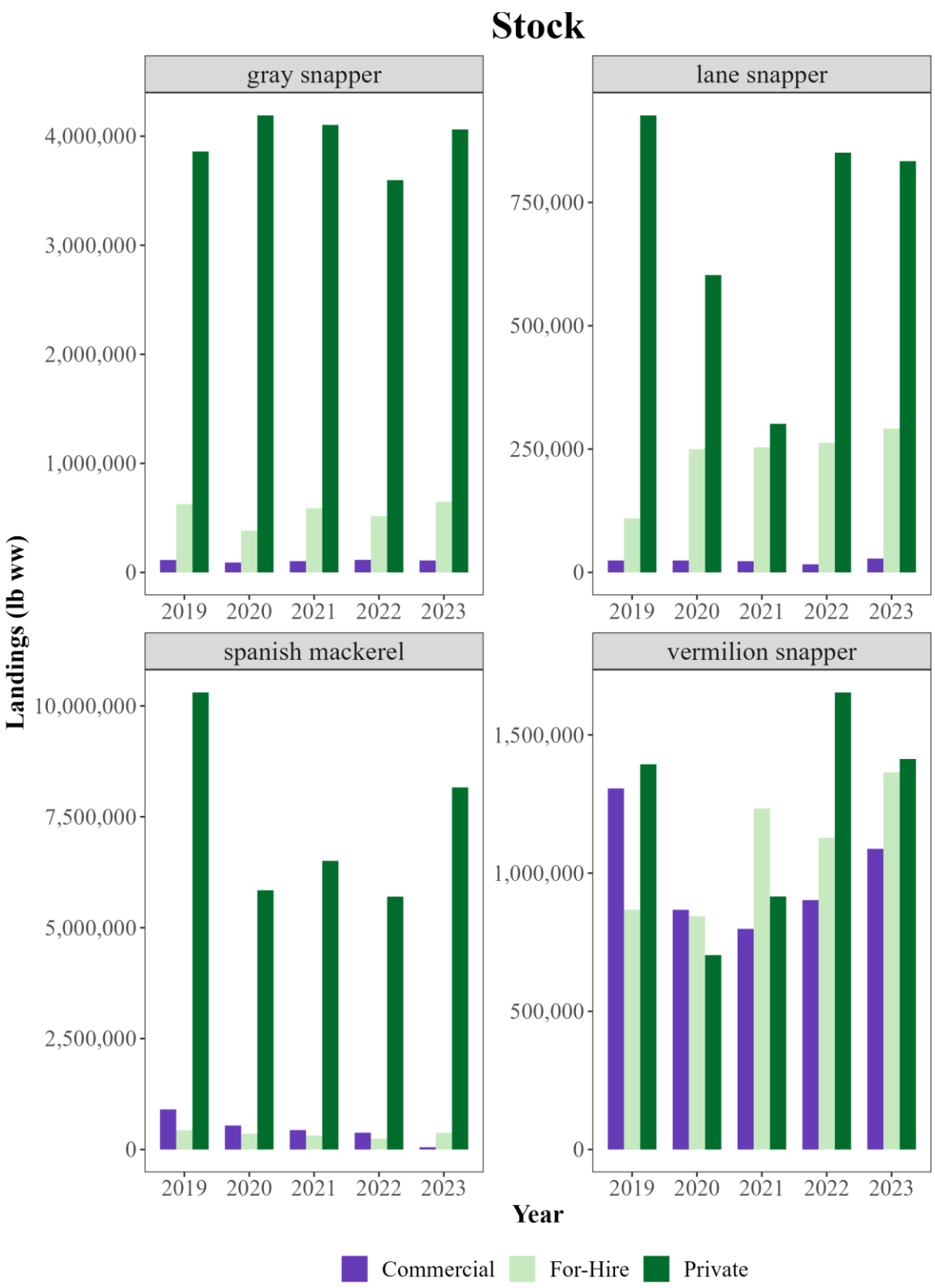


Figure 6. Annual landings by sector / fleet for key species harvested in the Gulf of Mexico and

managed as stocks with a single ACL. Recreational estimates incorporate MRIP (FES) units.

APPENDIX B. HEADBOAT COLLABORATIVE PILOT STUDY

Headboat Collaborative Background

On August 26, 2013, the National Marine Fisheries Service (NMFS) announced approval and issuance of the exempted fishing permit (EFP) for the Headboat Collaborative (HBC) pilot program. The purpose of the HBC pilot program was to evaluate the viability of an allocation-based management strategy for improving the conservation of marine resources and economic stability and performance of the headboat sector. Headboats participating in the pilot program were authorized to harvest red snapper and gag using quota allocation outside the designated recreational fishing seasons (e.g., red snapper begins June 1 and gag begins July 1). The EFP proposed evaluating the efficacy of an allocation-based management system using a limited number of headboats in a 2-year pilot study. Since the EFP was neither a fishery management plan (FMP) nor a plan amendment, and was based on legal authority independent from the FMP, NMFS determined that it was not subject to referendum requirements.

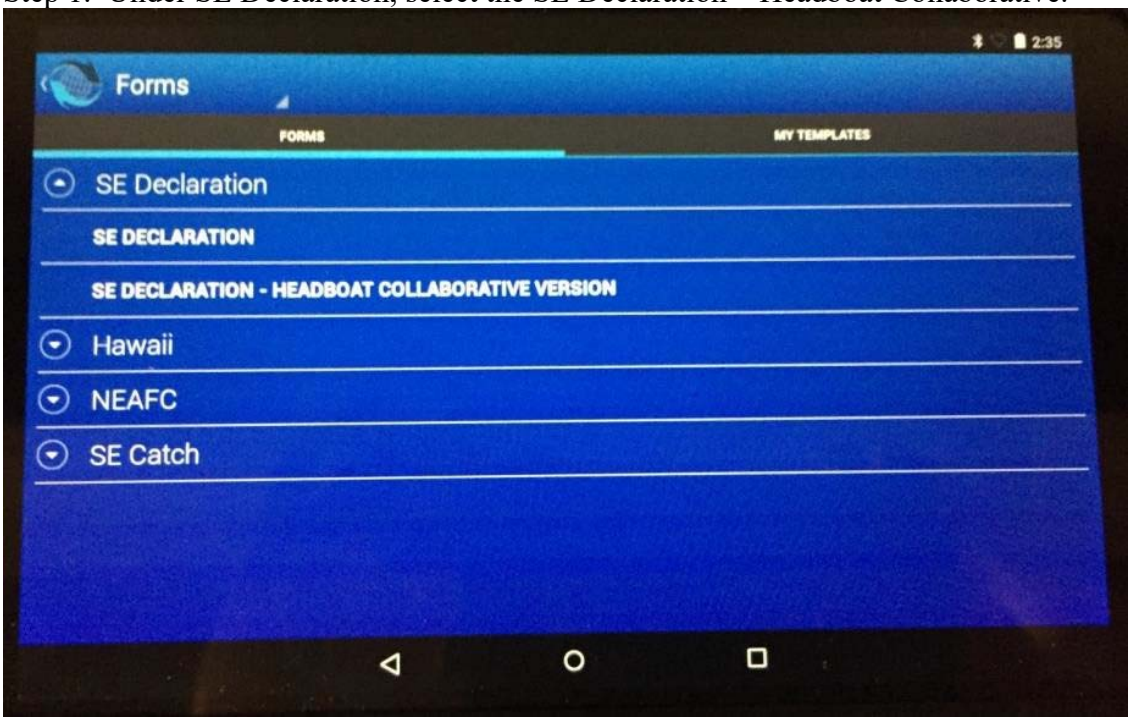
To ensure 100% catch accountability and to enable a transparent monitoring system, HBC vessels adhered to strict protocols to track each fish caught and landed during a trip. Each vessel had an operational vessel monitoring system (VMS) that allowed NMFS to track the vessel while at sea. Vessel owners were responsible for purchasing VMS units ($1,799 per unit), coordinating installation with the vendor, and paying for monthly service costs (~$60 per month). All vessels used the CLS America VMS unit with the Thorium tablet. CLS America built customized software forms so that HBC participants could have a simple and fast way to enter information. HBC participants submitted a VMS declaration (hail-out) through the VMS unit prior to departing on every trip, regardless of whether or not red snapper or gag were the intended target species. Participants submitted a landing notification (hail-in) through the VMS unit at least one hour prior to returning to port regardless of whether or not red snapper or gag were landed. Hail-ins contained the vessel name, landing location, time of landing, and the number of red snapper and gag landed. The hail-in requirement was intended to provide law enforcement agents/officers and port agents the opportunity to be present at the point of landing so they could monitor and enforce the HBC EFP requirements dockside. Landing conditions required that HBC vessels only land at approved landing locations. Approved landing locations ensured sites actually exist and law enforcement officers and port agents could access these sites. Landing locations must be publicly accessible by land and water.

VMS Screenshots of the HBC declaration and landing notification forms

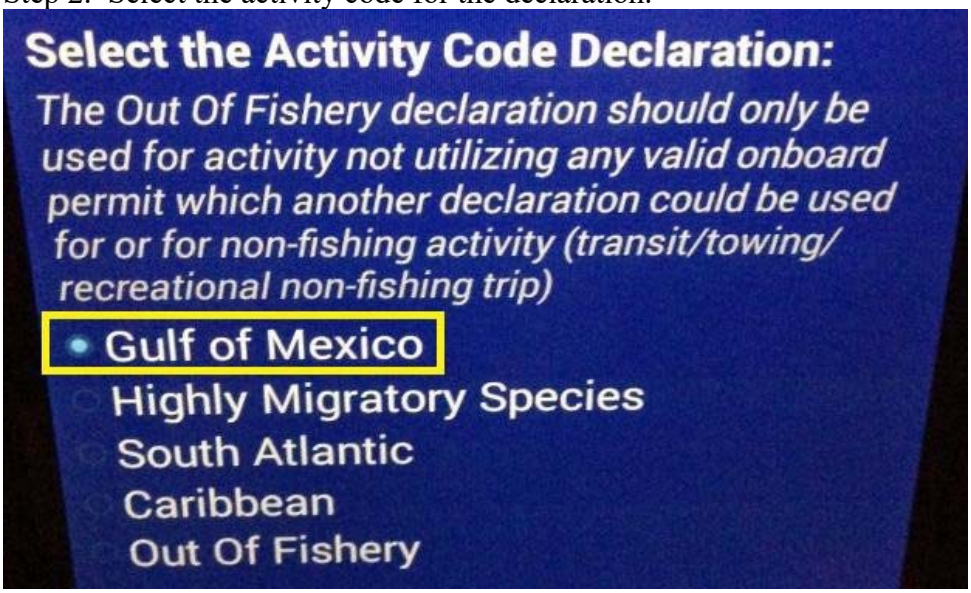
The HBC pilot study used a single VMS vendor, which created the declaration (hail-out) and landing notification (hail-in) forms based on requirements in the EFP and input from NMFS.

Declaration Screens

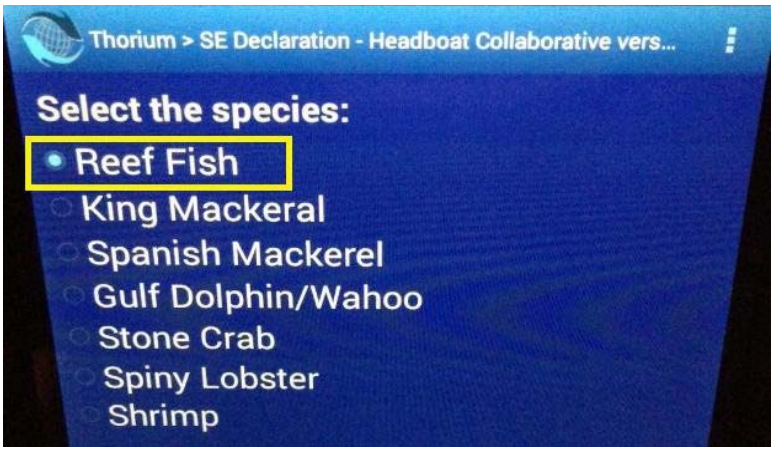
Step 1. Under SE Declaration, select the SE Declaration – Headboat Collaborative.



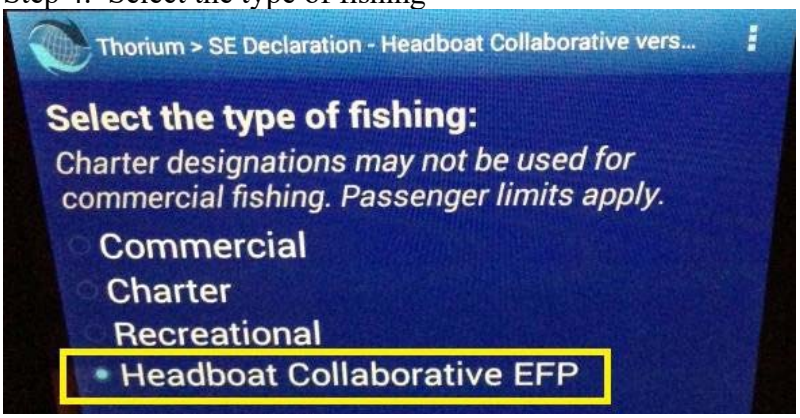
Step 2. Select the activity code for the declaration.



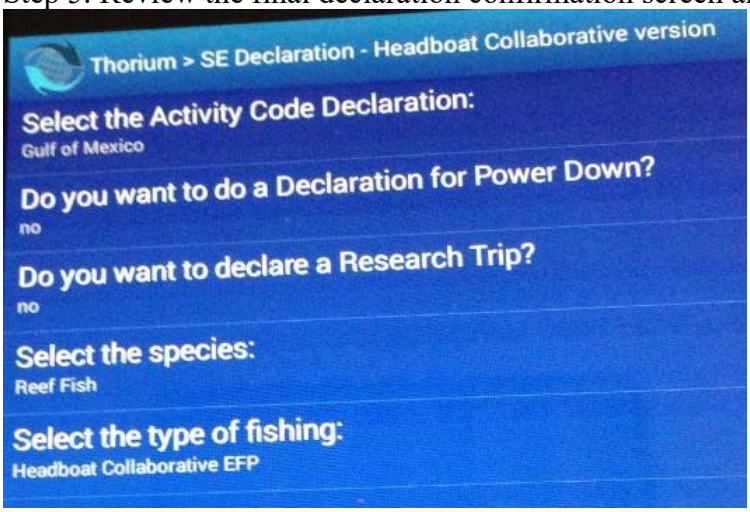
Step 3. Select the species that will be targeted during the trip.



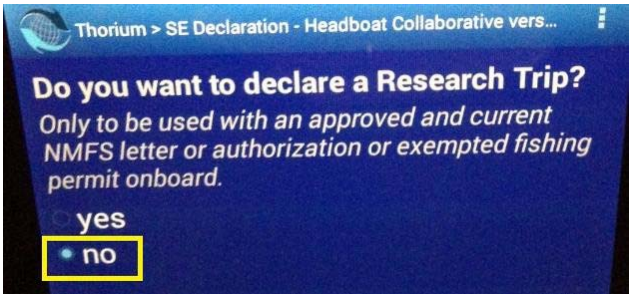
Step 4. Select the type of fishing

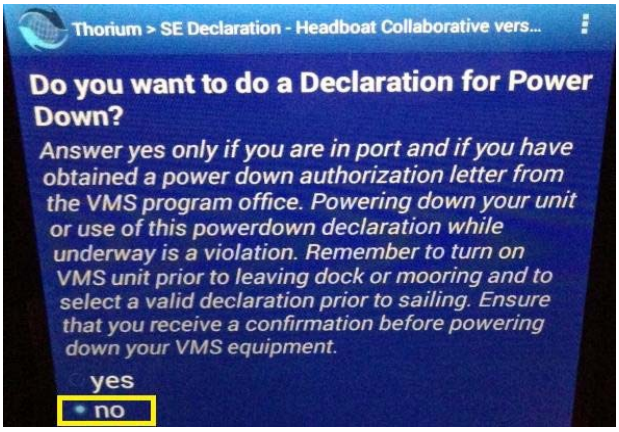


Step 5. Review the final declaration confirmation screen and select Submit.

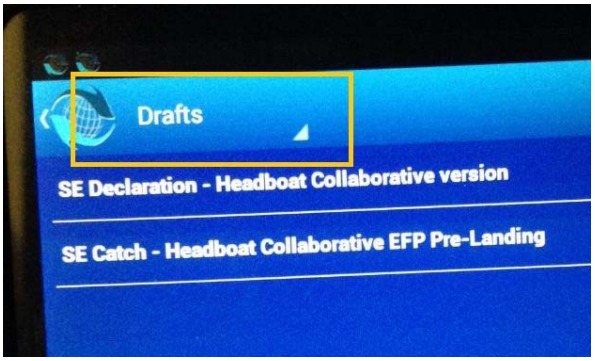


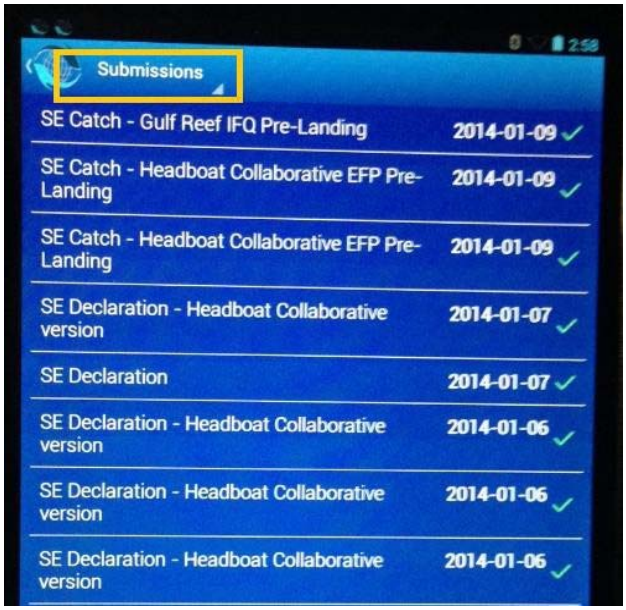
Additional screens: Power Down exemption screen, Research trip declaration, and review submissions.





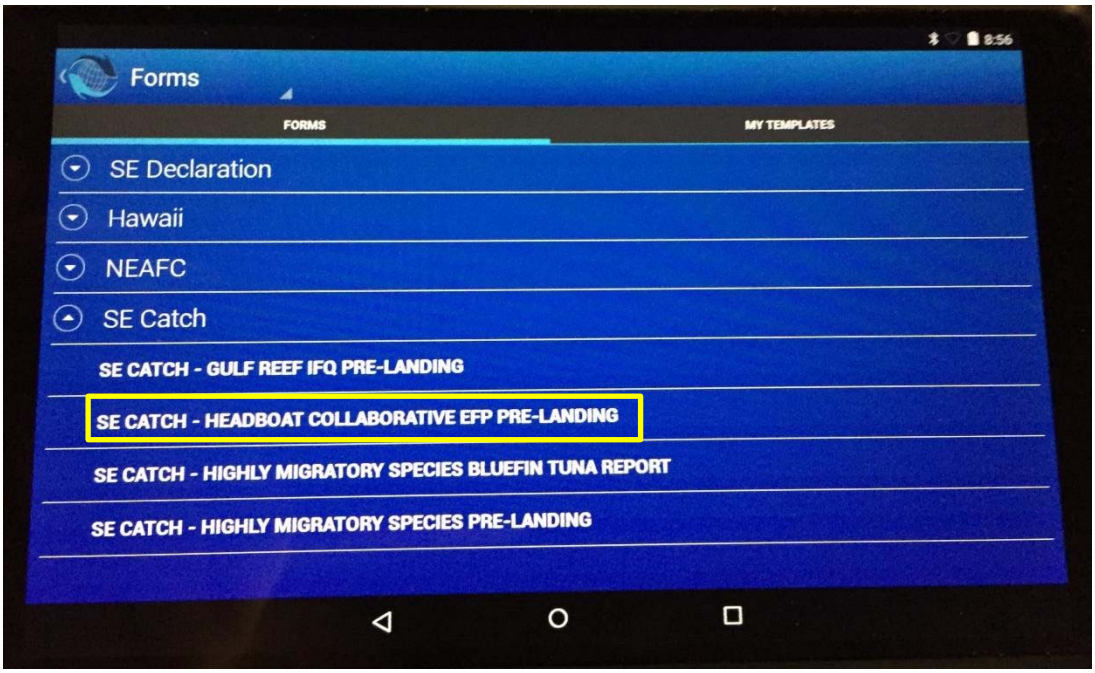
Review Submissions: Users have the ability to view unsent declarations or landing notifications. Under Submissions a green check mark will indicate if the transmission was successfully sent. If a transmission failed, a red X will be displayed.



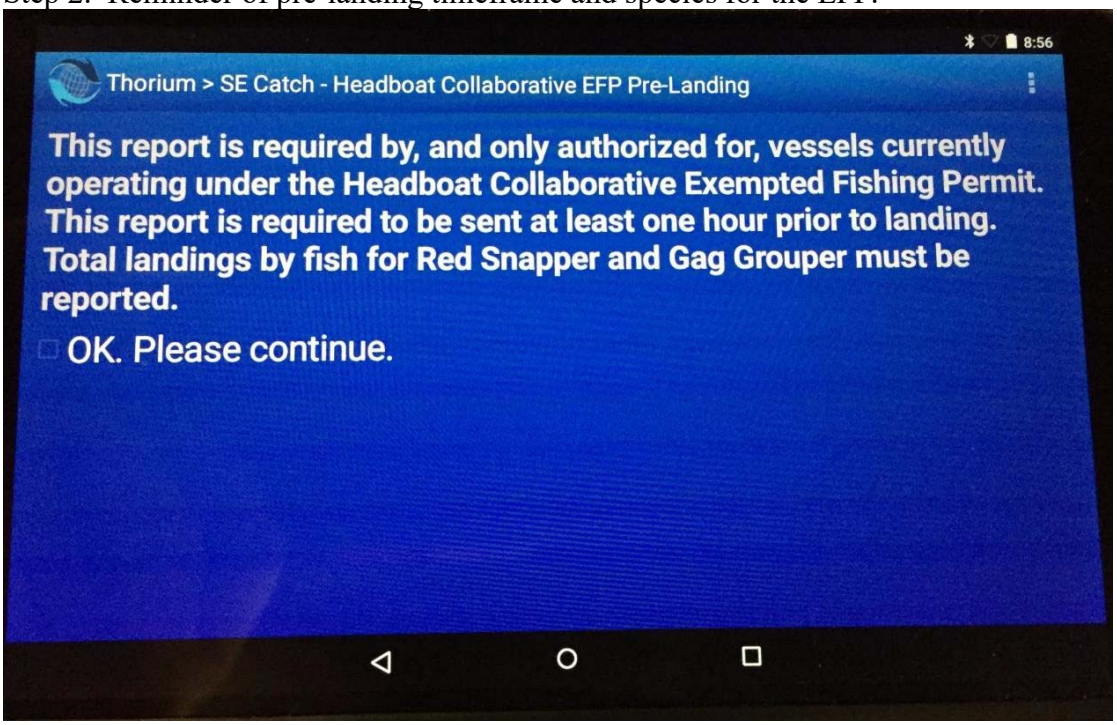


Landing Notifications Screens

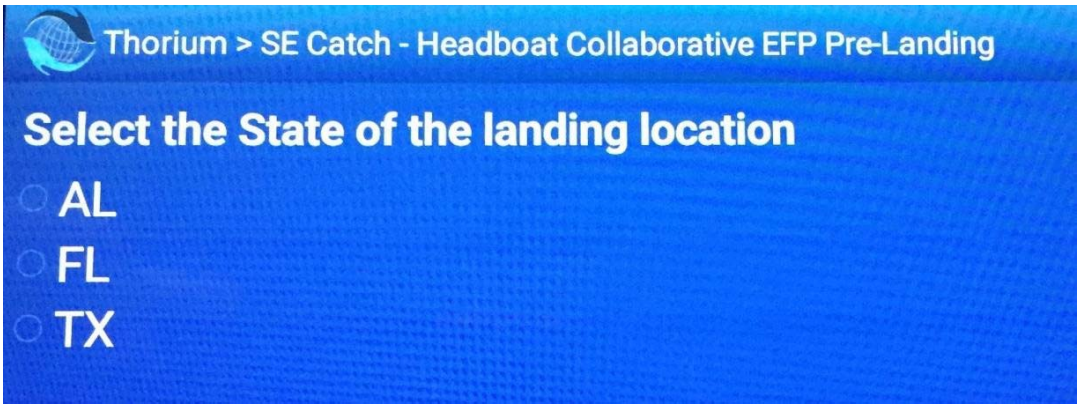
Step 1. Under SE Catch, select SE Catch – Headboat Collaborative EFP Pre-Landing.



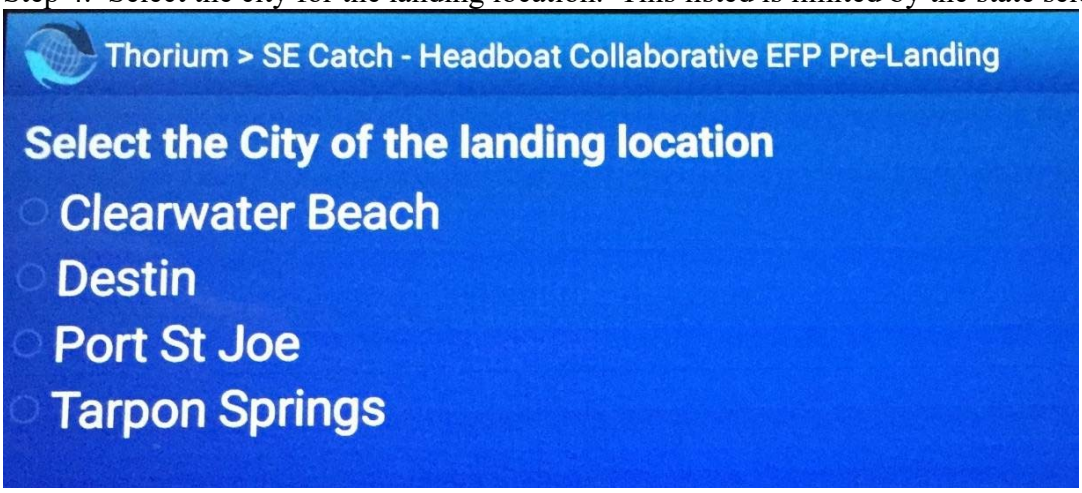
Step 2. Reminder of pre-landing timeframe and species for the EFP.



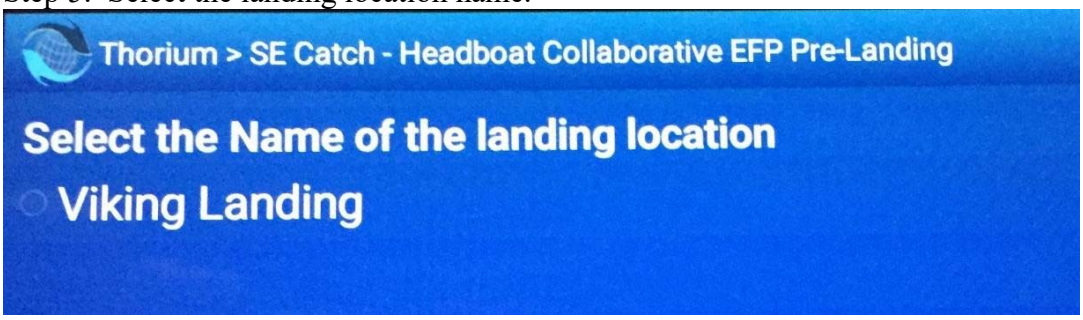
Step 3. Select the state of the landing location.



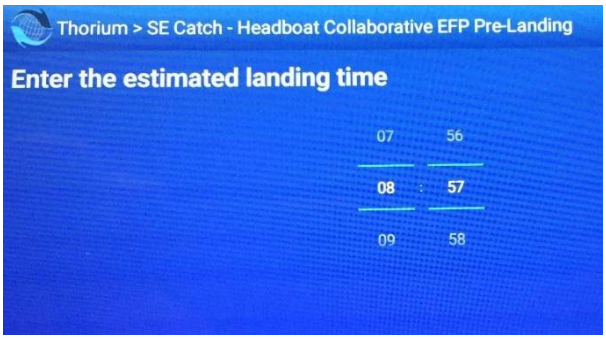
Step 4. Select the city for the landing location. This listed is limited by the state selected.

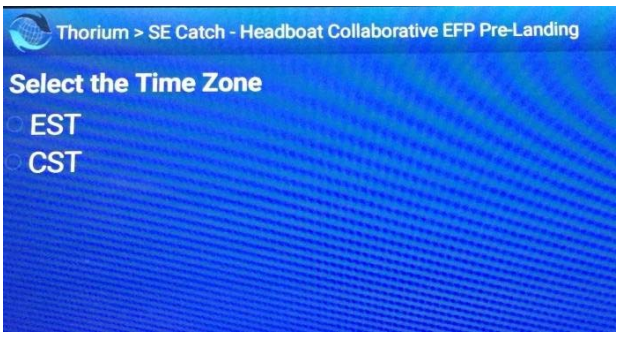


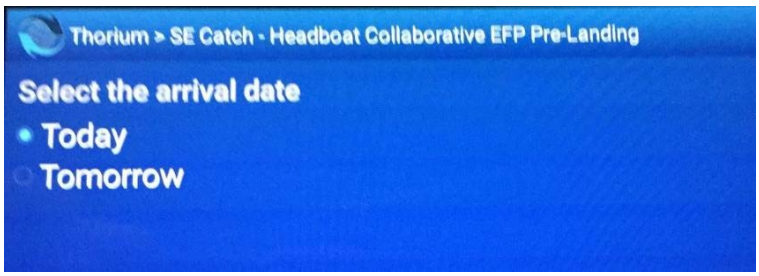
Step 5. Select the landing location name.



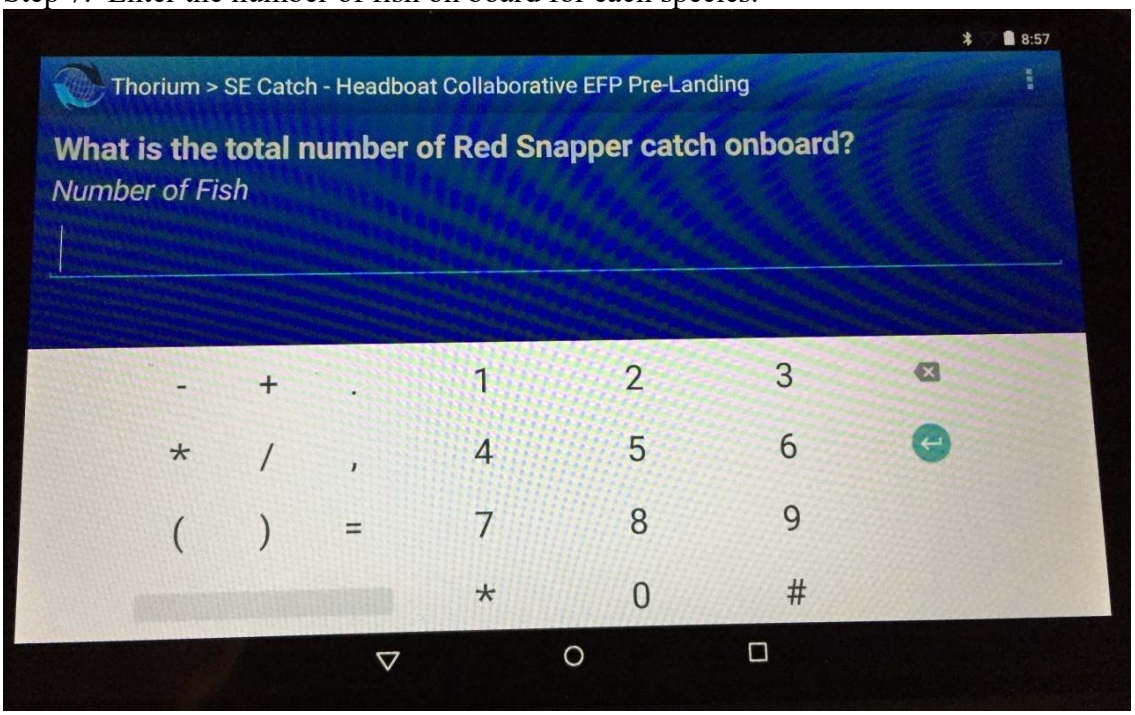
Step 6. Select the estimated landing time, time zone, and day.



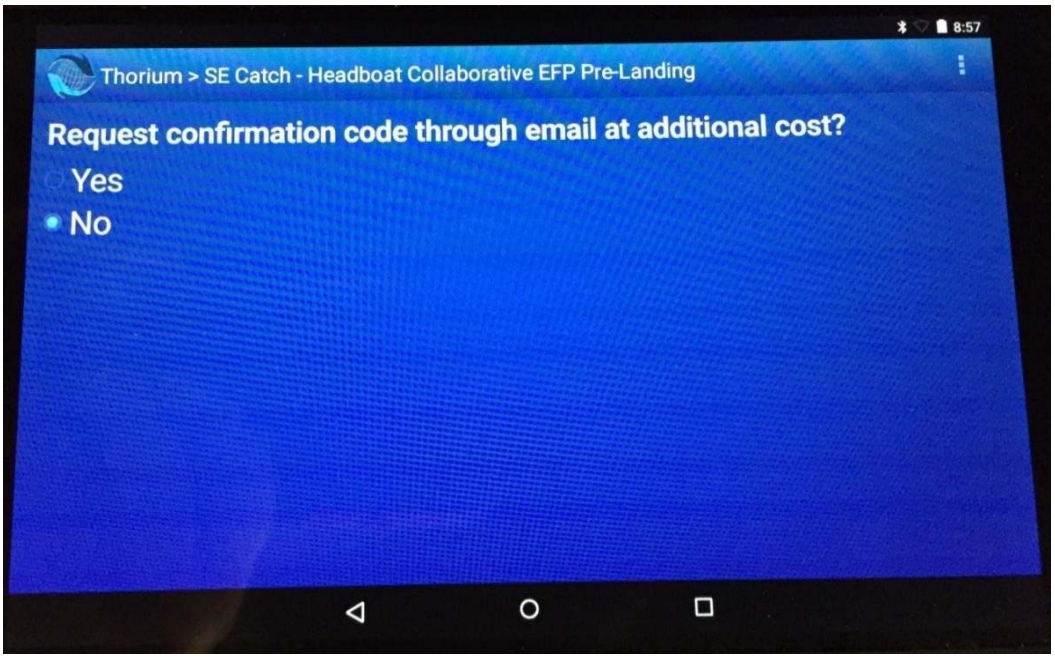




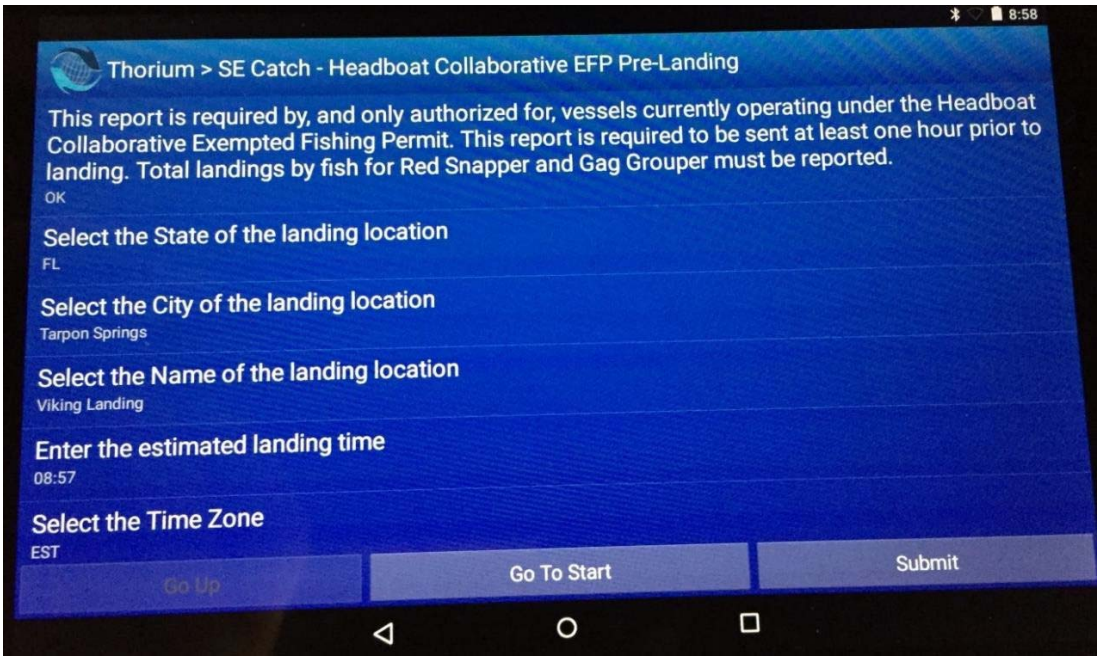
Step 7. Enter the number of fish on board for each species.



Step 8. A pre-confirmation page appears after all the information is submitted.



Step 9. The information collected is summarized and submit after the Submit button has been selected.



APPENDIX C. TECHNICAL SUBCOMMITEE REPORT

11/26/2014

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

November 2014

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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

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 capitilze 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 recomendations to implement electronic logbook reporting for charter vessels in the Gulf of Mexico and South Altantic Fishery Management Councils respecitve 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 Adminstration Fisheries, in coordination with the states, Atlantic Coastal Cooperative Statistics Program, and Fisheris 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 subcommitte 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 reccommendations for the Gulf of Mexico and South Atlantic Fishery Management Councils' review. This guidance has been integrated into the report to the extent practibable 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 accomodate 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 Adminstration (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 practibable 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, implemenation 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 implemention 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 inherant 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 Administracion (NOAA) Fisheries, the Fulf 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 incorportion 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 developement such that in 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 methodolgy 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 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 allow 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.

APPENDIX D. TECHNICAL DATA COMMITTEE SEPTEMBER 2016 MEETING MINIMUM DATA ELEMENTS

Background

The Gulf of Mexico Fishery Management 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 (Gulf) 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 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 highly migratory species (HMS); 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	*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*	Essential	Auto-complete
Vessel Number	USCG vessel id	*Provided by captain, could be prefilled or selected from drop down menu to save time.*	Essential	Auto-complete
Trip Type	Commercial/Headboat /Charter/Private/Other (incl. research trips)	*Helps law enforcement identify trip and associated regulations that apply*	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.	*Critical to maintain data integrity and to ensure trip reports are completed in timely manner.*	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	*Critical for dockside validation; will need call service for weekends*	Essential	Auto-complete with custom defaults
Landing Date	Date for vessel landing, transmitted to law enforcement	*Critical for dockside validation; will need call service for weekends*	Essential	Auto-complete with custom defaults
Landing Time	Time for vessel landing, transmitted to law enforcement	*Estimate provided at hail-out, Actual potentially collected 30 min in advance of landing (1 hr: HBS Collaborative, 3 hr: Commercial - 1 hr window)*	Essential	Provide at hail-out
Primary Method of Fishing	Primary Method {troll, drift, bottom, spear} used on the trip	*Critical for accurate CPUE computations; gear impacts selectivity, discard rates*	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)	*Critical metric for CPUE computations ([anglers+fishing crew] X fishing hours = angler-hours)*	Essential	Provide at hail-out
Number of Crew	Number of crew on the boat	*Useful for economic analysis, bag limit analysis, etc.*	Essential, included in current SRHS	Auto-complete with custom defaults
Hours Fished	Hours spent fishing (avg. per angler)	*Effort metric for CPUE computations used for stock assessment indices of abundance*	Essential	Auto-complete with custom defaults
Primary Target Species	Primary species targeted on trip	*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.*	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	*Critical for ACL monitoring*	Essential	At-sea report
Retained Catch	Number of each species caught on trip	*Critical for ACL monitoring*	Essential	At-sea report
Released Catch	Number of each species released on trip	*Critical for stock assessment*	Essential	At-sea report
Disposition	Status of discarded species	*Useful for stock assessment*	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	*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*	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)	*Critical to evaluation of barotrauma and associated release mortality*	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.

Trip Duration	Duration of Trip (hours)	*Easily computed from Hail-out and Hail-in, but less useful than Hours Fished for CPUE computations*	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	Auto-complete; Based on hail-out/hail-in times

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	*Some vessels may target multiple species, especially vessels making multi-day trips.*	Recommended	Auto-complete with custom defaults
Min Depth Fished	Self-reported Min depth fished in feet	*Critical to evaluation of barotrauma and associated release mortality*	Recommended	At-sea report
Max Depth Fished	Self-reported Max depth fished in feet	*Critical to evaluation of barotrauma and associated release mortality*	Recommended	At-sea report
Vessel Length	Length of vessel in feet	*Owner could configure account with information for all vessels, NMFS can link and validate.*	Recommended (auto-populated)	Auto-complete
Fuel Quantity	Estimated gallons of fuel used on trip	*Useful to assess economics of the for-hire sector*	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	*Useful to assess economics of the for-hire sector*	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)	*Used to compute total trip fee (website posted headboat cost/person X passengers), essential for bag limit analysis*	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	*Critical for accurate CPUE computations; gear impacts selectivity, discard rates*	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	*Useful for CPUE, difficult for large boats with many anglers*	Not recommended
Pay Type	Per person, per group, or no charge (mixed pay types defaults to per person)	*Useful to assess economics of the for-hire sector; and delineation of for-hire sub-sectors*	Not recommended
Hook Manufacturer	Manufacturer of hooks used to catch each species (if hook gear reported)	*Useful for CPUE computations; hook size impacts selectivity - hook sizes vary by manufacturer*	Not recommended
Hook Number	Number of hooks used	*Useful to convert angler-hours to hook-hours for CPUE computations*	Not recommended
Hook Size	Size of hook used	*Useful for CPUE computations; hook size impacts selectivity - hook sizes vary by manufacturer*	Not recommended
# of Crew Fishing	Number of crew that were fishing on the boat	*Critical metric for CPUE computations ([anglers+fishing crew] X fishing hours = angler-hours)*	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.