

FRAMEWORK ADJUSTMENT 2
TO THE
TILEFISH
FISHERY MANAGEMENT PLAN

**(Includes Environmental Assessment, Regulatory Impact Review,
and Initial Regulatory Flexibility Analysis)**

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in cooperation with

the National Marine Fisheries Service

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1.0 EXECUTIVE SUMMARY

Introduction

Under section 302(h) of the Magnuson-Stevens Act (MSA), as amended by the Sustainable Fisheries Act (SFA), Regional Fishery Management Councils (Councils) prepare and submit Fishery Management Plans (FMPs) for fisheries under their authority that require conservation and management. The golden tilefish (*Lopholatilus chamaeleonticeps*) fishery is managed under the Tilefish FMP that was prepared cooperatively by the Council and the National Marine Fisheries Service (NMFS).

The FMP for this species became effective November 1, 2001 (66 FR 49136; September 26, 2001) and included management and administrative measures to ensure effective management of the golden tilefish resource. The FMP established total allowable landings (TAL) as the primary control on fishing mortality. The FMP also implemented a limited entry program and a tiered commercial quota allocation of the TAL. The FMP added a framework adjustment procedure that allows the Council to add or modify management measures through a streamlined public review process. Tilefish Amendment 1 included a new structure for managing the commercial golden tilefish fishery using an individual fishing quota (IFQ) system. The new golden tilefish IFQ program became effective on November 1, 2009 (74 FR 42580; August 24, 2009). Amendment 1 also modified essential fish habitat (EFH) and habitat areas of particular concern (HAPC) designations, implemented gear restricted areas, reporting and permitting requirements, and expanded the list of management measures to be added or modified via the framework adjustment process to facilitate the management of the fishery among others. Amendment 3 (omnibus amendment; effective October 31, 2011) brought the Tilefish FMP into compliance with the annual catch limit (ACL) and accountability measure (AM) requirements of the MSA. This amendment established measures that address the MSA-required elements to utilize scientific advice, establish catch and landings limits, and maintain accountability in managing fisheries (76 FR 60605; September 29, 2011). In addition, Amendment 3 established catch and landings limits framework that allow for modifications (via framework action) for the purpose of modifying or refining catch and landings limits and their associated accountability measures in order to manage the resource in a flexible and timely manner.

This framework considers alternatives that can be modified via the framework adjustment process:

- 1) modifying the golden tilefish catch and landings limits flow chart,
- 2) eliminating the interactive voice response (IVR) requirements,
- 3) adding gear requirements in the recreational fishery, and
- 4) adding landings ratios/qualifiers in the incidental fishery.

In addition, this framework also considers two additional administrative issues that were raised by the Greater Atlantic Regional Fisheries Office (GARFO) of NOAA:

- 1) prohibiting vessels from fishing more than one IFQ allocation at a time, and
- 2) require golden tilefish to be landed with the head attached.

The Council instructed staff to evaluate these two administrative issues raised by GARFO as they would enhance the management and monitoring of the golden tilefish IFQ system. Below is a summary of the issues addressed in this Framework followed by sections on summary of impacts, cumulative impacts, and conclusions.

Summary of Issues Presented in this Framework

Golden Tilefish Catch and Landings Limits Flow Chart

This framework considers modifications to the golden tilefish catch and landings limits flow chart. The current golden tilefish catch and landings limits flow chart stipulates that discards are to be deducted from the overall Annual Catch Target (ACT) in order to derive the TAL. However, commercial discards are not generated by the IFQ fishery due to the fact that all fish caught (given the standard hook size/type use by the industry) are marketable. Furthermore, the FMP prohibits discarding when fishing under an IFQ allocation. This action would modify the structure of the golden tilefish catch and landings limits flow chart to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them.

Catch and Landings Limits Flow Chart Alternatives – Alternative 1 is the no action/*status quo* alternative. Alternative 1 would not change the existing golden tilefish system for deriving catch and landings limits. Alternative 2 (preferred) would modify the structure of the golden tilefish catch and landings limits flow chart to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. Alternative 2 is purely an administrative issue in nature.¹

IVR Reporting Requirements

The IVR requirements were first implemented when the FMP was initiated in 2001 as a way to track quota landings in the fishery in a timely fashion. However, with the implementation of electronic dealer reporting in 2004 and improved Vessel Trip Report (VTR) reporting processing by the agency, the information provided by fishermen using the IVR system has become redundant. Furthermore, IVR landings have not been reconciled since 2008. Currently, GARFO uses landings reported in the dealer system as the primary tool to track landings in the fishery. This framework would consider eliminating the IVR reporting requirements.

IVR Reporting Requirements Alternatives - Alternative 1 is the no action/*status quo* alternative. Alternative 1 would not change the existing IVR reporting requirements. Alternative 2 (preferred) would eliminate the IVR reporting requirements in the golden tilefish fishery. Alternative 2 is purely an administrative issue in nature.

¹ For a detailed description of these and all other alternatives presented below, see section 5.0.

Prohibit Vessels From Fishing More Than one Allocation at a Time

Golden tilefish IFQ holders designate vessels they own or lease that are authorized to land their IFQ. Under our current monitoring system, a vessel is authorized to land for a specific time period not for a specific number of pounds. During the period a vessel is authorized to harvest, all of its tilefish landings are counted against the allocation. The system is not designed to allow a trip to be split between multiple IFQ allocation numbers. A vessel can change which allocation it harvests for, but they must be on distinct dates, i.e., they cannot overlap in time.² Prohibiting this practice would still leave the industry with alternatives for how to harvest remaining IFQ. One IFQ holder could lease pounds to another or the vessel owner/operator could fish under his/her own allocation number and lease in pounds from multiple allocation holders. This framework would consider prohibiting vessels from fishing more than one allocation at a time.

Fishing Allocation Alternatives - Alternative 1 is the no action/*status quo* alternative. Alternative 1 would not make an administrative change to the current regulations and prohibit vessels from fishing more than one golden tilefish IFQ allocation at a time. Alternative 2 (preferred) would prohibit vessels from fishing more than one golden tilefish IFQ allocation at a time. However, this prohibition would not affect the leasing process for golden tilefish IFQs.³ Alternative 2 is purely an administrative issue in nature.

Require Golden Tilefish be Landed with the Head Attached

In spring 2014, the Analysis and Program Support Division (APSD) and the Northeast Fisheries Science Center (NEFSC) removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off. This action is needed to close the loop on the change that has already been made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. This framework would consider requiring that golden tilefish be landed with the head attached in the commercial fishery.

Golden Tilefish Product Form Landings Requirements Alternatives - Alternative 1 is the no action/*status quo* alternative. Under Alternative 1, vessels would not be required to land golden tilefish with the head attached. Alternative 2 (preferred) would prohibit vessels from landing golden tilefish with the “head-off.” Alternative 2 is purely an administrative issue in nature.

² This potential development was not foreseen when the regulations for the IFQ program were drafted, and it has not been an issue until recently. The practice has arisen from IFQ holders trying to find new opportunities to use the last of their quota. The changes that would be needed to the reporting systems to allow this practice would increase the reporting burden on vessels and dealers, with a corresponding increase in recoverable costs. See footnote 12 on page 23 for additional discussion.

³ It is important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations at any time during the fishing year by written request to NMFS (50 CFR §648.294(b)(4)).

Recreational Fishery Gear Requirements

Under the current golden tilefish regulations, there is no quota allocation to the recreational fishery. When the Tilefish FMP was developed in 1999, the recreational landings were considered insignificant and available data suggested that there was not a substantial directed recreational fishery for golden tilefish (MAFMC 2001). Therefore, the Tilefish FMP did not include management measures for the recreational fishery. Furthermore, the FMP states that “although tilefish were a popular recreational fish during the early to mid-1970s, due to fluctuations in the availability of fish and changes in angling preference, the number of recreational fishing trips targeting tilefish has precipitously declined.” The Tilefish FMP implemented a 10-year stock rebuilding schedule with 50% probability of achieving the rebuilt B_{MSY} stock level and the commercial quota was divided into the commercial full-time, part-time, and incidental categories.

During the development of Amendment 1 (MAFMC 2009), Council members indicated that they had seen an increase in recreational golden tilefish landings. In addition, it was thought that much of the catch by the recreational sector was not captured through federal reporting requirements. As a result, the Amendment established a party/charter tilefish vessel permit and party/charter vessel reporting requirements and a possession limit (eight fish per angler per trip). At the December 2014 Council meeting, it was discussed that industry members have reported that some anglers are fishing for golden tilefish using mini-longlines with up to 25 hooks on the line. Another purpose of this action is to consider implementing recreational gear requirements to exclude the use of non-recreational gear types in the fishery (e.g., mini-longlines).

Recreational Fishery Gear Alternatives - Alternative 1 is the no action/*status quo* alternative. Alternative 1 would not make a modification to the current gear requirements for the fishery. Alternative 2 would prohibit the use of mini-longlines in the golden tilefish recreational fishery. Alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod.

Landings Ratios/Qualifiers for the Incidental Fishery

When the FMP was implemented in 2001, an incidental category was developed to accommodate landings from “incidental” vessels (mostly otter trawls and a few gillnet vessels; MAFMC 2001) that would encounter golden tilefish while fishing for other species. When the IFQ was implemented the different permit categories were eliminated and replaced with a single commercial vessel permit. Commercial vessels are restricted to the incidental possession limit unless fishing under an IFQ allocation. The incidental fishery is allocated 5% of the quota and trip limits are used to achieve the incidental target quota. Current regulations stipulate that incidental landings cannot exceed 500 pounds live weight⁴ of golden tilefish per trip. Industry members have indicated that non-IFQ tilefish vessels are targeting golden tilefish and this does not qualify as incidental landings. They have argued that this goes against the intent of the incidental fishery as presented under the original FMP.

⁴ 458 pounds gutted weight.

Landings Ratios/Qualifiers for the Incidental Fishery Alternatives - Alternative 1 is the no action/*status quo* alternative. Alternative 1 would not add landings ratios/qualifiers for the incidental fishery. Alternative 2 would require that vessels fishing under the golden tilefish incidental fishery regulations do not possess golden tilefish at the time of landings in excess of 25%, by weight, of the total of all combined species landed. Alternative 3 (preferred) would require vessels fishing under the golden tilefish incidental fishery regulations do not possess golden tilefish at the time of landings in excess of 50%, by weight, of the total of all combined species landed.

Summary of Impacts

The Council analyzed the biological impacts, habitat (EFH) impacts, impacts on Endangered Species Act (ESA)-listed and Marine Mammal Protection Act (MMPA) protected species, and the social and economic impacts of the Council-considered alternatives. A detailed description and discussion of the expected environmental impacts resulting from each of the alternatives, as well as any cumulative impacts, considered in this document are provided in section 7.0.

The following section presents a qualitative summary of expected impacts (Box ES-1). For the purposes of impact evaluation, the no action (*status quo*) alternatives are evaluated in terms of the baseline conditions, while all other alternatives are compared to the no action/*status quo* alternatives and each other.

Golden Tilefish Catch and Landings Limits Flow Chart – Under non-preferred alternative 1 (no action/*status quo*), the current system (flow chart) used to derive catch and landings limits would continue to be used. This alternative is not expected to impact the biological, habitat, ESA-listed and MMPA protected resources, and socioeconomic VECs, when evaluated in terms of the baseline conditions. However, this alternative would not allow for golden tilefish discards to be deducted from the specific fishing sector generating them (e.g., incidental fishery, IFQ fishery). Alternative 2 (Council-preferred action) would make a minor modification to the catch and landings flow chart for golden tilefish. This minor modification would allow for golden tilefish discards to be deducted from the specific fishing sector generating them, better reflecting the fisheries accounting. However, as it is an administrative action, it is not expected to result in biological, habitat, ESA-listed and MMPA protected resources, and socioeconomic impacts, compared to the no action alternative.

IVR Reporting Requirements - Overall, non-preferred alternative 1 (no action/*status quo*) for IVR reporting requirements is expected to result in neutral biological, habitat, ESA-listed and MMPA protected resources, and socioeconomic impacts, evaluated in terms of the baseline conditions. However, this alternative would continue to require that fishermen report IFQ landings via the IVR system; which is no longer used to monitor IFQ landings. Alternative 2 (Council-preferred action) would remove the requirement that golden tilefish IFQ landings be reported via the IVR system. Since the IVR system is not used in the

monitoring of the fishery,⁵ alternative 2 is expected to result in neutral biological, habitat, and ESA-listed and MMPA protected resources, compared to the no action alternative. However, it is possible that there would be some slight positive socioeconomic impacts as compared to no action since as fishermen would no longer be required to report golden tilefish IFQ landings via the IVR system (Thus reducing burden reporting requirements).

Prohibit Vessels From Fishing More Than one Allocation at a Time – Alternative 1 (no action/status quo) for fishing more than one allocation at a time is not expected to have biological, habitat, ESA-listed and MMPA-protected resources, or socioeconomic impacts, evaluated in terms of the baseline conditions. Alternative 2 (Council-preferred action) would prohibit vessels from fishing more than one allocation at a time. This alternative is purely administrative in nature and not expected to result in impacts to any of the VECs, compared to the no action alternative. Alternative 2 is intended to address a more straightforward means to allocate golden tilefish IFQ landings to specific IFQ allocation numbers. It is not expected that alternative 2 would affect fishing practices and operations or affect the IFQ leasing system.

Require Golden Tilefish be Landed with the Head Attached - Alternatives 1 (no action/status quo) for product form landings is expected to result in neutral impact to the biological, habitat, ESA-listed and MMPA-protected resources, and socioeconomic VECs (evaluated in terms of the baseline conditions) as it is not expected to change the behavior of the fishery and the measure does not impact stock health. Alternative 2 (Council-preferred action) would prohibit vessels from landing golden tilefish with the “head-off” and is expected to result in neutral impact to the biological, habitat, ESA-listed and MMPA-protected resources, and socioeconomic VECs, compared to the no action alternative. Alternative 2 is purely administrative in nature. This alternative would close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement.

Recreational Fishery Gear Requirements - Overall, non-preferred alternative 1 (no action/status quo) for recreational gear requirements is expected to result in neutral to slightly negative impacts to the biological VEC as recreational discard mortality could increase if current gear use continues (e.g., mini-longlines). Alternative 1 is also expected to result in neutral to slightly negative impacts to habitat VEC due to continued existing gear contacts with bottom habitat. Alternative 1 would likely result in slight negative impact to the ESA-listed and MMPA protected resources (similar to past years, compared to current resource conditions) and neutral socioeconomic impacts, evaluated in terms of the baseline conditions. Alternative 2 and preferred alternative 3 are expected to likely result in neutral to slight positive biological and habitat impacts, compared to the no action alternative because of the potential reduction in recreational discard mortality and the potential reduction in the amount of time fishing gear (e.g., mini-longlines) contacts/impacts bottom habitat and EFH. Alternatives 2 and 3 are also expected to result in slight negative ESA-listed and MMPA protected resources (similar to past years,

⁵ A description of the Golden Tilefish IFQ monitoring process is presented in section 5.2.

compared to current resource conditions) and neutral socioeconomic impacts, compared to the no action alternative.

Landings Ratios/Qualifiers for the Incidental Fishery - Overall, non-preferred alternative 1 (no action/*status quo*) for incidental fishery landings requirements are expected to result in neutral biological, habitat, and socioeconomic impacts, evaluated in terms of the baseline conditions. Alternative 1 would likely result in slight negative impact to the ESA-listed and MMPA protected resources, similar to past years, compared to current resource conditions. Alternative 2 and preferred alternative 3 are expected to result neutral biological impacts; likely neutral to slight positive habitat impacts because of potential reduction in the amount of time fishing gear (e.g., longlines) contacts/impacts bottom habitat and EFH; slightly negative ESA-listed and MMPA protected resources (similar to past years, compared to current resource conditions); and likely neutral to slight negative socioeconomic impacts because of potential revenue losses in golden tilefish incidental trips, compared to the no action alternative.

Cumulative Impacts

For golden tilefish, the Council analyzed the biological, habitat (EFH), ESA-listed and MMPA protected species, and social and economic impacts of the Council-considered alternatives. When the proposed action is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative; therefore, there are no significant cumulative effects on the human environment associated with the action proposed in this document (see section 7.5).

Conclusions

A detailed description and discussion of the expected environmental impacts resulting from each of the alternatives, as well as any cumulative impacts, considered in this amendment document are provided in section 7.0. None of the preferred action alternatives are associated with significant impacts to the biological, social or economic, or physical environment individually or in conjunction with other actions under National Environmental Protection Act (NEPA); therefore, a “Finding of No Significant Impact” is warranted.

Box ES-1. Overall qualitative summary of the expected impacts of various golden tilefish alternatives considered in this document.

Issue	Alternatives	Biological	Habitat	ESA-Listed and MMPA Protected Resources	Socioeconomic
<i>Catch and Landings Limits Flow Chart</i>	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0)	Neutral (0)	Neutral (0)	Neutral (0)
	Alternative 2 (Preferred: Modification to the golden tilefish catch and landings limits flow chart)	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature
<i>IVR Reporting Requirements</i>	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0)	Neutral (0)	Neutral (0)	Neutral (0)
	Alternative 2 (Preferred: Eliminate the IVR reporting requirements)	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Likely Neutral to Slight Positive (+) because IFQ fishermen would not have to report via IVR system; which is not use by GARFO any longer to track landings
<i>Number of Allowable Fishing Allocations</i>	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0)	Neutral (0)	Neutral (0)	Neutral (0)
	Alternative 2 (Preferred: Prohibit vessels from fishing more than one allocation at a time)	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); because administrative in nature. This alternative would not affect fishing practices and operations or affect the IFQ leasing system
<i>Golden Tilefish Product Form Landings Requirements</i>	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0)	Neutral (0)	Neutral (0)	Neutral (0)
	Alternative 2 (Preferred: Prohibit vessels from landing golden tilefish with the “head-off”)	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature	Neutral (0); administrative in nature

Box ES-1 (Continued). Overall qualitative summary of the expected impacts of various golden tilefish alternatives considered in this document.

Issue	Alternatives	Biological	Habitat	ESA-Listed and MMPA Protected Resources	Socioeconomic
Recreational Fishery Gear Requirements	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0) to slightly negative (sl -) as current discards would continue to increase in the long term	Neutral (0) to slightly negative (sl -) as continued impact to habitat would occur under existing gear contacts	sl -	Neutral (0)
	Alternative 2 (Prohibit the use of mini-longlines in the golden tilefish recreational fishery)	Likely Neutral (0) to Slight Positive (sl+) because of potential reduction in discard mortality	Likely Neutral (0) to Slight Positive (sl+) because of potential reduction in the amount of time fishing gear contacts/impacts bottom habitat and EFH	sl -	Neutral (0)
	Alternative 3 (Preferred: Restrict the recreational golden tilefish fishery to rod and reel fishery only – with a five hook maximum limit per rod)	Likely Neutral (0) to Slight Positive (sl+) because of potential reduction in discard mortality	Likely Neutral (0) to Slight Positive (sl+) because of potential reduction in the amount of time fishing gear (e.g., mini-longline) contacts/impacts bottom habitat and EFH	sl -	Neutral (0)

Box ES-1 (Continued). Overall qualitative summary of the expected impacts of various golden tilefish alternatives considered in this document.

Issue	Alternatives	Biological	Habitat	ESA-Listed and MMPA Protected Resources	Socioeconomic
<i>Landings Ratios / Qualifiers for the Incidental Fishery</i>	Alternative 1 (No Action/ <i>Status Quo</i>)	Neutral (0)	Neutral (0)	sl -	Neutral (0)
	Alternative 2 (would require that incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed)	Neutral (0)	Neutral (0)	sl -	Neutral (0) to slightly negative (sl -)
	Alternative 3 (Preferred: would require that incidental golden tilefish landings cannot exceed 50% of the total weight of all combined species landed)	Neutral (0)	Neutral (0)	sl -	Neutral (0) to slightly negative (sl -)

2.0 LIST OF ACRONYMS

ABC	Annual Biological Catch
ACL	Annual Catch Limit
ACT	Annual Catch Target
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
ASAP	Age Structured Assessment Program (A Statistical Catch at Age Model)
B _{MSY}	Biomass at Maximum Sustainable Yield
CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
DOC	Department of Commerce
DPS	Distinct Population Segment
CS	Consumer Surplus
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FR	Federal Register
FMP	Fishery Management Plan
F _{MSY}	Fishing Mortality Rate at Maximum Sustainable Yield
FONSI	Finding of No Significant Impact
FY	Fishing Year
GAR	Greater Atlantic Region
GARFO	Greater Atlantic Regional Fisheries Office (formerly NERO/Northeast Regional Office)
IFQ	Individual Fishing Quota
IRFA	Initial Regulatory Flexibility Analysis
LOF	List of Fisheries
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSRA	Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006
MSY	Maximum Sustainable Yield
NAO	National Oceanic and Atmospheric Administration Administrative Order
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
mt	metric ton (1 mt = 2,204.62 pounds)
OFL	Overfishing Limit
OY	Optimal Yield
PRA	Paperwork Reduction Act
PS	Producer Surplus
RFA	Regulatory Flexibility Analysis
RIR	Regulatory Impact Review
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SBRM	Standardized Bycatch Reporting Methodology
SI	Serious Injury
SSB	Spawning Stock Biomass
SSB _{MSY}	Spawning Stock Biomass at Maximum Sustainable Yield
SSC	Scientific and Statistical Committee
TAL	Total Allowable Landings
U.S.	United States
USFWS	U.S. Fish and Wildlife Service
VECs	Valued Ecosystem Components
VTR	Vessel Trip Report

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ENVIRONMENTAL ASSESSMENT

4.0 PURPOSE AND NEED FOR ACTION

The purpose of this framework is to address issues related to the administration of the golden tilefish fishery, while continuing to achieve the management objectives of the Tilefish FMP. The need for this framework relates to a desire by the Council to optimize the management system for the golden tilefish fishery.

This action is being considered to modify the present system of catch and landings limits derivation in the golden tilefish fishery. Under the current system to derive catch and landings limits, discards are subtracted from the annual catch target (ACT) for the overall fishery. However, commercial discards are not generated by the IFQ fishery, due to the fact that all fish caught (given the standard hook size/type use by the industry) are marketable and FMP prohibits discarding in the IFQ fishery. This action would modify the structure of the golden tilefish catch and landings limits flow chart to allow for discards to be deduct from the specific commercial sector (IFQ fishery and/or incidental fishery) generating them.

In addition, this action would eliminate the IVR reporting requirements implemented to monitor landings when the IFQ system was first implemented. The IVR reporting system has become redundant as GARFO now uses landings reported in the dealer system as the primary tool to track landings in the fishery.

This action would also address two additional issues raised by GARFO. The first issue raised by GARFO would prohibit vessels from fishing more than one allocation at a time. IFQ holders designate vessels they own or lease that are authorized to land their IFQ. Under the current monitoring system, a vessel is authorized to land for a specific time period, and not for a specific number of pounds. During the period a vessel is authorized to harvest, all of its golden tilefish landings are counted against the allocation. The system is not designed to allow a trip to be split between multiple IFQ allocation numbers. This framework would consider prohibiting vessels from fishing more than one golden tilefish IFQ allocation at a time. However, this prohibition would not affect the leasing process for golden tilefish IFQs.⁶

The second issue raised by GARFO would require golden tilefish to be landed with the head attached (i.e., head-on gutted or whole). In spring 2014, APSD and NEFSC removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off.⁷ The need for this action is to close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. This framework would consider requiring that golden tilefish be landed with the head attached in the commercial fishery.

⁶ It is important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations at any time during the fishing year by written request to NMFS (50 CFR §648.294(b)(4)).

⁷ Golden tilefish are landed with the head-on.

Lastly, this action is being considered to implement recreational gear requirements in the golden tilefish fishery. The purpose of implementing recreational gear requirements is to prohibit the use of non-recreational gear types in the recreational fishery (e.g., mini-longlines).⁸

This framework was developed in accordance with the MSA⁹ and National Environmental Protection Act (NEPA), the former being the primary domestic legislation governing fisheries in the U.S. Exclusive Economic Zone (EEZ), and the Tilefish Fishery Management Plan (FMP). The management regime and objectives of the fishery are detailed in the FMP, including any subsequent amendment, and are available at: <http://www.mafmc.org>. An overview of the amendment and framework actions that have affected management of golden tilefish are summarized in Table 1.

Table 1. History of the Tilefish FMP amendments and framework actions.

Year	Document	Management Action
2001	Original FMP	-Established management of the golden tilefish fishery -Limited entry into the commercial fishery -Implemented system for dividing TALs among three fishing categories
2001	Framework 1	Established quota set-aside for research
2007	Amendment 2	-Standardized bycatch reporting methodology
2009	Amendment 1	-Implemented an IFQ program for the commercial fishery -Established new reporting requirements -Addressed recreational fishing issues -Reviewed the EFH components of the FMP
2011	Amendment 3	-Established ACLs and AMs
2015	Amendment 4	-Implemented Standardized Bycatch Reporting Methodology

This Environmental Assessment (EA) examines the impacts of each proposed action and their alternatives on the human environment. The aspects of the human environment that are likely to be directly or indirectly affected by the actions proposed in this document are described as valued ecosystem components (VECs; Beanlands and Duinker 1984). These VECs comprise the affected environment and are specifically defined as the managed resource (golden tilefish) and any non-target species; habitat, including EFH for the managed resource and non-target species; Endangered Species Act (ESA) listed and Marine Mammal Protection Act (MMPA) protected

⁸ Industry members have reported that some anglers are fishing for golden tilefish using mini-longlines with up to 25 hooks on the line.

⁹ Magnuson-Stevens Fishery Conservation and Management Act (MSA), portions retained plus revisions made by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA), and available at: http://www.nmfs.noaa.gov/sfa/magact/MSA_Amended_2007%20.pdf.

species; and any human communities (social and economic aspects of the environment). The impacts of the alternatives are evaluated with respect to these VECs.

All management alternatives under consideration were analyzed. A full description of each alternative and a discussion of a no action/*status quo* alternative are given in section 5.0. These impacts of the alternatives are described in section 7.0.

5.0 MANAGEMENT ALTERNATIVES

5.1 Catch and Landings Limits Flow Chart Alternatives

5.1.1 Alternative 1 (No Action/*Status Quo*)

Under this no action alternative, the flow chart used to derive catch and landings limits as established in Amendment 3 to the Tilefish FMP would continue to apply (Figure 1). Under this alternative, discards would continue to be deducted from the overall fishery ACT to derive the overall fishery TAL, regardless which sector of the fishery is generating the discards. The continuation of this catch and landings limits structure does not allow for discards to be deducted from the specific sector of the fishery (IFQ fishery and/or incidental fishery) generating the discards.

5.1.2 Alternative 2 (Preferred: Modification to the golden tilefish catch and landings limits flow chart)

Under this alternative, the flow chart used to derive the golden tilefish catch and landings limits would be modified as specified in Figure 2. This alternative would allow for discards to be deducted from the specific sector of the fishery (IFQ fishery and/or incidental fishery) generating the discards. As such, only the fishing sector producing discards would receive an adjustment. Industry members, Tilefish Advisory Panel members, and Monitoring Committee members have discussed this issue and have endorsed a modification to the existing golden tilefish catch and landings limits flow chart to allow for discards to be deducted from the specific sector of the fishery generating them. Alternative 2 is purely an administrative issue in nature.

ACL: Under this alternative, the fishery level-ACL would be equal to the ABC (Annual Biological Catch) for the golden tilefish stock (as it is stipulated in the current regulations).

$$ACL=ABC$$

Use of ACTs: Under this alternative, existing allocations already defined in the FMP would be used to partition the ACL into sector-specific ACTs. Separate IFQ and incidental fishery ACTs would be specified. The Council has developed ACTs as they provide increased flexibility for dealing with management uncertainty and do not invoke automatic AMs if exceeded.¹⁰ Figure 2 highlights the ACT structure if this alternative is selected.

¹⁰ Additional information on the use and function of ACTs as envisioned by the Council for its managed resources can be found in section 4.1.1 of Amendment 3 (Omnibus Amendment; MAFMC 2011).

The Tilefish Monitoring Committee will be responsible for recommending ACTs to the Council which consider and address management uncertainty as defined under NSI guidelines, as part of the specifications process for fishery management measures. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the MSA. The Monitoring Committee will consider all relevant sources of management uncertainty in this fishery and provide the technical basis, including any formulaic control rules if applied, for any reduction in catch when recommending an ACT. The ACTs, technical basis, and sources of management uncertainty would be described and provided to the Council at the time Monitoring Committee recommendations are made for the sector-specific fishery management measures for a single year or up to 3 years.

If not accommodated under scientific uncertainty, uncertainty associated with the imprecision of the recreational fishery (i.e., inability to accurately capture the true magnitude of that fishery) would continue to be accommodated under management uncertainty stipulated in the current regulations.

Accountability for Catch Components

For tilefish, under this alternative the Council is proposing three reactive accountability mechanisms that respond to potential overages in the specific sectors or by non-landings, respectively.

Reactive Accountability for the IFQ Component of the ACL: Irrespective of whether the ACL is or is not exceeded, the mechanisms to address IFQ overages already in the FMP described in (§ 648.293(a)) would continue to be applied as needed.

Reactive Accountability for the Incidental Landings Component of the ACL: Irrespective of whether the ACL is or is not exceeded, the mechanisms to address incidental overages already in the FMP described in (50 CFR §648.292(d) and §648.295(a)(b)) would continue to be applied as needed.

If the ACL is exceeded and the incidental fishery landings are responsible for the overage, then accountability would occur at the fishery level and the ACL would be reduced. Specifically, the ACL would be reduced the following year by the overage amount (i.e., lb-for-lb repayment), as a single year adjustment.

Reactive Accountability for Other Non-landings Components of the ACL: Accountability for other catch components (other than ITQ and incidental fishery landings) that result in the ACL being exceeded must also be addressed. In the event the ACL is exceeded, and that overage has not been accommodated through other mechanisms in the FMP (i.e., discards and/or unlikely event RSA is exceeded), then accountability would occur at the fishery level and the ACL would be reduced. Specifically, the amount by which the ACL was exceeded would be used to adjust the ACL the following year (i.e., lb-for-lb repayment), as a single year adjustment.

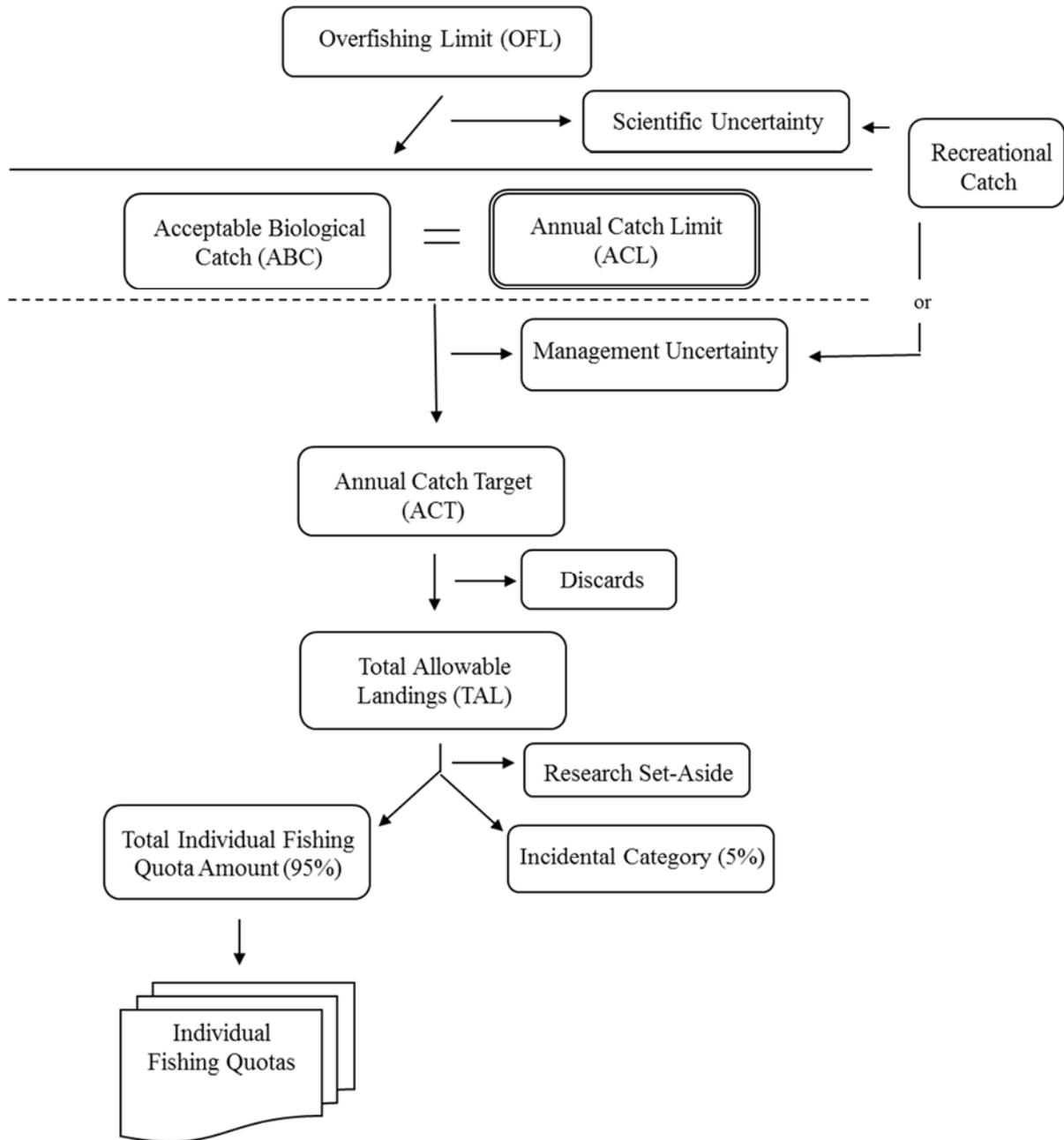


Figure 1. Current golden tilefish catch and landings limits structure.

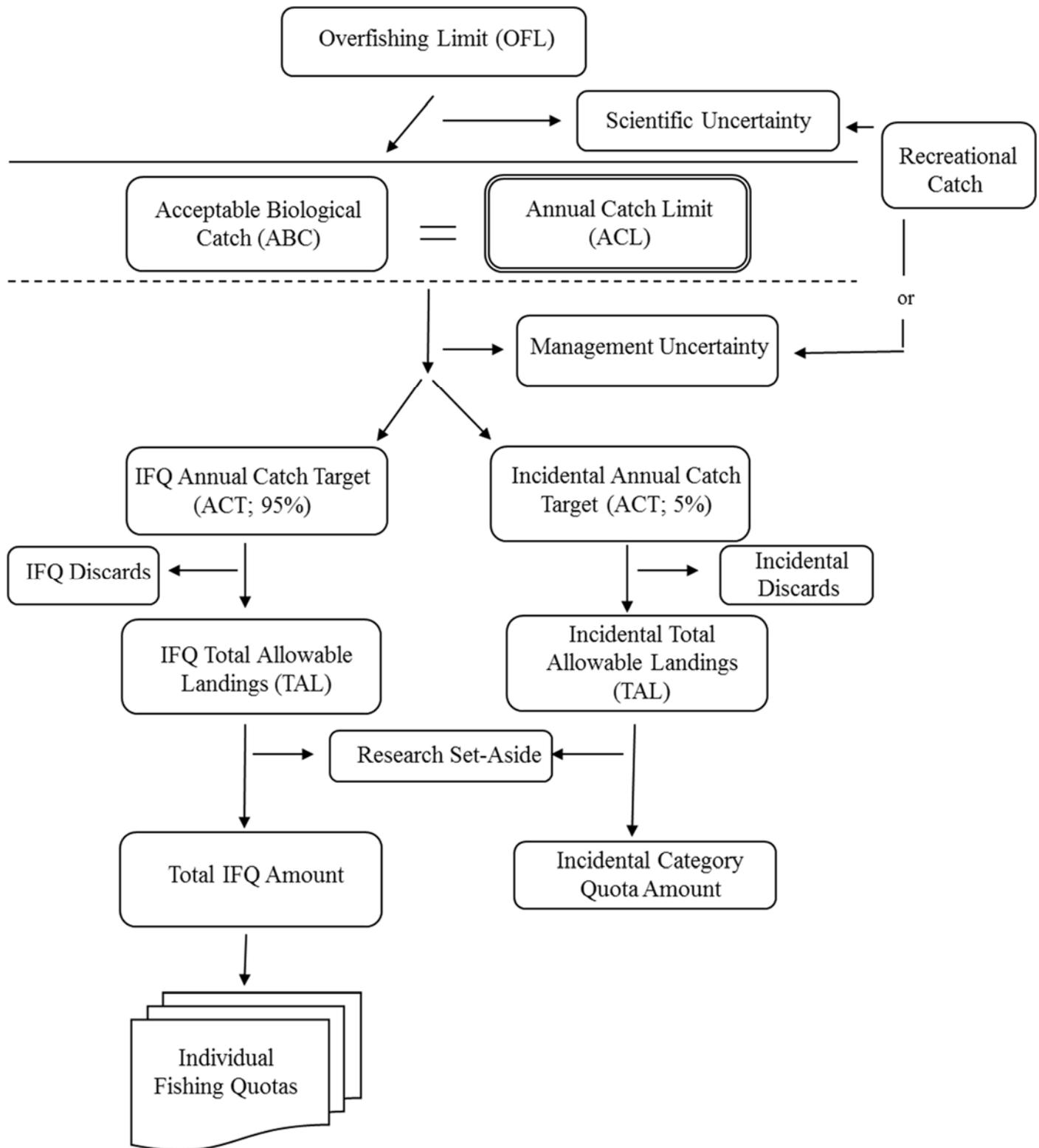


Figure 2. Modified golden tilefish catch and landings limits structure.

5.2. IVR Reporting Requirements

5.2.1 Alternative 1 (No Action/*Status Quo*)

Under this alternative, the IVR reporting requirements as established in Amendment 1 to the Tilefish FMP would continue to apply. Current regulations stipulate that a vessel fishing under a Tilefish IFQ Allocation Permit must submit a tilefish catch report by using the IVR phone line system within 48 hours after returning to port and offloading.

5.2.2 Alternative 2 (Preferred: Eliminate the IVR reporting requirements)

Under this alternative, the IVR reporting requirement would be eliminated. The IVR reporting system was initially implemented in 2001 to monitor golden tilefish landings in a timely basis. As a result of the implementation of electronic dealer reporting in 2004 and improved VTR reporting processing by the agency, the information provided by fishermen using the IVR system has become redundant. Currently, GARFO uses landings reported in the dealer and VTR systems as the primary tools to track landings in the fishery and not the landings reported via the IVR system. Furthermore, IVR landings have not been reconciled since 2008.¹¹ Alternative 2 is purely an administrative issue in nature.

5.3 Number of Allowable Fishing Allocations

5.3.1 Alternative 1 (No Action/*Status Quo*)

Under this alternative, multiple IFQ allocations (IFQ allocation numbers) could be used by a vessel at the same time.

If this alternative is implemented, vessels could continue to potentially harvest golden tilefish using more than one golden tilefish IFQ allocation number at a time. Since the system is not designed to allow a trip to be split between multiple IFQ allocation numbers, this could create situations when it would be difficult to assign golden tilefish landed to a specific allocation number. This is due to the fact that there is no mechanism available to the vessel or dealer to correctly allocate fish landed to the specific allocation numbers used by the vessel performing the harvesting services.¹²

¹¹ It is important to note that the Council discussed the potential use of an IVR hail-in system to monitor the landings of the golden tilefish IFQ fishery. It was discussed, that for example, an IVR hail-in system may be useful in monitoring landings of this valuable IFQ fishery. However, the Council did not pursue this idea any further as GARFO may be undertaking an overhaul of the fisheries monitoring system that could address this issue. Otherwise, the Council could consider the idea of an IVR hail-in system to monitor the landings of the golden tilefish IFQ fishery in a future action.

¹² It is important to note that this deficiency could be corrected, if the NMFS were to create a reporting mechanism to facilitate vessels and dealers to report specific IFQ allocation numbers and associated pounds landed for each fishing trip. However, this would create additional reporting burden for all vessels and dealers and the cost of IFQ-specific reporting would likely be recoverable, and therefore billed to the industry.

5.3.2 Alternative 2 (Preferred: Prohibit vessels from fishing more than one allocation at a time)

In the golden tilefish fishery, IFQ holders designate vessels they own or lease that are authorized to land their IFQ. Under the current monitoring system, a vessel is authorized to land for a specific time period, and not for a specific number of pounds. During the period a vessel is authorized to harvest, all of its golden tilefish landings are counted against the allocation. The system is not designed to allow a trip to be split between multiple IFQ allocation numbers.

The implementation of this alternative would prohibit two (or more) allocation numbers from authorizing the same vessel to fish those allocations at the same time. Therefore, for example, a fishing vessel (with no associated golden tilefish IFQ allocation) cannot fish or perform harvesting services for two (or more) allocation holders at the same time. Equally, a golden tilefish allocation holder fishing his/her allocation pounds cannot fish or perform harvesting services for another allocation holder at the same time. However, this alternative would not preclude a vessel from leasing from one or more allocation holders by transferring golden tilefish pounds. As such, in the two examples described above, if allocation pounds had been transferred via the leasing process, the harvesting services could have been performed.¹³ Alternative 2 is purely an administrative issue in nature.

5.4 Golden Tilefish Product Form Landings Requirements

5.4.1 Alternative 1 (No Action/*Status Quo*)

Under this alternative, no product form landings requirements for golden tilefish would be implemented.

5.4.2 Alternative 2 (Preferred: Prohibit vessels from landing golden tilefish with the “head-off”)

In spring 2014, APSD and NEFSC removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off. The need for this action is to close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. GARFO has indicated that this administrative adjustment would enhance the landings monitoring system. Alternative 2 is purely an administrative issue in nature.

¹³ It is also important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations by written request to NMFS (50 CFR §648.294(e)).

5.5 Recreational Fishery Gear Requirements

5.5.1 Alternative 1 (No Action/*Status Quo*)

Under this alternative no changes to the recreational gear requirements in the golden tilefish fishery would occur.

5.5.2 Alternative 2 (Prohibit the use of mini-longlines in the golden tilefish recreational fishery)

At the December 2014 Council meeting, it was discussed that industry members have reported that some anglers are fishing for tilefish using mini-longlines with up to 25 hooks on the line. The Council discussed that this type of gear should not be used for recreational fishing purposes. This alternative would prohibit the use of mini-longlines in the recreational golden tilefish fishery.

5.5.3 Alternative 3 (Preferred: Restrict the recreational golden tilefish fishery to rod and reel fishery only – with a five hook maximum limit per rod)

At the December 2015 Council meeting, Council members added this alternative to Framework 2 for evaluation. Council members discussed that it would be beneficial to evaluate the possibility of defining a specific recreational fishing gear allowed in the fishery (typically use in the golden tilefish fishery) instead of prohibiting specific gear type(s) as done under alternative 2 as this would not address the potential use of other non-traditional recreational fishing gears in the future.

5.6 Landings Ratios/Qualifiers for the Incidental Fishery

5.6.1 Alternative 1 (No Action/*Status Quo*)

Under this alternative no landings ratios/qualifiers would be implemented for the incidental fishery.

5.6.2 Alternative 2 (Incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed)

Under this alternative, tilefish permit holders cannot land golden tilefish in excess of 25%, by weight, of their total landings, unless fishing under an IFQ allocation. As an example, if a permit holder is not fishing under an IFQ allocation and wants to land the full incidental landing limit (currently 500 pounds live weight), that permit holder would also need to land 1,500 pounds of other species combined (excluding golden tilefish) in order to land the full 500 pounds of golden tilefish caught incidentally.¹⁴

¹⁴ If a vessel has 900 pounds of other species, it can only land 300 pounds of golden tilefish.

5.6.3 Alternative 3 (Preferred: Incidental golden tilefish landings cannot exceed 50% of the total weight of all combined species landed)

Under this alternative, tilefish permit holders cannot land golden tilefish in excess of 50%, by weight, of their total landings, unless fishing under an IFQ allocation. As an example, if a permit holder is not fishing under an IFQ allocation and wants to land the full incidental landings limit (currently 500 pounds live weight), that permit holder would also need to land 500 pounds of other species combined (excluding golden tilefish) in order to land the 500 pounds of golden tilefish caught incidentally.¹⁵

6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND FISHERIES

6.1 Description of the Managed Resource

6.1.1 Description of the Fisheries

The management unit is all golden tilefish (*Lopholatilus chamaeleonticeps*) under U.S. jurisdiction in the Atlantic Ocean north of the Virginia/North Carolina border. The commercial fisheries for tilefish are fully described in Amendment 1 to the FMP (MAFMC 2009). An overview of commercial and recreational landings for this fishery is provided below.

Additional information on the golden tilefish fishery can be found in Council meeting materials available at: <http://www.mafmc.org>.

Commercial Fishery

For the 1970 to 2015 calendar years, golden tilefish landings have ranged from 128 thousand pounds (1970) to 8.7 million pounds (1979). For the 2001 to 2015 period, golden tilefish landings have averaged 1.9 million pounds, ranging from 1.3 (2015) to 2.5 (2004) million pounds (Figure 3).

¹⁵ If a vessel has 300 pounds of other species, it can only land 300 pounds of golden tilefish.

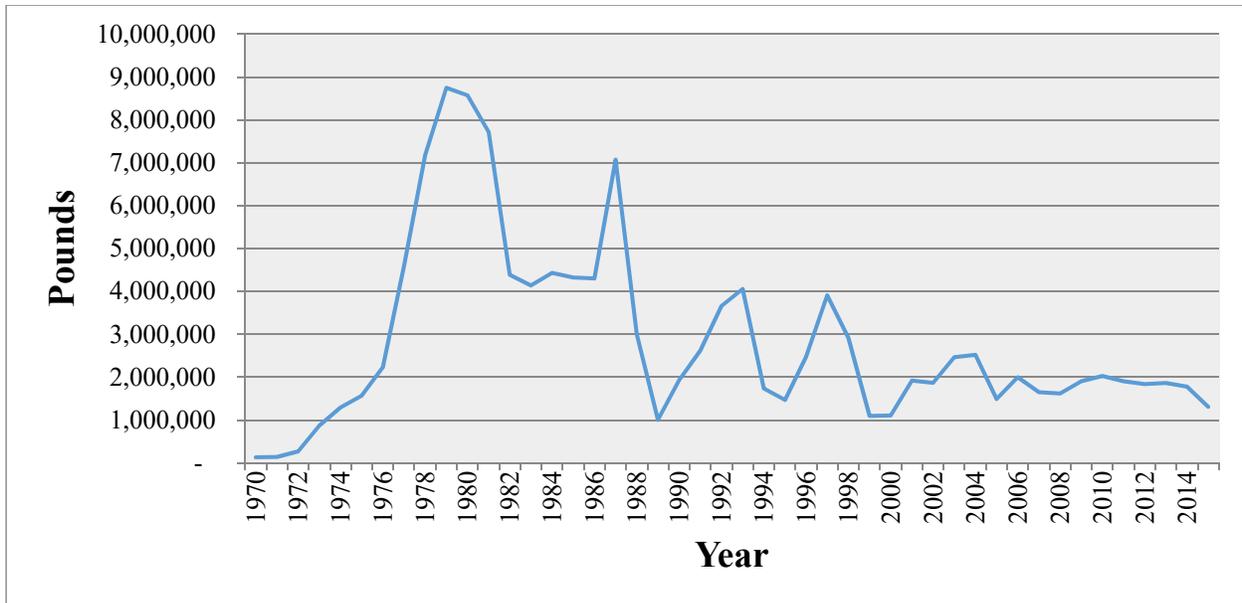


Figure 3. Commercial U.S. Golden Tilefish Landings (live weight) from Maine-Virginia, 1970-2015.

Source: 1970-1993 Tilefish FMP. 1994-2015 NMFS unpublished dealer data.

Golden tilefish are primarily caught by longline and bottom otter trawl. Based on dealer data from 2011 through 2015, the bulk of the golden tilefish landings are taken by longline gear (> 98%) followed by bottom trawl gear (< 2%). No other gear had any significant commercial landings. Minimal catches were also recorded for hand line and gillnets (Table 2).

Table 2. Golden tilefish commercial landings ('000 pounds live weight) by gear, Maine through Virginia, 2011-2015 combined.

Gear	Pounds	Percent
Otter Trawl Bottom, Fish	108	1.3
Gillnet, Anchored/Sink/Other	11	*
Lines Hand	17	*
Lines Long Set with Hooks	8,550	98.4
Unknown, Other Combined Gears	3	*
All Gear	8,689	100.0

Note: * = less than 1,000 pounds or less than 1 percent.

A vessel that holds a Commercial/Incidental Permit can possess up to 500 pounds live weight at one time, unless authorized to fish under an IFQ Allocation. If the incidental harvest exceeds 5 percent of the TAL for a given fishing year, the incidental trip limit of 500 pounds may be reduced in the following fishing year.

For the last ten years, golden tilefish incidental landings have been below the quota each year; with about 36 percent of the incidental quota taken for the 2005-2015 combined period. Golden tilefish

incidental commercial fishery landings in fishing year 2016 are slightly ahead of fishing year 2015 landings (Figure 4; as of week ending August 13, 2016). Incidental golden tilefish commercial landings for the last four fishing years are shown in Table 3.

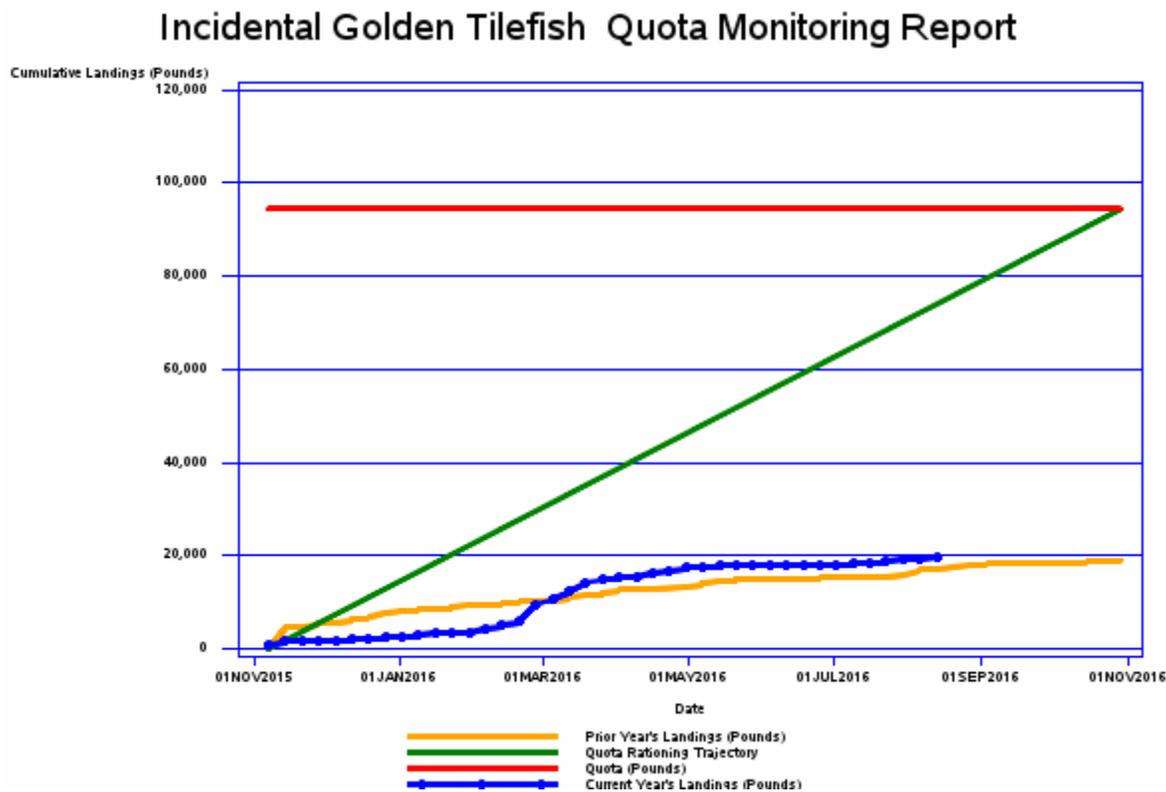


Figure 4. Incidental commercial landings for 2016 Fishing Year to date (Through August 13, 2016).

Blue Line = fishing year 2016, Orange Line = fishing year 2015.

Source: http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm.

Table 3. Incidental commercial landings for 2012-2015 fishing years.

Fishing Year	Landings (pounds)	Incidental Quota (pounds)	Percent of Quota Landed (%)
2012	36,330	99,750	36
2013	36,442	99,750	37
2014	44,594	99,750	45
2015	18,213	87,744	21

Source: http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm.

Recreational Fishery

A small recreational fishery briefly occurred during the mid-1970's, with less than 100,000 pounds annually (MAFMC 2001). Subsequent recreational catches have been low for the 1982 - 2016

period, ranging from zero for most years to approximately 30,000 fish in 2010 according to NMFS recreational statistics (Table 4). However, recreational tilefish catch is not reliably sampled by the current survey methods, and estimated catches are very uncertain.

Vessel trip report (VTR)¹⁶ data indicates that the number of golden tilefish caught by party/charter vessels from Maine through Virginia is low, ranging from 81 fish in 1996 to 7,633 fish in 2015 (Table 5). Mean party/charter effort ranged from less than one fish per angler in 1999 throughout 2002 and 2005 to approximately eight fish per angler in 1998, averaging 2.4 fish per angler for the entire time series.

According to VTR data, for the 1996 through 2015 period, the largest number of golden tilefish caught by party/charter vessels were made by New Jersey vessels (29,162), followed by New York (9,256), Virginia (663), Delaware (512), Massachusetts (496), Maryland (338), Rhode Island (182), and Connecticut (3). Party/charter boats from New Jersey have shown a significant uptrend in the number of golden tilefish caught during the time series while the boats from Rhode Island have shown a significant downward trend in the number of fish caught (Table 6).

The number of golden tilefish discarded by recreational anglers is low. According to VTR data, on average, approximately 6 fish per year were discarded by party/charter recreational anglers for the 1996 through 2015 period. The quantity of golden tilefish discarded by party/charter recreational anglers ranged from zero in most years to 64 in 2015.

Recreational anglers typically fish for golden tilefish when tuna fishing especially during the summer months (Freeman, pers. comm. 2006). However, some for hire vessels from New Jersey and New York are golden tilefish fishing in the winter months (Caputi pers. comm. 2006). In addition, recreational boats in Virginia are also reported to be fishing for golden tilefish (Pride pers. comm. 2006). However, it is not known with certainty how many boats may be targeting golden tilefish. Nevertheless, accounting for information presented in the Fishery Performance Reports (2012-2014 FPRs)¹⁷ and a brief internet search conducted by Council Staff in 2014 indicates that there have been approximately 10 headboats actively engaged in the tilefish fishery in the Mid-Atlantic canyons in recent years. It is estimated that approximately 4 of these boats conducted direct tilefish fishing trips, while the other 6 boats may have caught tilefish while targeting tuna/swordfish or fishing for assorted deep water species. In addition, it appears that recreational interest onboard headboats for tilefish has increase in the last few years as seen in the FPRs, internet search conducted by Council staff, and recent VTR recreational party/charter statistics. The most recent FPR (2016) indicates that 5 or 6 headboats directly fish for golden tilefish but not 100% or full time. During the winter period there are no tilefish party/charter boat trips as dogfish are too abundant.¹³

Anglers are highly unlikely to catch golden tilefish while targeting tuna on tuna fishing trips, because they are fishing too far off the bottom. However, these boats may fish deeper for golden tilefish at any time during a tuna trip (i.e., when the tuna limit has been reached, on the way out or

¹⁶ VTR data is self-reported.

¹⁷ Available at: <http://www.mafmc.org/fishery-performance-reports/>.

on the way in from a tuna fishing trip, or at any time when tuna fishing is slow).¹⁸ While fishing for tuna recreational anglers may trawl using rod and reel (including downriggers), handline, and bandit gear. Rod and reel is the typical gear used in the recreational golden tilefish fishery. Because golden tilefish are found in relatively deep waters, electric reels may be used to facilitate landing (Freeman and Turner 1977).

Fishery Performance

The principal measure used to manage golden tilefish is monitoring landings via dealer weighout data that is submitted weekly. The directed fishery is managed via an IFQ program. If an IFQ allocation is exceeded, including any overage that results from golden tilefish landed by a lessee in excess of the lease amount, the annual IFQ allocation will be reduced by the amount of the overage in the subsequent fishing year. If an IFQ allocation overage is not deducted from the appropriate allocation before the IFQ allocation permit is issued for the subsequent fishing year, a revised IFQ allocation permit reflecting the deduction of the overage will be issued. If the allocation cannot be reduced in the subsequent fishing year because the full allocation had already been landed or transferred, the IFQ allocation permit would indicate a reduced allocation for the amount of the overage in the next fishing year.

Table 7 summarizes the golden tilefish management measures for the 2002-2017 fishing years (FYs). With the exception of FY 2003, 2004, and 2010 commercial golden tilefish landings have been below the commercial quota specified each year since the Tilefish FMP was first implemented.

¹⁸ Private boat anglers rarely target golden tilefish as their primary quarry. It is more often used as a fallback species on a slow tuna trip. This is not to say that all tuna boats fish for golden tilefish when fishing is slow but that a fraction of them do. To this end, just because you see a great number of boats at a canyon does not mean that they all deep drop. For those that do deep drop it is rare to catch a limit for the 5 or 6 guys in the boat as they are usually just seeking a few for dinner and they get bored and tired of reeling up the fish from such great depths (2016 AP FPR; available at: <http://www.mafmc.org/fishery-performance-reports/>).

Table 4. Recreational golden tilefish data from the NMFS recreational statistics databases, 1982-2016.

Year	Landed party/charter		A and B1 Private		Released no. B2 private	
	# fish	PSE	# fish	PSE	# fish	PSE
1982	0		984	(72.4)	0	
1983	0		0		0	
1984	0		0		0	
1985	0		0		0	
1986	0		0		0	
1987	0		0		0	
1988	0		0		0	
1989	0		0		0	
1990	0		0		0	
1991	0		0		0	
1992	0		0		0	
1993	0		0		0	
1994	608	(100.0)	0		0	
1995	0		0		0	
1996	6,842	(50.9)	0		0	
1997	0		0		0	
1998	0		0		0	
1999	0		0		0	
2000	0		0		0	
2001	148	(100.0)	0		0	
2002	0		20,068	(59.4)	1,338	(100.0)
2003	722	(69.1)	0		0	
2004	62	(99.3)	0		0	
2005	0		0		0	
2006	541	(100.4)	0		0	
2007	1,330	(78.3)	0		0	
2008	0		0		0	
2009	177	(87.8)	0		0	
2010	2,812	(90.5)	27,514	(77.2)	0	
2011	0		0		0	
2012	0		0		0	
2013	1,248	(100.0)	0		0	
2014	0		0		0	
2015	0		0		0	
2016	0		8,449	(106.4)		

Source: Recreational Fisheries Statistics Queries: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>. PSE (proportional standard error) expresses the standard error of an estimate as a percentage of the estimate and is a measure of precision. A PSE value greater than 50 indicates a very imprecise estimate. 2016 values are preliminary.

Table 5. Number of golden tilefish kept by party/charter anglers and mean effort from Maine through Virginia, 1996 through 2015.

Year	Number of golden tilefish kept	Mean Effort (tilefish kept per angler)
1996	81	1.4
1997	400	7.5
1998	243	8.1
1999	91	0.4
2000	147	0.5
2001	172	0.7
2002	774	0.9
2003	991	1.6
2004	737	1.2
2005	498	0.9
2006	477	1.2
2007	1,077	1.2
2008	1,100	1.3
2009	1,451	1.3
2010	1,866	2.0
2011	2,938	3.4
2012	6,424	2.8
2013	6,560	3.2
2014	6,856	3.2
2015	7,633	4.2
All	40,516	2.4

Table 6. Number of golden tilefish caught by party/charter vessels by state, 1996 through 2015.

Year	MA	RI	CT	NY	NJ	DE	MD	VA	All
1996	0	0	0	81	0	0	0	0	81
1997	0	0	0	400	0	0	0	0	400
1998	0	102	0	141	0	0	0	0	243
1999	0	1	0	88	0	0	2	0	91
2000	0	0	0	108	39	0	0	0	147
2001	0	0	0	122	51	0	0	0	173
2002	0	0	0	401	373	0	0	0	774
2003	0	3	0	86	902	0	0	0	991
2004	0	0	0	12	628	0	0	104	744
2005	0	72	0	82	318	14	0	16	502
2006	0	0	0	265	65	2	133	12	477
2007	0	0	0	447	459	88	5	80	1,079
2008	0	3	0	488	545	22	32	10	1,100
2009	0	0	0	720	675	18	7	31	1,451
2010	0	0	0	595	1,194	19	23	48	1,879
2011	496	0	0	720	1,654	60	5	14	2,949
2012	0	1	0	1,116	5,146	42	23	98	6,426
2013	0	0	0	1,900	4,568	39	12	41	6,560
2014	0	0	3	957	5,677	116	40	73	6,866
2015	0	0	0	527	6,868	92	56	136	7,697
All	496	182	3	9,256	29,162	512	338	663	40,630

Table 7. Summary of management measures and landings (golden tilefish) for FY^a 2002 through 2017.

Management measures	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ABC (m lb)	NA	NA	NA	2.013	2.013	1.766	1.898	1.898								
TAL (m lb)	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.755	1.887	1.887
Com. quota-initial (m lb)	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.755	1.887	1.887
Com. quota-adjusted (m lb)	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.995	1.755	1.887	1.887
Com. landings	1.935	2.318	2.622	1.497	1.897	1.776	1.672	1.887	1.997	1.946	1.874	1.841	1.830	1.346	-	-
Com. overage/underage (m lb)	-0.060	+0.323	+0.627	-0.498	-0.098	-0.219	-0.323	-0.108	+0.002	-0.049	-0.121	-0.154	-0.165	-0.409	-	-
Incidental trip limit (lb)	300	300	300	133	300	300	300	300	300	300	500	500	500	500	500	500
Rec. possession limit	-	-	-	-	-	-	-	-	8 ^b	b	b	b	b	b	b	b

^a FY 2002 (November 1, 2001 - October 31, 2002).

^b Eight fish per person per trip

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6.1.2 Description of the Stock (Including Status, Stock Characteristics, and Ecological Relationships)

Reports on stock status, including Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) reports, and assessment update reports are available online at the NEFSC website: <http://www.nefsc.noaa.gov/>. The EFH Source Document, which includes details on stock characteristics and ecological relationships, is available at the following website: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

The golden tilefish stock assessment was peer reviewed and approved for use by management at Stock Assessment Workshop 58 (SAW 58; NEFSC 2014). A statistical catch at age model called ASAP (Age Structured Assessment Program) was used in this assessment to incorporate newly available length and age data to better characterize the population dynamics of the stock. The golden tilefish resource was not overfished and overfishing was not occurring in 2012. SSB was estimated to be 11.53 million pounds (5,229 mt) in 2012, about 101% of the biomass target SSB_{MSY} proxy = $SSB_{25\%}$ = 11.36 million pounds (5,153 mt). The fishing mortality rate was estimated to be 0.275 in 2012, below the fishing mortality threshold F_{MSY} proxy = $F_{25\%}$ = 0.370. The golden tilefish stock was previously under a rebuilding plan, but was declared rebuilt by NMFS in 2014 based on SAW 58.

6.1.3 Non-Target Species

The term "bycatch" as defined by the MSA, means fish that are harvested in a fishery but that are not sold or kept for personal use. Bycatch includes the discard of whole fish at sea or elsewhere, including economic and regulatory discards, and fishing mortality due to an encounter with fishing gear that does not result in capture of fish (i.e., unobserved fishing mortality).

According to VTR data, very little (< 0.3%) discarding was reported by longline vessels that targeted tilefish for the 2005 through 2014 period (Table 8). In addition, the 2014 stock assessment indicates that approximately 95% of the commercial landings are taken by the directed longline fishery, and that tilefish discards in the trawl and longline fishery are negligible (NEFSC 2014). The golden tilefish fishery is a target fishery and live bycatch constitutes a small percentage of the total catch.

6.2 Habitat (Including Essential Fish Habitat)

A description of the habitat associated with the tilefish fishery is presented in Amendment 1 to the FMP (MAFMC 2009), and a brief summary of that information is given here. The impact of fishing on tilefish habitat (and EFH) and the impact of the tilefish fishery on other species' habitat and EFH can be found in the original FMP (MAFMC 2001) and in Amendment 1 to the FMP (MAFMC 2009). Potential impacts associated with the measures proposed in this framework on habitat (including EFH) are discussed in section 7.2.

Table 8. Catch disposition for directed golden tilefish trips^a, Maine through Virginia, 2005-2014 combined.

Common Name	Kept pounds	% species	% total	Discarded pounds	% species	% total	Total pounds	Disc: Kept Ratio
GOLDEN TILEFISH	15,549,080	100.00%	99.08%	0	0.00%	0.00%	15,549,080	0.00
SPINY DOGFISH	94,828	85.55%	0.60%	16,018	14.45%	37.63%	110,846	0.17
BLUELINE TILEFISH	15,388	100.00%	0.10%	0	0.00%	0.00%	15,388	0.00
CONGER EEL	9,013	93.87%	0.06%	589	6.13%	1.38%	9,602	0.07
BLACK BELLIED ROSEFISH	4,269	100.00%	0.03%	0	0.00%	0.00%	4,269	0.00
SKATES, OTHER	3,201	67.66%	0.02%	1,530	32.34%	3.59%	4,731	0.48
SNOWY GROUPER	3,100	100.00%	0.02%	0	0.00%	0.00%	3,100	0.00
TILEFISH, OTHER	2,692	100.00%	0.02%	0	0.00%	0.00%	2,692	0.00
DOGFISH SMOOTH	2,634	76.26%	0.02%	820	23.74%	1.93%	3,454	0.31
EEL, OTHER	1,809	100.00%	0.01%	0	0.00%	0.00%	1,809	0.00
WRECKFISH	1,240	100.00%	0.01%	0	0.00%	0.00%	1,240	0.00
BLUEFISH	898	22.63%	0.01%	3,070	77.37%	7.21%	3,968	3.42
MONKFISH	742	100.00%	0.00%	0	0.00%	0.00%	742	0.00
YELLOWFIN TUNA	680	100.00%	0.00%	0	0.00%	0.00%	680	0.00
DOLPHIN FISH	627	100.00%	0.00%	0	0.00%	0.00%	627	0.00
BLACK SEA BASS	563	100.00%	0.00%	0	0.00%	0.00%	563	0.00
MAKO SHORTFIN SHARK	524	100.00%	0.00%	0	0.00%	0.00%	524	0.00
BLUEFIN TUNA	440	91.67%	0.00%	40	8.33%	0.09%	480	0.09
RED HAKE	438	79.20%	0.00%	115	20.80%	0.27%	553	0.26
SILVER HAKE (WHITING)	300	93.75%	0.00%	20	6.25%	0.05%	320	0.07
MAKO SHARK, OTHER	284	89.03%	0.00%	35	10.97%	0.08%	319	0.12
FISH, OTHER	218	100.00%	0.00%	0	0.00%	0.00%	218	0.00
AMERICAN EEL	150	100.00%	0.00%	0	0.00%	0.00%	150	0.00
REDFISH	147	100.00%	0.00%	0	0.00%	0.00%	147	0.00
MIX RED & WHITE HAKE	125	100.00%	0.00%	0	0.00%	0.00%	125	0.00
CUSK	97	100.00%	0.00%	0	0.00%	0.00%	97	0.00
ALBACORE TUNA	75	100.00%	0.00%	0	0.00%	0.00%	75	0.00
PORBEAGLE SHARK	75	100.00%	0.00%	0	0.00%	0.00%	75	0.00
WHITE HAKE	74	100.00%	0.00%	0	0.00%	0.00%	74	0.00

Table 8 (continued). Catch disposition for directed golden tilefish trips^a, Maine through Virginia, 2005-2014 combined.

Common Name	Kept pounds	% species	% total	Discarded pounds	% species	% total	Total pounds	Disc: Kept Ratio
SUMMER FLOUNDER	72	100.00%	0.00%	0	0.00%	0.00%	72	0.00
BLACK WHITING	24	100.00%	0.00%	0	0.00%	0.00%	24	0.00
AMBER JACK	18	100.00%	0.00%	0	0.00%	0.00%	18	0.00
POLLOCK	17	100.00%	0.00%	0	0.00%	0.00%	17	0.00
TIGER SHARK	0	0.00%	0.00%	10,400	100.00%	24.43%	10,400	--
SKATE BARNDOOR	0	0.00%	0.00%	3,881	100.00%	9.12%	3,881	--
DOGFISH CHAIN	0	0.00%	0.00%	2,722	100.00%	6.39%	2,722	--
JONAH CRAB	0	0.00%	0.00%	1,273	100.00%	2.99%	1,273	--
LOBSTER	0	0.00%	0.00%	775	100.00%	1.82%	775	--
BLUE SHARK	0	0.00%	0.00%	725	100.00%	1.70%	725	--
SKATE ROSETTE	0	0.00%	0.00%	398	100.00%	0.93%	398	--
HAMMERHEAD SHARK	0	0.00%	0.00%	100	100.00%	0.23%	100	--
SHARK, OTHER	0	0.00%	0.00%	60	100.00%	0.14%	60	--
ALL SPECIES	15,693,842	99.73%	100.00%	42,571	0.27%	100.00%	15,736,413	0.00

^a Directed trips for golden tilefish were defined as trips comprising 75 percent or more by weight of golden tilefish landed. Number of trips = 1,161.

6.2.1 Physical Environment

Detailed information on the affected physical and biological environments inhabited by the managed resource is available in Stevenson et al. (2004). Golden tilefish inhabit the Northeast U.S. Shelf Ecosystem, which has been described as including the area from the Gulf of Maine south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope offshore to the Gulf Stream. The continental slope includes the area east of the shelf, out to a depth of 2,000 meters (6,562 ft). Four distinct sub-regions comprise the NOAA Fisheries Greater Atlantic Region: the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and strong currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is fairly homogenous, with exceptions at the shelf break, some of the canyons, the Hudson Shelf Valley, and in areas of glacially rafted hard bottom.

The environment that could potentially be affected by the proposed action overlaps with EFH for the managed resource. The following sections describe where to find detailed information on EFH and any past actions taken in the FMPs to minimize adverse EFH effects to the extent practicable.

6.2.2 Essential Fish Habitat (EFH)

Information on tilefish habitat requirements can be found in the document titled, "Essential Fish Habitat Source Document: Tilefish, *Lopholatilus chamaeleonticeps*, Life History and Habitat Characteristics" (Steimle et al. 1999). An electronic version of this source document is available at the following website: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The current designation of EFH by life history stage for tilefish is provided here:

Eggs and Larvae: EFH for tilefish eggs and larvae is the water column on the outer continental shelf and slope from the U.S./Canadian boundary to the Virginia/North Carolina boundary in mean water column temperatures between 7.5°C and 17.5°C (45.5°F to 63.5°F).

Juveniles and Adults: EFH for tilefish juveniles and adults is semi-lithified clay substrate on the outer continental shelf and slope from the U.S./Canadian boundary to the Virginia/North Carolina boundary in bottom water temperatures which range from 9°C to 14°C (48.2°F to 57.2°F), which generally occur in depths between 100 and 300 meters (328 to 984 ft). Tilefish create horizontal or vertical burrows in semi-lithified clay sediments, a substrate type with cohesive properties that allow the burrows to maintain their shape. Tilefish may also utilize rocks, boulders, scour depressions beneath boulders, and exposed rock ledges as shelter.

Although the designations emphasize temperature and substrate type (clay) over depth as being indicative of EFH, depth was used for the purposes of mapping the EFH designations. Depth is fixed and not seasonally variable, therefore the depth ranges that define the area where the

preferred bottom temperatures conditions typically prevail (100 to 300 meters, or 328 ft to 984 ft) were used to create maps of benthic EFH for juvenile and adult tilefish on the outer continental shelf and slope from the U.S./Canadian boundary to the Virginia/North Carolina boundary.

Tilefish are primarily caught by bottom longline and otter trawl. Based on dealer data from 2011-2015, the bulk of the tilefish landings are taken by longline gear (> 98%) followed by bottom trawl gear (< 2%). No other gear had any significant commercial landings. Minimal catches were also recorded for hand line and gillnets (Table 2).

There are other federally-managed species with lifestages that occupy essential benthic habitats that may be susceptible to adverse impacts from otter trawl gear; descriptions of these are given in Table 1 of Appendix A (from Stevenson et al. 2004) and are available at: <http://www.nero.noaa.gov/habitat/publications/publications.html>.

6.2.3 Fishery Impact Considerations

The directed commercial fishery for golden tilefish is largely by bottom longline gear. Otter trawls may also be used, but have limited utility because of the habitat preferred by tilefish. Otter trawls are only effective where the bottom is firm, flat, and free of obstructions. Soft mud bottom, rough or irregular bottom, or areas with obstructions, which are those that are most frequented by golden tilefish, are not conducive to bottom trawling. However, golden tilefish are often taken incidental to other directed fisheries, such as the trawl fisheries for lobster and flounder (Freeman and Turner 1977), and hake, squid, Atlantic mackerel, and butterfish (NMFS, unpublished landings data).

A panel of experts who participated in a 2001 workshop to evaluate the potential habitat impacts of fishing gears used in the Northeast region concluded that longlines (which land the bulk of the tilefish) cause some low degree impacts in mud, sand, and gravel habitats. Bottom trawls, which account for nearly all of the rest of the landings, and which are mostly incidental catches, had the greatest impacts which occur in low and high energy gravel habitats and in hard clay outcroppings (NEFSC 2002).

Golden tilefish are restricted to the continental shelf break south of the Gulf of Maine (Steimle et al. 1999). They occupy a number of habitats, including scour basins around rocks or other rough bottom areas that form burrow-like cavities, and pueblo habitats in clay substrate. The dominant habitat type is a vertical burrow in a substrate of semi-hard silt-clay, 6 to 10 feet deep and 12 to 16 feet in diameter with a funnel shape. These burrows are excavated by tilefish, secondary burrows are created by other organisms, including lobsters, conger eels, and galatheid crabs. Tilefish are visual daytime feeders on galatheid crabs, mollusks, shrimps, polychaetes, and occasionally fish. Mollusks and echinoderms are more important to smaller tilefish. Little is known about juveniles of this species. A report to the Mid-Atlantic Fishery Management Council (Able and Muzeni 2002), based upon a review of archived video surveys in areas of tilefish habitat, did not find visual evidence of direct impacts to burrows due to otter trawls. The Northeast Region EFH Steering Committee Workshop (NEFSC 2002) concluded that there was the potential for a high degree of impact to the physical structure of hard clay outcroppings (pueblo village habitat) by trawls that would result in permanent change to a major physical feature which provides shelter for tilefish as well as their benthic prey. Although Able and Muzeni's (2002) review did not offer any evidence

of this type of negative effect, their sample size for this habitat type was very small. Due to the tilefish's reliance on structured shelter and benthic prey, as well as the benthic prey's reliance on much of the same habitat, and the need for further study, the vulnerability of tilefish EFH to otter trawls was ranked as high (Stevenson et al. 2004). Clam dredges operate in shallow, sandy waters typically uninhabited by tilefish (Wallace and Hoff 2005), so EFH vulnerability was rated as none for this gear. Scallop vessel monitoring data indicate that scallop dredges operate to a small extent in areas overlapping tilefish EFH; therefore, EFH vulnerability to scallop dredges was ranked as low (Stevenson et al. 2004). Tilefish eggs and larvae are pelagic: therefore, EFH vulnerability to gear is not applicable.

Amendment 1 to the Tilefish FMP (MAFMC 2009) prohibited the use of bottom-tending mobile gear within specific areas of the Oceanographer, Lydonia, Veatch, and Norfolk canyons.¹⁹ The gear restricted areas in these four canyons were chosen to providing protection to areas that are known to have clay outcrop/pueblo habitats.

6.3 ESA-Listed Species and MMPA Protected Species

6.3.1 Species in the Fisheries Environment

There are numerous species inhabiting the environment, within the management unit of tilefish, that are afforded protection under the Endangered Species Act (ESA) of 1973 (i.e., for those designated as threatened or endangered) and the Marine Mammal Protection Act of 1972 (MMPA). Table 9 provides species formally listed as threatened or endangered under the ESA, with 2 additional candidate species, that occur within the management unit for tilefish. More detailed description of the species listed in Table 9, including their environment, ecological relationships and life history information including recent stock status, is available at: <http://www.greateratlantic.fisheries.noaa.gov/Protected/> and <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

Two species (thorny skate and cusk) are candidate species for listing under the ESA (Table 9). Candidate species receive no substantive or procedural protection under the ESA (i.e., conference provisions requirement of the ESA applies only if a candidate species is proposed for listing); however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed project. The Protected Resources Division of the NMFS GARFO has initiated a review of recent stock assessments, bycatch information, and other information for the candidate species. Any conservation measures deemed appropriate for these species will follow the information from these reviews. Given that cusk and thorny skate receive no substantive or procedural protection under the ESA (due to its candidate species status), this species will not be discussed further in this document.

¹⁹ See golden tilefish regulations at: <http://www.nero.noaa.gov/regs/fr.html> for specific coordinates of the closed areas.

Table 9. Species Protected Under the ESA and/or MMPA that May Occur in the Affected Environment of the Golden Tilefish Fishery.

Species	Status	Potentially affected by this action?
Cetaceans		
North Atlantic right whale (<i>Eubalaena glacialis</i>)	Endangered	Yes
Humpback whale (<i>Megaptera novaeangliae</i>) ¹	Protected (MMPA)	Yes
Fin whale (<i>Balaenoptera physalus</i>)	Endangered	Yes
Sei whale (<i>Balaenoptera borealis</i>)	Endangered	Yes
Blue whale (<i>Balaenoptera musculus</i>)	Endangered	No
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered	Yes
Pygmy sperm whale (<i>Kogia breviceps</i>)	Protected (MMPA)	No
Dwarf sperm whale (<i>Kogia sima</i>)	Protected (MMPA)	No
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected (MMPA)	Yes
Pilot whale (<i>Globicephala spp.</i>) ²	Protected (MMPA)	No
Risso's dolphin (<i>Grampus griseus</i>)	Protected (MMPA)	No
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected (MMPA)	No
Short Beaked Common dolphin (<i>Delphinus delphis</i>) ³	Protected (MMPA)	No
Atlantic Spotted dolphin (<i>Stenella frontalis</i>)	Protected (MMPA)	No
Striped dolphin (<i>Stenella coeruleoalba</i>)	Protected (MMPA)	No
Beaked whales (<i>Ziphius</i> and <i>Mesoplodon spp.</i>) ⁴	Protected (MMPA)	No
Bottlenose dolphin (<i>Tursiops truncatus</i>) ⁵	Protected (MMPA)	Yes
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected (MMPA)	No
Sea Turtles		
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered	Yes
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered	Yes
Green sea turtle, North Atlantic DPS (<i>Chelonia mydas</i>)	Threatened ⁶	Yes
Loggerhead sea turtle (<i>Caretta caretta</i>), Northwest Atlantic Ocean DPS	Threatened	Yes
Hawksbill sea turtle (<i>Eretmochelys imbricate</i>)	Endangered	No
Fish		
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered	No
Atlantic salmon (<i>Salmo salar</i>)	Endangered	No
Atlantic sturgeon (<i>Acipenser oxyrinchus</i>)		
<i>Gulf of Maine DPS</i>	Threatened	Yes
<i>New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS</i>	Endangered	Yes
Cusk (<i>Brosme brosme</i>)	Candidate	Yes
Thorny skate (<i>Amblyraja radiata</i>)	Candidate	Yes
Pinnipeds		
Harbor seal (<i>Phoca vitulina</i>)	Protected (MMPA)	No

Species	Status	Potentially affected by this action?
Gray seal (<i>Halichoerus grypus</i>)	Protected (MMPA)	No
Harp seal (<i>Phoca groenlandicus</i>)	Protected (MMPA)	No
Hooded seal (<i>Cystophora cristata</i>)	Protected (MMPA)	No
Critical Habitat		
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA-listed	No
North Atlantic right whale ⁷	ESA-listed	No
<i>Notes:</i>		
¹ On September 8, 2016, a final rule was issued revising the ESA listing status of humpback whales (81 FR 62259). Fourteen DPSs were designated: one as threatened, four as endangered, and nine as not warranting listing. The DPS found in U.S. Atlantic waters, the West Indies DPS, is delisted under the ESA; however, this DPS is still protected under the MMPA.		
² There are 2 species of pilot whales: short finned (<i>G. melas melas</i>) and long finned (<i>G. macrorhynchus</i>). Due to the difficulties in identifying the species at sea, they are often just referred to as <i>Globicephala spp.</i>		
³ Prior to 2008, this species was called “common dolphin.”		
⁴ There are multiple species of beaked whales in the Northwest Atlantic. They include the cuvier’s (<i>Ziphius cavirostris</i>), blainville’s (<i>Mesoplodon densirostris</i>), gervais’ (<i>Mesoplodon europaeus</i>), sowerbys’ (<i>Mesoplodon bidens</i>), and trues’ (<i>Mesoplodon mirus</i>) beaked whales. Species of <i>Mesoplodon</i> ; however, are difficult to identify at sea, and therefore, much of the available characterization for beaked whales is to the genus level only.		
⁵ This includes the Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal Stocks of Bottlenose Dolphins.		
⁶ On April 6, 2016, a final rule was issued removing the current range-wide listing of green sea turtles and, in its place, listing eight green sea turtle DPSs as threatened and three DPSs as endangered (81 FR 20057). The green sea turtle DPS located in the Northwest Atlantic is the North Atlantic DPS of green sea turtles; this DPS is considered threatened under the ESA.		
⁷ Originally designated June 3, 1994 (59 FR 28805); Expanded on January 27, 2016 (81 FR 4837).		

6.3.2 Commercial Fisheries and Protected Species Interactions

The golden tilefish commercial fishery is prosecuted primarily with bottom longline gear. As provided in Table 9, species of large whales, dolphins, sea turtles, and Atlantic sturgeon have the potential to be affected by the operation of the golden tilefish fishery. The List of Fisheries (LOF) classifies U.S. commercial fisheries into Categories according to the level of interactions that result in incidental mortality or serious injury of marine mammals (Table 10). There are no documented interactions with ESA-listed and MMPA protected species with bottom longline gear in the tilefish fishery. Below, information is provided on the risk of these species interacting with bottom longline gear.

Table 10. Commercial Fisheries Classification based on 2016 List of Fisheries (LOF).

Fishery (Action Area)	Resource	Gears	LOF	Potential for Interactions
See section 6.4.2 for a description of the areas fished the managed resource	Golden tilefish	U.S. Mid-Atlantic bottom longline	Cat. III	No documented interactions where marine mammal species and stocks incidentally killed or injured

Large Whales, Bottlenose Dolphins, and Atlantic sturgeon

Based on information provided by Waring et al. (2014), Waring et al. (2015), NMFS NEFSC FSB (2015), the MMPA List of Fisheries (81 FR 20550; April 8, 2016) and information provided on the Northeast Fisheries Observer Program website (http://www.nefsc.noaa.gov/fsb/take_reports/nefop.html), there has been no confirmed serious injury or mortality, or documented interactions, in general, with bottom longline gear and large whales, bottlenose dolphins, or Atlantic sturgeon. Based on this information, bottom longline gear is not expected to pose an interaction risk to any of these species and therefore, is not expected to be source of serious injury or mortality to these species.

Sea Turtles

Sea turtles are vulnerable to interacting with bottom longline gear; however, the risk is tied to where the gear is placed relative to where and when sea turtles are present. As sea turtles are commonly found in neritic waters of the inner continental shelf (Braun-McNeill and Epperly 2002; Morreale and Standora 2005; Blumenthal et al. 2006; Hawkes et al. 2006; McClellan and Read 2007; Mansfield et al. 2009; Hawkes et al. 2011; Griffin et al. 2013; James et al. 2005; Eckert et al. 2006; Murphy et al. 2006; Dodge et al. 2014)²⁰, bottom longline gear placed in continental shelf waters (<200 meters) poses a greater risk of an interaction than bottom longline gear placed in deep waters greater than 200 meters. This is evidenced by the large number of sea turtle interactions observed in the South Atlantic and Gulf of Mexico (under NMFS SERO jurisdiction; NMFS 2006; NMFS 2011a; NMFS 2012), where numerous fisheries prosecuted by bottom longline gear (e.g., HMS fishery-Atlantic shark bottom longline component; Gulf of Mexico reef fishery) operate in nearshore southern continental shelf waters (<200 meters) where sea turtles are commonly present year-round. Under such conditions, the co-occurrence of gear and sea turtles is high, thereby causing increased interaction risks. In contrast, in the Greater Atlantic Region (GAR), no sea turtles have been observed in bottom longline gear from 1989-2014 (NMFS NEFSC FSB 2015). This may in part be due to the fact that fisheries (e.g., tilefish spp.) prosecuted by bottom longline gear in the GAR primarily operate in deep continental shelf edge/slope waters (>200 meters). In deeper waters, sea turtle (primarily loggerhead and leatherback) behaviors are primarily directed at migratory movements. As a result, sea turtles are more likely to be present in the water column than near the deep benthos where bottom longline is present, thereby reducing the co-occurrence of bottom longline gear and sea turtles and thus, the potential for an interaction (Braun-McNeill and Epperly 2002; McClellan and Read 2007; Mansfield et al. 2009; Hawkes et al. 2011; Griffin et al. 2013; <http://seamap.env.duke.edu/>). Based on this, although sea turtle

²⁰ [Also see sea turtle species status reviews and recovery plans at te following websites: http://www.nmfs.noaa.gov/pr/listing/reviews.htm#species; http://www.nmfs.noaa.gov/pr/recovery/plans.htm#turtles](http://www.nmfs.noaa.gov/pr/listing/reviews.htm#species)

interactions with bottom longline gear are possible, due to the fishing behavior of GAR fisheries prosecuted by bottom longline gear, the risk of an interaction is likely low in the GAR.

6.3.3 Recreational Fisheries and Protected Species Interactions

The golden tilefish recreational fishery has been prosecuted with hook and line gear and to a lesser extent with mini-bottom long lines (section 7.1.5). As provided in Table 9, species of large whales, dolphins, sea turtles, and Atlantic sturgeon have the potential to be affected by the operation of the golden tilefish fishery. Below information is provided on the risk of these species interacting with hook and line gear (i.e., rod and reel); interactions risks with mini-longlines will not be discussed in this section as any interaction risk with this gear type will be similar to that provided in section 6.3.2.

Large Whales

Large whales have been reported or observed with hook and line or monofilament line wrapped around or trailing from appendages of the whale's body. In the most recent (2010-2014) mortality and serious injury determinations for baleen whales, the majority of cases identified with confirmed hook and line or monofilament entanglement did not result in the serious injury or mortality to the whale (89.5% observed/reported whales had a serious injury value of 0; 10.5% had a serious injury value of 0.75; none of the cases resulted in mortality; Henry et al. 2016).²¹ In fact, 84.2% of the whales observed or reported with a hook/line or monofilament entanglement were resighted gear free and healthy; confirmation of the health of the other remaining whales remain unknown as no resightings had been made over the timeframe of the assessment (Henry et al. 2016). Based on this information, while large whale interactions with hook and line gear are possible, these interactions are not expected pose a significant serious injury or mortality risk to any large whale species (i.e., will not contribute to the exceedance of any whale species PBR level).

Small Cetaceans (Bottlenose Dolphins)

Over the past several years, observer coverage has been limited for fisheries prosecuted with hook and line or trap/pot gear. In the absence of extensive observer data for these fisheries, stranding data provides the next best source of information on species interactions with hook and line or trap pot gear. It is important to note; however, stranding data underestimates the extent of human-related mortality and serious injury because not all of the marine mammals that die or are seriously injured in human interactions are discovered, reported, or show signs of entanglement. Additionally, if gear is present, it is often difficult to definitively attribute the animal's death to the gear interaction, or if pieces of gear are absent, attribute the death or serious injury to a specific fishery or fishing gear type. As a result, the conclusions below should be taken with these considerations in mind and with an understanding that interactions may occur more frequently than what we are able to detect and provide at this time.

²¹ Any injury leading to a significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyamid loads) is classified as a serious injury (SI); A value of "1" is set for cases determined to be a SI (Henry et al. 2016).

Several bottlenose dolphin stocks have been identified as species at risk of becoming seriously injured or killed by hook and line. Reviewing the stock assessment reports for each dolphin stock identified in Table 9, stranding data provides the best source of information on species interaction history with hook and line gear type. Specifically, based on stranding data from 2007-2011 and 2009-2013, estimated mean annual mortality for each stock due to interactions with hook and line gear was approximately one animal (Waring et al. 2014).²² Based on this and the best available information, interactions with hook and line gear, resulting in the serious injury or mortality to stocks of bottlenose dolphins, is believed to be infrequent.

Sea Turtles

ESA-listed species of sea turtles are known to interact with hook and line gear, particularly in nearshore, southern waters (e.g., Virginia, south; Sea Turtle Disentanglement Network; NMFS 2013). Serious injury and mortality to sea turtles can be incurred by interactions with hook and line gear, and therefore, can pose a risk to these species. However, the extent to which these interactions are impacting sea turtle populations is still under investigation and therefore, no conclusions can currently be made on the impact of hook and line gear on the continued survival of sea turtle populations. However, as with the commercial fishery (see section 6.3.2), the golden tilefish recreational fishery primarily operates in deep continental shelf edge/slope waters (>200 meters) which could reduce the potential for interaction.

Atlantic Sturgeon

ESA-listed species of Atlantic sturgeon are known to interact with hook and line gear, particularly in nearshore, waters from the Gulf of Maine to Southern New England (Network; NMFS 2013). Serious injury and mortality to Atlantic sturgeon can be incurred by hook and line gear interactions, and therefore, can pose a risk to these species. However, the extent to which these interactions are impacting Atlantic sturgeon DPSs is still under investigation and therefore, no conclusions can currently be made on the impact of hook and line gear on the continued survival of Atlantic sturgeon DPSs (NMFS 2013; NMFS 2011b). Nevertheless, subadult and adult Atlantic sturgeon live in coastal waters and estuaries when not spawning (they spawn in freshwater), generally in shallow (10-50 meter depth) nearshore areas dominated by gravel and sand substrates.²³ As with the commercial fishery (see section 6.3.2), the golden tilefish recreational fishery primarily operates in deep continental shelf edge/slope waters (>200 meters) which could reduce the potential for interaction.

6.4 Human Communities and Economic Environment

²² Stranding data provided in Waring et al. 2015 was not considered in estimating mean annual mortality as not all bottlenose dolphin stocks are addressed in this stock assessment report. As all bottlenose dolphin stocks are considered in Waring et al. (2014), these stock assessment reports were used to estimate mean annual mortality. Estimates of mean annual mortality were calculated based on the total number of animals who stranded between 2007-2011 and 2009-2013, and who were determined to have incurred serious injuries or mortality as result of animals interacting with hook and line gear. In addition, any animals released alive, with no serious injuries were not included in the estimate. Also, if maximum or minimum number of animals stranded were provided, to be conservative, we considered the maximum estimated number in calculating our mean annual estimate of mortality.

²³ <http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html>
http://www.nmfs.noaa.gov/pr/pdfs/species/atlanticsturgeon_detailed.pdf

A detailed description of the social and economic aspects of the fishery for tilefish was presented in Amendment 1 to the FMP (MAFMC 2009). Montauk (New York) and Barnegat Light (New Jersey) continue to be the ports with the vast amount of landings. Recent trends in the fishery are presented below.

6.4.1 Fishery Descriptions

Commercial golden tilefish ex-vessel revenues have ranged from \$2.5 (year 2000) to \$5.9 (year 2013) million for the 1999 through 2015 period. The mean price for golden tilefish (adjusted) has ranged from \$1.11 per pound in 2004 to \$4.26 per pound in 2015 (Figure 5).

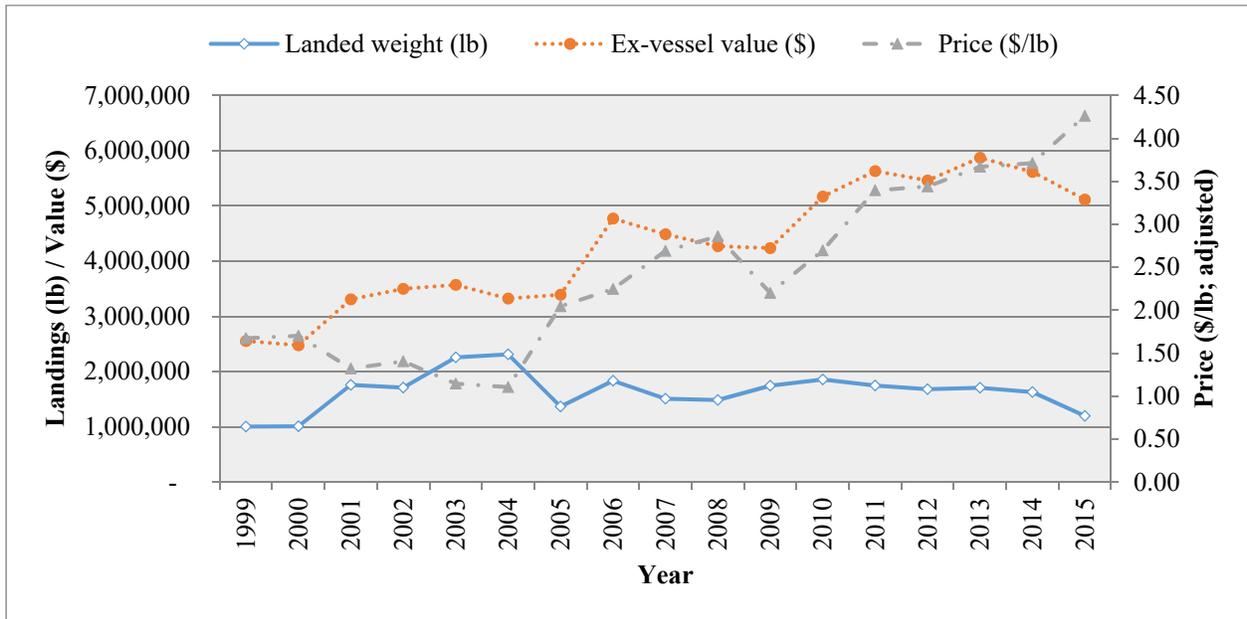


Figure 5. Landings, ex-vessel value, and price for golden tilefish, Maine through Virginia combined, 1999-2015.

Note: Prices were adjusted to 2015 values using the Bureau of Labor Statistics Producer Price Index.

The 2011 through 2015 coastwide average ex-vessel price per pound for all market categories combined was \$3.47. Price differential indicates that larger fish tend to bring higher prices (Table 11). Commercial discards are not generated by the IFQ fishery due to the fact that all fish caught (given the standard hook size/type use by the industry) are marketable. In addition, even though there is a price differential for various sizes of golden tilefish landed, golden tilefish fishermen land all fish caught as the survival rate of discarded fish is very low (L. Nolan 2006; Kitts et al. 2007). Furthermore, Amendment 1 to the Tilefish FMP prohibited the practice of highgrading (MAFMC 2009).

Table 11. Landings, ex-vessel value, and price of golden tilefish by size category, from Maine thought Virginia, 2011 through 2015.

Size Category	Landed Weight (pounds)	Value (\$)	Price (\$/pound)
Extra large	308,830	1,287,824	4.17
Large	2,445,307	9,918,655	4.06
Large/Medium ^a	371,189	1,509,810	4.07
Medium	2,588,999	8,414,090	3.25
Small or Kittens	1,404,182	3,802,300	2.71
Extra small	139,649	333,758	2.39
Unclassified	716,299	2,434,470	3.40
All	7,974,455	27,700,907	3.47

^a Large/medium code was developed in 2014-2015.

6.4.2 Description of the Areas Fished

A detailed description of the areas fished by the fishery for tilefish was presented in Amendment 1 to the FMP (MAFMC 2009). The following provides information about recent fishery conditions.

Approximately 55 percent of the landings for 2015 were caught in statistical area 616 (includes Hudson Canyon); statistical area 626 (includes Norfolk Canyon) had 6 percent; statistical areas 525 (includes Oceanographer, Lydonia, and Gilbert Canyons) and 539 had 3 percent (Table 12). NMFS statistical areas are shown in Figure 6.

Table 12. Golden tilefish percent landings by statistical area and year, 1996-2015.

Year	Unk	513	525	526	533	536	537	539	612	613	614	615	616	622	626	Other
1996	19.76	0.14	0.07	5.15	0.61	-	43.76	0.38	*	1.06	-	-	27.82	0.01	-	1.24
1997	23.29	0.39	0.03	0.67	0.01	-	56.21	0.02	*	2.59	-	*	16.40	0.01	*	0.37
1998	16.21	*	1.24	2.15	0.04	-	65.84	0.04	-	5.44	-	0.03	8.53	*	*	0.46
1999	2.57	*	0.97	0.22	0.01	-	55.07	0.01	0.11	3.68	-	0.16	36.78	0.02	0.02	0.38
2000	*	-	0.36	3.76	0.99	-	45.64	0.01	0.05	2.35	-	1.26	43.49	0.47	0.14	1.49
2001	-	0.03	0.23	3.09	0.01	-	23.91	*	0.01	3.16	-	0.02	68.96	*	0.10	0.46
2002	-	-	0.12	8.73	-	-	35.86	0.07	0.01	15.39	-	*	39.64	0.02	0.02	0.13
2003	-	-	0.88	1.79	0.08	-	38.45	0.10	-	11.84	0.01	*	46.47	0.05	0.05	0.28
2004	-	*	1.02	2.59	0.01	-	61.66	0.06	5.28	0.70	-	0.02	25.91	0.03	0.06	2.64
2005	-	-	0.12	0.24	1.98	-	61.74	0.02	0.03	5.99	-	1.81	25.17	0.03	0.20	2.66
2006	-	-	*	1.54	*	1.96	61.69	0.50	1.24	0.71	-	0.07	30.09	0.04	0.05	2.09
2007	-	-	0.02	0.40	*	4.56	52.45	0.01	-	5.26	4.95	0.38	30.00	0.81	0.41	0.78
2008	-	-	1.02	0.05	*	7.61	36.83	*	-	4.30	6.92	0.94	40.27	1.91	0.02	0.13
2009	-	-	2.06	0.01	-	3.97	40.53	1.23	0.04	4.15	4.90	0.01	39.67	1.27	1.11	1.04
2010	-	-	0.01	0.01	0.01	-	57.13	0.55	0.02	7.28	*	0.05	33.94	0.69	0.04	0.26
2011	-	2.86	0.02	*	-	-	53.06	0.01	-	3.12	-	0.37	39.98	0.31	0.06	0.21
2012	-	-	0.01	0.01	-	-	52.54	0.03	*	0.58	-	2.58	43.92	0.20	0.10	0.03
2013	-	-	*	0.67	-	-	56.23	1.06	0.03	0.69	-	0.01	35.39	1.21	4.59	0.13
2014	-	-	0.01	0.43	*	-	48.55	1.92	0.01	1.31	-	0.34	43.62	2.72	0.36	0.74
2015	-	1.00	3.12	1.00	*	-	28.62	2.59	-	0.01	-	*	55.14	2.32	5.66	1.54
All	4.41	0.19	0.53	1.63	0.16	0.79	50.27	0.39	0.49	3.91	0.73	0.34	34.22	0.52	0.55	0.86

Note: - = no landings; * = less than 0.01 percent.

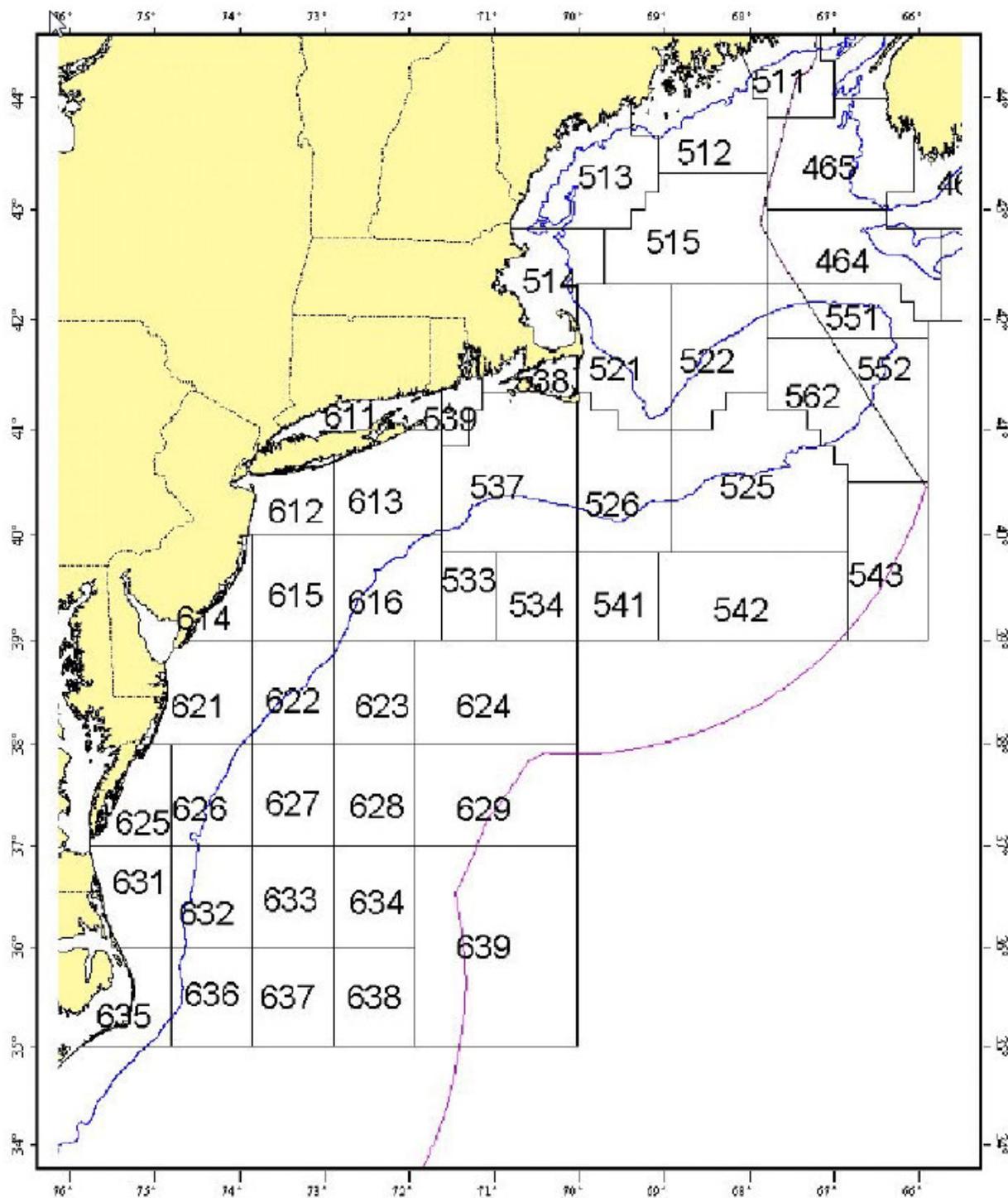


Figure 6. NMFS Statistical Areas.

6.4.3 Port and Community Description

The ports and communities that are dependent on golden tilefish are fully described in Amendment 1 to the FMP (section 6.5; MAFMC 2009; found at http://www.mafmc.org/fmp/pdf/Tilefish_Amend_1_Vol_1.pdf). Additional information on "Community Profiles for the Northeast US Fisheries" can be found at http://www.nefsc.noaa.gov/read/socialsci/community_profiles/.

To examine recent landings patterns among ports, 2014-2015 NMFS dealer data are used. The top commercial landings ports for golden tilefish are shown in Table 13. A "top port" is defined as any port that landed at least 10,000 pounds of golden tilefish. Ports that received 1% or greater of their total revenue from golden tilefish are shown in Table 14.

Table 13. Top ports of landing (in pounds) for golden tilefish, based on NMFS 2014 - 2015 dealer data. Since this table includes only the "top ports," it may not include all of the landings for the year.

Port	2014		2015	
	Landings (pounds)	# Vessels	Landings (pounds)	# Vessels
Montauk, NY	1,181,086 (1,177,286)	14 (4)	822,677 (821,195)	7 (4)
Barnegat Light/Long Beach, NJ	376,226 (372,013)	12 (8)	362,979 (362,976)	10 (9)
Hampton Bays, NY	168,883 (C)	4 (1)	56,930 (C)	3 (1)
Point Judith, RI	14,406 (0)	45 (0)	4,929 (0)	47 (0)
Shinnecock, NY	C (C)	2 (1)	C (C)	1 (1)
East Hampton, NY	0 (0)	0 (0)	C (C)	1 (1)

Note: Values in parenthesis correspond to IFQ vessels. C = Confidential.

Table 14. Ports that generated 1% or greater of total revenues from golden tilefish, 2011-2015.

Port	State
East Hampton	New York
Montauk	New York
Hampton Bays	New York
Barnegat Light/Long Beach	New Jersey
Shinnecock	New York
Other Monmouth	New Jersey

6.4.4 Vessels, Permits, Dealers, and Markets

Data from the Greater Atlantic permit application database shows that in 2015 there were 1,492 vessels that held a valid tilefish open access commercial/incidental permit and 273 vessels held a valid open access party/charter permit. However, not all of those vessels are active participants in the fishery. In 2015 there were 43 federally permitted dealers who bought golden tilefish from 97 vessels that landed this species from Maine through Virginia. In addition, 64 dealers bought golden tilefish from 112 vessels in 2014. These dealers bought approximately \$5.1 and \$5.7 million worth of golden tilefish in 2015 and 2014, respectively, and are distributed by state as indicated in Table 15. Table 16 shows relative dealer dependence on golden tilefish. Furthermore, 23 party/charter vessels reported catching tilefish in 2015.

Table 15. Dealers reporting buying golden tilefish, by state in 2014 - 2015.

# of Dealers	MA		RI		CT		NY		NJ		MD		VA		Other	
	'14	'15	'14	'15	'14	'15	'14	'15	'14	'15	'14	'15	'14	'15	'14	'15
	7	6	9	8	10	6	20	13	9	6	3	C	4	3	2	1

Note: C = Confidential.

Table 16. Dealer dependence on golden tilefish, 2011-2015.

Number of Dealers	Relative Dependence on Tilefish
83	<5%
4	5%-10%
5	10% - 25%
2	25% - 50%
1	50% - 75%
1	90%+

Most tilefish are sold fresh. The bulk of the catch is gutted at sea and iced during long trips. Incidental catches are not gutted. When the catch arrives at the dock it is sorted, washed, weighed, boxed, and iced in 60-pound cartons. Tilefish are generally transported to the Fulton Market by truck. Traditionally, most of the tilefish landings were sold to ethnic customers (e.g., the Korean markets). Due to marketing efforts, tilefish has become a very well-known popular item. They are found as a “regular” on the menus rather than an occasional “special.” Local fish markets, as well as grocery stores like Whole Foods, carry tilefish. Businesses like Sea to Table, a door-to-door seafood delivery service, have also helped spread the word on what a great eating fish tilefish are. Having a steady year-round supply of tilefish has influenced the positive market development for this product.²⁴

7.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

This EA analyzes the impacts of the alternatives described in section 5.0. These alternatives mostly specify administrative changes to the fishery, recreational gear requirements, and qualifier in the incidental commercial fishery. In summary, they include:

Catch and Landings Limits Flow Chart (section 5.1)

- Alternative 1 (No Action)
- Alternative 2 (Preferred: Modification to the golden tilefish catch and landings limits flow chart)

IVR Reporting Requirements (section 5.2)

- Alternative 1 (No Action)
- Alternative 2 (Preferred: Eliminate the IVR reporting requirements)

Number of Allowable Fishing Allocations (section 5.3)

- Alternative 1 (No Action)
- Alternative 2 (Preferred: Prohibit vessels from fishing more than one allocation at a time)

Golden Tilefish Product Form Landings Requirements (section 5.4)

- Alternative 1 (No Action)
- Alternative 2 (Preferred: Prohibit vessels from landing golden tilefish with the “head-off”)

Recreational Fishery Gear Requirements (section 5.5)

- Alternative 1 (No Action)
- Alternative 2 (Prohibit the use of mini-longlines in the golden tilefish recreational fishery)
- Alternative 3 (Preferred: Restrict the recreational golden tilefish fishery to rod and reel fishery only with a five hook maximum limit per rod)

Landings Ratios/Qualifiers for the Incidental Fishery (section 5.6)

- Alternative 1 (No Action)
- Alternative 2 (Incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed)

²⁴ 2016 Advisory Panel Fishery Performance Report (available at: <http://www.mafmc.org/fishery-performance-reports/>).

- Alternative 3 (Preferred: Incidental golden tilefish landings cannot exceed 50% of the total weight of all combined species landed)

The aspects of the environment (Valued Ecosystem Components - VECs) that could be affected by the proposed actions are detailed in section 6.0, and the analysis in this section focuses on impacts relative to those (managed resources and non-target species, habitat (including EFH), ESA listed and MMPA protected resources, and human communities). Other aspects of the human environment, such as historic and cultural resources, invasive species, and others, have no potential to be impacted by any of the alternatives and are not analyzed further in this document. For each suite of alternatives, a no action (*status quo*) alternative is presented as alternative 1.

This EA analyzes the expected impacts of each alternative on each VEC. When considering impacts on each VEC, the alternatives are compared to the *status quo* and evaluated in terms of their impact to the current environmental and socioeconomic baseline conditions. The *status quo* alternatives are defined as a continuation of the current management regimes and fishery operations. It is not possible to quantify with confidence how effort will change under each alternative; therefore, expected changes are described qualitatively.

The baseline conditions include the biological conditions of the golden tilefish stock, as well as the associated fisheries over the most recent five years (i.e. the fishing practices and levels of effort and landings over the most recent five years), as well as the economic characteristics of the fisheries over the most recent three to five years (depending on the dataset). The FMP for this species became effective November 1, 2001, and included management and administrative measures to ensure effective management of the golden tilefish resource. Tilefish Amendment 1 (effective November 1, 2009) included a new structure for managing the commercial golden tilefish fishery using an IFQ system. Lastly, Amendment 3 (omnibus amendment; effective October 31, 2011) brought the Tilefish FMP into compliance with the ACL and AM requirements of the MSA (see section 1.0 for additional details). Because most of the golden tilefish management components have been in place since 2001, with management amendments in 2009 and 2011, and have not been modified since then, they are considered a component of the baseline conditions. The baseline conditions are essentially the current state of the VECs.

The alternatives are not compared to a theoretical condition where golden tilefish fisheries are not operating (and those interactions between the fisheries and the specific VEC were not occurring). These fisheries have occurred for many decades and are expected to continue into the foreseeable future. The nature and extent of the management programs for the golden tilefish fishery have been examined in detail in EAs and Environmental Impact Statements (EISs) prepared for previously implemented management actions under the FMP. The analysis in this section focuses on the impacts of the alternatives relative on each VEC.

Throughout this section, the impacts of the *status quo* alternatives are evaluated based on their expected impacts to the baseline conditions. The impacts of the non-*status quo*

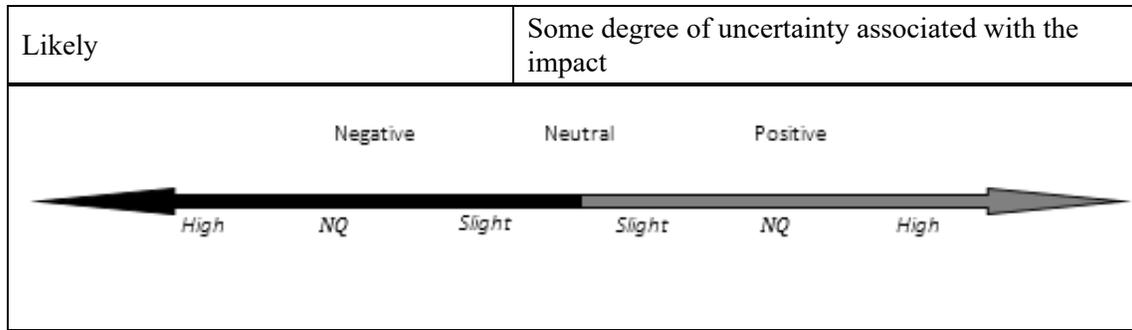
alternatives on the VECs are evaluated relative to one another and in comparison to the *status quo* alternatives.

Impacts to golden tilefish and other non-target species, as well as impacts to habitat and protected resources are described in relation to expected changes in fishing effort under each of the alternatives (Table 17). In general, alternatives which may result in an increase in fishing effort could lead to an increase in fishing mortality for target and non-target species and therefore may have negative biological impacts for those species, when compared to the *status quo*. Conversely, alternatives which may result in a decrease in fishing effort may result in positive impacts for those species by resulting in a decrease in fishing mortality, when compared to the no action alternative.

Table 17. Definition of impact and impact qualifiers. ²⁵

Impact Definition			
	Directional Impact		
VEC	Positive (+)	Negative (-)	Neutral (0)
Allocated Target Species, Other Landed Species, and Protected Resources	Actions that increase stock / populations size	Actions that decrease stock / populations size	Actions that have no positive or negative impacts on stock / populations size
Physical Environment / Habitat / EFH	Actions that improve the quality or reduce disturbance of habitat	Actions that degrade the quality or increase disturbance of habitat	Actions that have no positive or negative impacts on habitat quality
Human Communities (Socioeconomic)	Actions that increase revenue and social well-being of fishermen and/or associated business	Actions that decrease revenue and social well-being of fishermen and/or associated business	Actions that have no positive or negative impacts on revenue and social well-being of fishermen and/or associated business
Impact Qualifiers			
Slight (sl), as in slight positive or slight negative)	To a lesser degree / minor		
No qualifier, as in positive or negative	To an average degree (i.e., more than “slight”, but not “high”)		
High (H), as in high positive or high negative	To a substantial degree		

²⁵ In the following sections, the direction of the impacts on each of the VECs are described as negative, neutral, or positive. If the magnitude of the impact is expected to be moderate, the impact is described with only a directional indicator (i.e., “positive” and “negative” should be read as “moderate positive” and “moderate negative”). If the magnitude of the impact is expected to be minor, the impact is described as “slight,” as in slight negative or slight positive. If the magnitude of the impact is expected to be substantial, the impact is described as “high,” as in high positive or high negative. If there is some degree of uncertainty associated with the impact, it is described as “likely.”



Alternatives which may result in a reduction in fishing effort may have positive impacts for habitat and protected species by decreasing the time that fishing gear is in the water and thus reducing the potential for interactions between fishing gear and habitat and fishing gear and protected species. Alternatives which may cause an increase in fishing effort may result in negative impacts to habitat and protected species due to increased potential for interactions between fishing gear and habitat and fishing gear and protected species. A neutral impact could result from negligible or no changes in effort.

Socioeconomic impacts are considered in relation to potential changes in landings and prices under each alternative, and by extension, revenues, compared to the *status quo*. Alternatives which could result in an increase in landings are generally considered to have positive socioeconomic impacts because they could result in increased revenues; however, if an increase in landings leads to a decrease in price, then negative socioeconomic impacts could occur.

7.1 Biological Impacts

7.1.1 Catch and Landings Limits Flow Chart Alternatives

Alternative 1 (no action) would not modify the existing golden tilefish system for deriving catch and landings limits. This alternative would continue to deduct discards (regardless of the sector producing them-IFQ fishery or incidental fishery) from the overall ACT in order to derive the TAL. Alternative 1 would not allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch.

Alternative 2 (preferred) would modify the catch and landings limits flow chart for golden tilefish in order to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. Alternative 2 is purely administrative as it deals with minor modifications to the golden tilefish catch and landings limits flow chart. Commercial discards are not generated by the IFQ fishery due to the fact that all fish caught (given the standard hook size/type use by the industry) are marketable. Furthermore, the FMP prohibits discarding when fishing under an IFQ

allocation. Industry members (IFQ fishery) have indicated that it would be more reasonable to deduct discards from the specific fishing sector generating them and not from the overall fishery (IFQ and incidental fisheries combined) when setting quotas. VTR data indicates that for the 2005 to 2014 period, there were no golden tilefish discarded in the directed fishery (Table 8). A small amount of discards is generated by the incidental fishery. According to the latest golden tilefish assessment (SAW 58; NEFSC 2014), the combined discards of golden tilefish for 2010-2012 for the large and small mesh trawl and gillnet gear averaged 11,023 pounds, annually. Modifying the catch and landings limits flow chart for golden tilefish in order to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them would not change fishing patterns or affect the performance of the IFQ fishery or incidental fishery. The incidental category is allocated 5% of the quota and trip limits are used to achieve the incidental target quota. Current regulations stipulate that incidental landings cannot exceed 500 pounds live weight of golden tilefish per trip. The incidental fishery has not harvested all of their allocation since Amendment 1 was implemented in 2009. More recently, for example, in the last 4 fishing years (2012-2015), the incidental fishery landed from 21% of their 87,744 pound allocation in 2012 to 45% of their 99,750 pound allocation in 2014 (Table 3). Therefore, slightly adjusting the incidental quota downward to fully account for discards in that sector of the fishery would not likely constraint landings in the incidental fishery given recent fishing patterns. Alternative 2 is purely an administrative issue in nature. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 2 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch, compared to the no action alternative. Therefore, biological impacts from alternatives 1 and 2 are expected to be similar.

7.1.2 IVR Reporting Requirements Alternatives

Alternative 1 (no action) would not modify the existing IVR reporting requirements for the golden tilefish IFQ fishery. As such, vessels fishing under a Golden Tilefish IFQ Allocation Permit must continue to submit a tilefish catch report by using the IVR phone line system within 48 hours after returning to port and offloading. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch.

Alternative 2 (preferred) would eliminate the IVR reporting requirements in the golden tilefish IFQ fishery. Alternative 2 is purely administrative as it deals with the elimination of a reporting system that is not used to track golden tilefish landings any longer. As previously indicated, with the implementation of electronic dealer reporting in 2004 and improved VTR reporting processing by the agency, the information provided by fishermen using the IVR system has become redundant. Currently, GARFO uses landings reported in the dealer system as the primary tool to track landings in the fishery. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 2 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch, compared to

the no action alternative. Therefore, biological impacts from alternatives 1 and 2 are expected to be similar.

7.1.3 Number of Allowable Fishing Allocations Alternatives

Under alternative 1 (no action) vessels could harvest golden tilefish using more than one golden tilefish IFQ allocation number at a time. In the golden tilefish fishery, IFQ holders designate vessels they own or lease that are authorized to land their IFQ. Under the current monitoring system, a vessel is authorized to land for a specific time period, and not for a specific number of pounds. During the period a vessel is authorized to harvest, all of its golden tilefish landings are counted against the allocation. The system is not designed to allow a trip to be split between multiple IFQ allocation numbers. This could create situations when it would be difficult to assign golden tilefish landed to a specific allocation number. This is due to the fact that there is no mechanism available to the vessel or dealer to correctly allocate fish landed to the specific allocation numbers used by the vessel performing the harvesting services. GARFO has indicated that since the IFQ system was implemented (6 years ago), they only encountered one case where a vessel was performing harvesting services for two allocation holders that had small amounts of golden tilefish pounds left at the end of the fishing year. In that case, when the vessel landed the golden tilefish harvested, there was no mechanism available to the vessel or dealer to correctly allocate fish landed to the specific allocation numbers used by the vessel performing the harvesting services. In that case, GARFO staff had to manually track landings and talk to the vessel captain/allocation holders to apportion golden tilefish landings to their respective allocation numbers.^{26, 27} This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch.

Alternative 2 (preferred) would prohibit vessels from fishing more than one allocation at a time. The implementation of this alternative would prohibit two (or more) allocation numbers from authorizing the same vessel to fish those allocations at the same time. Therefore, for example, a fishing vessel (with no associated golden tilefish IFQ allocation) cannot fish or perform harvesting services for two (or more) allocation holders at the same time. Equally, a golden tilefish allocation holder fishing his/her allocation pounds cannot fish or perform harvesting services for another allocation holder at the same time. However, this alternative would not preclude a vessel from leasing from one or more allocation holders by transferring golden tilefish pounds. As such, in the two examples described above, if allocation pounds had been transferred via the leasing process, the harvesting

²⁶ It is important to note that this deficiency could be corrected, if the NMFS were to create a reporting mechanism to facilitate vessels and dealers to report specific IFQ allocation numbers and associated pounds landed for each fishing trip. However, this would create additional reporting burden for all vessels and dealers and the cost of IFQ-specific reporting would likely be recoverable, and therefore billed to the industry.

²⁷ Current golden tilefish accountability measures (50 CFR §648.293(a)) state that if the ACL is exceeded, the amount of the ACL overage that cannot be directly attributed to IFQ allocation holders having exceeded their IFQ allocation will be deducted from the ACL in the following fishing year. All overages directly attributable to IFQ allocation holders will be deducted from the appropriate IFQ allocation(s) in the subsequent fishing year, as required by 50 CFR §648.294(f).

services could have been performed.²⁸ Lastly, GARFO has indicated to the Council that this administrative change would enhance the management process for the golden tilefish IFQ system. GARFO has also indicated that while it is not common for vessels to fish with more than one golden tilefish allocation at a time, this alternative if implemented would close the loop for potential IFQ monitoring issue in the future. Lastly, industry members have also indicated that the implementation of this alternative should not adversely affect their fishing practices and operations. Alternative 2 is purely an administrative issue in nature. Alternative 2 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch, compared to the no action alternative. Therefore, biological impacts from alternatives 1 and 2 are expected to be similar.

7.1.4 Golden Tilefish Product Form Landings Requirements

Alternative 1 (no action) would not implement product form landings requirements for golden tilefish. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch.

Alternative 2 (preferred) would make an administrative change to the current regulations that would require vessels to land golden tilefish with the head attached. In spring 2014, the APSD and the NEFSC removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off.²⁹ The need for this action is to close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 2 is purely an administrative issue in nature. Alternative 2 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch, compared to the no action alternative. Therefore, biological impacts from alternatives 1 and 2 are expected to be similar.

7.1.5 Recreational Fishery Gear Requirements

Under the current golden tilefish regulations, there is no quota allocation to the recreational fishery. When the Tilefish FMP was developed in 1999, the recreational landings were considered insignificant and available data suggested that there was not a substantial directed recreational fishery for golden tilefish (MAFMC 2001). Furthermore, the FMP states that “although tilefish were a popular recreational fish during the early to mid-1970s, due to fluctuations in the availability of fish and changes in angling preference, the number

²⁸ It is also important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations at any time during the fishing year by written request to NMFS (50 CFR §648.294(b)(4)).

²⁹ Golden tilefish are landed with the head-on.

of recreational fishing trips targeting tilefish has precipitously declined.” The Tilefish FMP did not contain management measures for the recreational fishery.

Amendment 1 to the Tilefish FMP implemented an IFQ system, modified EFH/HAPC designations and implemented measures to reduce gear impacts on EFH, and implemented a fee and cost recovery program among others (MAFMC 2009). During the development of Amendment 1, Council members indicated that they had seen an increase in recreational golden tilefish landings. In addition, it was thought that much of the catch by the recreational sector was not captured through federal reporting requirements. As a result, the Amendment established a party/charter tilefish vessel permit and party/charter vessel reporting requirements and a possession limit (eight fish per angler per trip). At the December 2014 Council meeting, it was discussed that industry members have reported that some anglers are fishing for golden tilefish using mini-longlines with up to 25 hooks on the line.

Alternative 1 (no action) would not make a modification to the current gear requirements for the fishery. The Tilefish FMP and subsequent Amendment have not implemented any gear requirements in the recreational golden tilefish fishery. Prior to the implementation of the Tilefish FMP, the NMFS revised the list of authorized fisheries and fishing gear used in those fisheries (LOF) contained in 50 CFR §600.725(v). That list of fisheries and authorized gear included the MAFMC Tilefish Fishery (Non-FMP [at that time]), and rod and reel and spear were the authorized gear types for the recreational fishery. While this is an overarching regulation covering all fisheries and gears authorized under 50 CFR §600.725(v), the *Federal Register* notice (64 FR 67511; December 2, 1999) also states that “effective December 1, 1999, no person or vessel may employ fishing gear or participate in a fishery in the exclusive economic zone (EEZ) not included in this LOF without giving 90 days’ advance notice to the appropriate Fishery Management Council (Council) or, with respect to Atlantic highly migratory species (HMS), the Secretary of Commerce (Secretary);” therefore, “if a state’s regulations authorize the conduct of a fishery in the EEZ or authorize or require the use of gear in the EEZ, that is not listed or authorized in the LOF, then any fisherman intending to fish under such state’s regulations must afford the Secretary or appropriate Council with 90 days prior written notice of his/her intent to conduct such a fishery or to use such gear. Whether notice was given to the Secretary or appropriate Council, the Secretary may issue regulations to prohibit the fishery in the EEZ or the use of such gear in the EEZ. In such a case, the Federal regulations prohibiting the fishery or the use of the gear would pre-empt the state regulations authorizing the fishery in the EEZ or authorizing or requiring the use of the gear in the EEZ.” The Council discussed that relying on this 1999 rule for gear restrictions in this recreational fishery may not provide adequate time for Council action in response to any potential intent of a fisherman to participate in the recreational fishery using other gear types not listed on the final rule. Alternative 1 is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch. However, in the long term slight negative impacts could occur if golden tilefish discards were to increase.

Alternative 2 would prohibit the use of mini-longlines in the golden tilefish recreational fishery. Council members discussed reports that mini-longlines have been used in the recreational golden tilefish fishery. While there is no clear understanding of how prevalent this activity is, the Council has indicated that fishing with mini-longlines for golden tilefish should not be considered a recreational fishery. Since there is no clear definition (e.g., line length, number of hooks) of what a mini-longline is,³⁰ the Council was concerned that there is a potential for other modifications to existing gear types could result in some type of mini-longline.³¹ The Council discussed that while the golden tilefish recreational fishery is limited by the recreational regulations (i.e., possession limit) regardless of the recreational gear type used, employing mini-longlines with large number of hooks could increase the success rate of catching fish, and if the number of fish caught is above the possession limit, discard mortality in the recreational fishery could increase. There is no information available to describe how prevalent the use of mini-longlines in the golden tilefish fishery is, but it does not appear to be common. Industry members and Tilefish Advisors Panel members have indicated that using mini-longlines to fish for golden tilefish recreationally is likely to be a very rare event and not a typical recreational fishing activity. Furthermore, some commercial and recreational golden tilefish fishermen have indicated that they have seen greenstick boats tuna fishing that may be confused with recreational mini-longline use. This alternative is not expected to have a significant impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 2 is expected to likely result in neutral to slight positive biological impacts on the golden tilefish stock, and any non-target species or bycatch when compared to the no action alternative due to the potential reduction of the use of mini-longline gear in the golden tilefish recreational fishery and associated discard mortality.

Alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod.³² This alternative would only allow the recreational golden tilefish fishery to be conducted using rod and reel with a five hook maximum limit per rod. Rod and reel is the typical gear used in the recreational tilefish fishery (MAFMC 2001). The Council believes that limiting the number of hooks that can be used while fishing with rod and reel gear for golden tilefish to five hooks (per rod) is about the limit that is currently used by recreational anglers. For example, limiting the number of hooks to less than 5 (e.g., 2 or 3) would likely result in fishermen having to

³⁰ Longline - Fishing method using a horizontal mainline to which weights and baited hooks are attached at regular intervals. The horizontal mainline is connected to the surface by floats. The mainline can extend from several hundred yards to several miles and may contain several hundred to several thousand baited hooks. <https://www.st.nmfs.noaa.gov/st4/documents/FishGlossary.pdf>. Recreational style mini-longline - Spool 2.5 – 3 feet in diameter set of the gunwale with pre-baited hooks within the core of the spool/circle. Hooks are deployed by putting the boat in gear (~ 30 pre-baited hooks). Hook retrieval performed by several means including hydraulic, electric gear, and hand crank.

³¹ The Council indicated that it may be more reasonable to define gear types that are allow in the recreational golden tilefish fishery instead of exempting specific gear types; as this could potentially avoid having to do the same thing in the future, as other non-recreational gear types could be modified for use in the golden tilefish fishery (see alternative 3).

³² The owner, operator, and crew of a charter or party boat issued a tilefish moratorium permit are subject to the recreational gear restriction. If there is a violation of the recreational gear restriction on board a vessel carrying more than one person, the violation shall be deemed to have been committed by the owner and operator of the vessel.

check their bait more frequently which anglers may want to avoid when fishing at depths of 400 to 800 feet. In addition, for-hire vessels limit the number of hooks fishermen use and do not typically use more than 3 to 5 hooks as this increases the potential for gear entanglement. The Council discussed that while the golden tilefish recreational fishery is limited by the recreational regulations (possession limit) regardless of the recreational gear type used, alternative 3 would not allow for other gear types (e.g., mini-longlines with large number of hooks) that could increase the success rate of catching fish, and if the number of fish caught is above the possession limit, discard mortality in the recreational fishery could increase. This alternative is not expected to have a significant impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 3 is expected to likely result in neutral to slight positive biological impacts on the golden tilefish stock, and any non-target species or bycatch, compared to the no action due to the potential reduction of the use of mini-longline gear in the golden tilefish recreational fishery and associated discard mortality. Therefore, biological impacts from alternatives 2 and 3 are expected to be similar.

7.1.6 Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action) would not implement landings ratios/qualifiers for the incidental fishery. This alternative is not expected to have any impact on fishing methods and practices or the interaction of this fishery with non-targeted species. Alternative 1 is expected to result in neutral biological impacts on the golden tilefish stock, and any non-target species or bycatch.

Under alternative 2, tilefish permitted vessels not fishing under an IFQ allocation, cannot land golden tilefish in excess of 25%, by weight, of their total landings. As an example, if a permit holder is not fishing under an IFQ allocation and wants to land the full incidental landing limit (currently 500 pounds live weight), that permit holder would also need to land 1,500 pounds of other species combined (excluding golden tilefish) in order to land the full 500 pounds of golden tilefish caught incidentally

When the FMP was implemented in 2001, an incidental category was developed to accommodate landings from “incidental” vessels (mostly otter trawls and a few gillnet vessels; MAFMC 2001) that would encounter golden tilefish while fishing for other species. When the IFQ was implemented the different permit categories were eliminated and replaced with a single commercial vessel permit. Commercial vessels are restricted to the incidental possession limit unless fishing under an IFQ allocation. The incidental fishery is allocated 5% of the quota and trip limits are used to achieve the incidental target quota. Current regulations stipulate that incidental landings cannot exceed 500 pounds live weight of golden tilefish per trip. Industry members have indicated that non-IFQ tilefish vessels are targeting golden tilefish and this does not qualify as incidental landings. They have argued that this goes against the intent of the incidental fishery as presented under the original FMP. Table 18 and Figure 7 show the contribution in pounds and value of golden tilefish to total landings for trips that incidentally caught golden tilefish for various

threshold levels (dealer data, 2011-2015).³³ Table 18 indicates that for trips that incidentally landed between 1-99 pounds of golden tilefish, this species contributed 0.2% of the total landings and 0.3% of the total value (row 2, columns 4 and 7). Associated gear types, species landed, and port state for various thresholds are also presented in Table 18. It is noted that as the threshold levels of golden tilefish landed increase, the contribution of golden tilefish to the total landings and values also increase (Table 18 and Figure 7). In addition, the combination of species landed and gear types used decrease as the golden tilefish threshold levels increase (Table 18). Overall, this indicates that golden tilefish becomes more important to the total landings of incidental trips as the threshold levels (amount of golden tilefish landed on a per trip basis) increases.

Table 19 shows the pounds and value of golden tilefish landed for incidental trips where golden tilefish was the only species landed for various threshold levels. There were 67 trips for the 2011-2015 period (1.9% of the total incidental golden tilefish trips) that landed only golden tilefish. While there were golden tilefish landed at every threshold level, they were larger at the upper end of the range (≥ 400 pound range; Table 19). This indicates that it is possible that some trips may be targeting golden tilefish under the incidental trips limit regulations.³⁴ While all of these trips would not be considered to be landing golden tilefish caught incidentally while participating in another fishery (only golden tilefish was landed), it is difficult to assess how many of those trips were taken with the sole purpose of landing golden tilefish under the incidental trip limit regulations; specially at the lower threshold levels (e.g., < 300 -400 lb). It is possible that some of these trips were targeting other species and only landed golden tilefish as they did not or could not land other species.

Under alternative 2, incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed. Table 20 shows the potential impacts of alternative 2 if it had been implemented during the 2011-2015 time period. If alternative 2 had been implemented during the 2011-2015 time period, vessels that incidentally landed golden tilefish on trips for which golden tilefish contributed in excess of 25% of the total catch of all combined species landed would not have been able to land 33,546 pounds of golden tilefish caught. The implementation of this alternative would have prevented the landings of 21,399 pounds of golden tilefish on trips where golden tilefish was the only species landed (Table 19). In addition, it would have also prevented landings of 12,147 pounds of golden tilefish on trips where golden tilefish contributed more than 25% of the total catch (33,546 pounds - 21,399 pounds; Tables 19 and 20). This alternative may have prevented some trips from targeting golden tilefish under the incidental trip regulation for this species if it had been implemented during the 2011-2015 time period.

Alternative 2 is not expected to have a significant impact on fishing methods and practices or the interaction of this fishery with non-targeted species for trips that land golden tilefish incidentally while targeting other species. However, this alternative would likely slightly

³³ The excel files used to create the Tables and Figure presented in this section were provided by Dr. Jay Hermsen (NMFS-GARFO).

³⁴ Assuming that trips that landed golden tilefish only at the 400 pounds and above threshold level (Table 19) were targeting golden tilefish under the incidental limit regulations, the number of trips that targeting this species was about 7 per year for the 2011-2015 period. This indicates that this activity may not be prevalent.

alter the amount of golden tilefish discards for some vessels fishing under the incidental permit regulations. However, this will not change the removal rates for this stock or the mechanisms to prevent that overfishing or ensure that the stock is not overfished. As such, it is expected that it will result in neutral biological impacts on the golden tilefish stock. Since this alternative is addressing the incidental golden tilefish fishery, there are no associated impacts on other non-target species or bycatch, when compared to the no action alternative.

Under alternative 3 (preferred), tilefish permitted vessels not fishing under an IFQ allocation, cannot land golden tilefish in excess of 50%, by weight, of their total landings. Table 21 shows the potential impacts of alternative 3 if it had been implemented during the 2011-2015 time period. If alternative 3 had been implemented during the 2011-2015 time period, vessels that incidentally landed golden tilefish on trips for which golden tilefish contributed in excess of 50% of the total catch of all combined species landed would not have been able to land 30,521 pounds of golden tilefish caught. The implementation of this alternative would have prevented the landings of 21,399 pounds of golden tilefish on trips where golden tilefish was the only species landed (Table 19). In addition, it would have also prevented landings of 9,122 pounds of golden tilefish on trips where golden tilefish contributed with more than 50% of the total catch (30,521 pounds - 21,399 pounds; Tables 19 and 20). This alternative may have prevented some trips from targeting golden tilefish under the incidental trip regulation for this species if it had been implemented during the 2011-2015 time period.

Alternative 3 is not expected to have a significant impact on fishing methods and practices or the interaction of this fishery with non-targeted species for trips that land golden tilefish incidentally while targeting other species. However, this alternative would likely slightly alter the amount of golden tilefish discards (but to a lesser extent than under alternative 2) for some vessels fishing under the incidental permit regulations. However, this will not change the removal rates for this stock or the mechanisms to prevent that overfishing or ensure that the stock is not overfished. As such, it is expected that it will result in neutral biological impacts on the golden tilefish stock. Since this alternative is addressing the incidental golden tilefish fishery, there are no associated impacts on other non-target species or bycatch, compared to the no action alternative.

Table 18. Golden tilefish contribution (\$ and pounds) for trips that incidentally caught golden tilefish, and associated gear types, species landed, and port state for various thresholds, 2011-2015 dealer data combined (3,565 trips).

GTF landings threshold (pounds)	Total landings (pounds)	GTF landings (pounds)	GTF % of total landings	Total Value (\$)	GTF Value (\$)	GTF % of total value	# of gears types (GTs) used; including top 5 GTs (in order of importance) ¹	# of species landed; including top 5 spp (in order of importance) ²	Port State ⁴
1-99	45,577,174	68,514	0.2%	44,249,579	140,082	0.3%	17 GTs; a, b, c, d, e	77 spp; ³ a, b, c, d, e	RI, NY, MA, CT, NJ, VA, MD, (1 C)
100-199	4,697,589	34,081	0.7%	4,422,909	73,408	1.7%	11 GTs; a, f, c, e, g	49 spp; a, c, b, d, f	RI, NY, NJ, VA, MA, CT
200-299	932,899	14,880	1.6%	936,524	35,021	3.7%	5 GTs; a, f, h, c, i	24 spp; a, b, c, f, e	RI, MA, NY, NJ, CT VA
300-399	422,489	13,091	3.1%	445,725	33,164	7.4%	5 GTs; a, f, j, i, k	23 spp; c, a, f, b, g,	NJ, RI, MA, CT, NY, (1C)
400-499	277,113	23,309	8.4%	362,971	82,093	22.6%	4 GTs; a, f, j, i	27 spp; a, c, b, h, f	NJ, RI, MD, (3C)
≥500	191,865	15,544	8.1%	308,373	46,484	15.1%	4 GTs; a, f, j, i	28 spp; c, a, b, i, h	NJ, NY, (3C)
Total	52,079,129	169,419	0.3%	50,724,074	410,252	0.8%	---	---	---

¹ Gear Types: a = trawl, otter, bottom, fish; b = trawl line, other/NK species; c = gillnet, fixed or anchored, sink, other/NK species; d=trawl, otter, midwater; e = dredge, other/NK species; f = unknown; g = trawl line, other/NK species; h = pound net, other/NK species; i = hand line; j = longline, bottom; k = handline, auto jig.

² Species: a = squid (longfin); b = silver hake; c = scup; d = squid (*Illex*); e = angler; f = summer flounder; g = little skate; h = golden tilefish; i = yellowfin tuna.

³ Species with greater than 100 lb considered. ⁴ Ports with the largest number of permitted vessel that landed listed first.

C = Confidential.

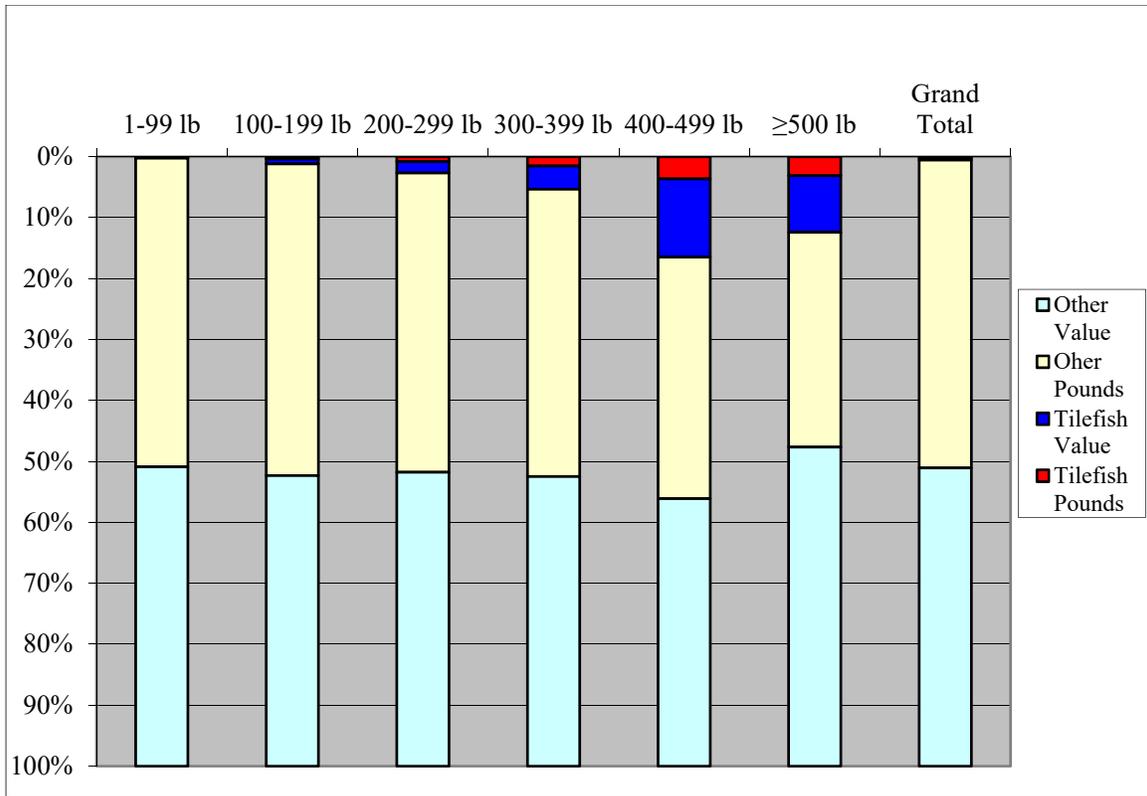


Figure 7. Golden tilefish contribution (\$ and pounds) for trips that incidentally caught golden tilefish for various thresholds, 2011-2015 dealer data combined (3,565 trips).

Table 19. Pounds and value of golden tilefish landed for incidental trips where golden tilefish was the only species landed for various threshold, 2011-2015 dealer data combined (67 trips).

GTF landings threshold (pounds)	GTF landings (pounds)	GTF Value (\$)	Examples of gear types used ¹	Port State, # boats	Number of trips
1-99	766	2,307	a, b, d, f, g	MA (5), NJ (3), NY (3)	19
100-199	858	3,079	b, d, e, f	NJ (4); Other (2)	6
200-299	516	1,733	d, e	1 Other (2)	2
300-399	1,252	4,167	d, e, f	2 Other (3)	4
400-499	12,934	47,974	d, e, h	NJ (4)	27
≥500	5,073	15,968	d, e, h	C	9
Total	21,399	75,228	---	28	67

¹ Gear Types: a = trawl, otter, bottom, fish; b = gillnet, fixed or anchored, sink, other/NK species; c = unknown; d = hand line; e = longline, bottom; f = handline, auto jig; g = pot/trap, lobster inshore; h = unknown.

Table 20. Impacted golden tilefish landings if alternative 2 (> 25% qualifier) had been implemented during the 2011-2015 time period, combined impacts according to dealer data.

GTF landings threshold (pounds)	Total landings	GTF landings	GTF % of total landings	Total Value	GTF Value	GTF % of total value	Examples of gear types used ¹	Example of species landed ²	Port State, # boats, # trips
1-99	2,652	1,386	52.3%	9,751	4,421	43.5%	a, c, d, e, j, i, k, l, m	a, b, c, d, e, f, g, h, i, j, k, l	28 boats. MA, MD, NJ, NY, RI, 1 other (C). 40 trips.
100-199	5,528	2,746	49.7%	16,130	9,364	58.1%	c, j, k, m, i	a, d, i, j, k, l, m, n	12 boats. NJ, 3 other (C). 23 trips.
200-299	2,335	1,802	77.2%	7,541	6,156	81.6%	c, i, j, m	a, i, j, o	6 boats. NJ, 1 other (C). 7 trips.
300-399	4,238	3,139	74.1%	12,221	10,197	83.4%	a, j, i, m	a, i, j, p, q, r	6 boats. NJ, 2 other (C). 12 trips.
400-499	20,245	17,899	88.4%	75,872	68,085	89.7%	j, i, m	i, j, m, n, s	8 boats. NJ, 1 other (C). 37 trips.
≥500	6,937	6,574	94.8%	23,209	21,021	90.6%	i, j, l, m	c, i, j, k, l, m	3 boats. NJ. 13 trips.
Total	41,935	33,546	80.0%	144,724	119,244	82.4%	---	---	40 boats. 132 trips.

¹ Gear Types: a = trawl, otter, bottom, fish; b = trawl line, other/NK species; c = gillnet, fixed or anchored, sink, other/NK species; d=trawl, otter, midwater; e = dredge, other/NK species; f = unknown; g = trawl line, other/NK species; h = pound net, other/NK species; i = hand line; j = longline, bottom; k = handline, auto jig; l = pot/trap, lobster inshore; m = unknown.

² Species: a = angler; b = dogfish; c = dolphinfish; d = summer flounder; e = hake (red, white, silver); f = john dory; g = lobster; h = skates; i = blueline tilefish; j = golden tilefish; k = albacore tuna; l = yellowfin tuna; m = big eye tuna; n = conger eel; o = winter skate; p = Atl. mackerel; q= *Illex* squid; r = longfin squid; s = wahoo;

C = Confidential.

Table 21. Impacted tilefish landings if Alternative 3 (> 50% qualifier) had been implemented during the 2011-2015 time period, combined impacts according to dealer data.

GTF landings threshold (pounds)	Total landings	GTF landings	GTF % of total landings	Total Value	GTF Value	GTF % of total value	Examples of gear types used	Example of species landed	Port State, # boats, # trips
1-99	834	766	91.8%	2,961	2,421	81.8%	Similar trends as those described in Table 20.	Similar trends as those described in Table 20.	17 boats. MA, NJ, NY, 3 other (C). 25 trips.
100-199	1,801	1,436	79.7%	5,839	5,118	87.7%			8 boats. NJ, 2 other (C). 13 trips.
200-299	1,838	1,573	85.6%	5,715	5,314	93.0%			6 boats. NJ, 1 other (C). 6 trips.
300-399	3,010	2,756	91.6%	9,598	8,835	92.1%			4 boats. NJ. 10 trips.
400-499	19,140	17,416	91.0%	70,863	65,663	92.7%			8 boats. NJ, 1 other (C). 035 trips.
≥500	6,937	6,574	94.8%	23,209	21,021	90.6%			3 boats. NJ. 13 trips.
Total	33,560	30,521	90.9%	118,185	108,372	91.7%			---

C = Confidential.

7.2 Habitat Impacts

7.2.1 Catch and Landings Limits Flow Chart Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 (preferred) would modify the catch and landings limits flow chart for golden tilefish in order to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. Alternative 2 is purely administrative. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on habitat and EFH that are neutral, compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts to the marine habitats or EFH.

7.2.2 IVR Reporting Requirements Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 (preferred) would eliminate the IVR reporting requirements in the golden tilefish IFQ fishery. Alternative 2 is purely administrative as it deals with the elimination of a reporting system that is not used to track golden tilefish landings any longer. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on habitat and EFH that are neutral, compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts to the marine habitats or EFH.

7.2.3 Number of Allowable Fishing Allocations Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 (preferred) would prohibit vessels from fishing more than one allocation at a time. The implementation of this alternative would prohibit two (or more) allocation numbers from authorizing the same vessel to fish those allocations at the same time. Alternative 2 is purely administrative. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on habitat and EFH that are neutral, compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts to the marine habitats or EFH.

7.2.4 Golden Tilefish Product Form Landings Requirements

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 (preferred) would make an administrative change to the current regulations that would require vessels to land golden tilefish with the head attached. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on habitat and EFH that are neutral, compared to the no action alternative.

Therefore, none of the alternatives under consideration are expected to have adverse impacts to the marine habitats or EFH.

7.2.5 Recreational Fishery Gear Requirements

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 would prohibit the use of mini-longlines in the golden tilefish recreational fishery. Council members discussed reports that mini-longlines have been used in the recreational golden tilefish fishery. There is no clear indication of how prevalent the use of mini-longlines in the golden tilefish recreational fishery is. Industry members and Tilefish Advisors Panel members have indicated that using mini-longlines to fish for golden tilefish recreationally is likely to be a very rare event and not a typical recreational fishing activity. Furthermore, some commercial and recreational golden tilefish fishermen have indicated that they have seen greenstick boats tuna fishing that may be confused with recreational mini-longline use. Alternative 2 is not expected to have a significant impact on fishing methods and practices and is not expected to result in changes in recreational fishing effort or redistribution in fishing effort. However, it is possible that a potential reduction in the use of mini-longline gear in the recreational fishery could reduce the amount of time fishing gear contacts/impacts the bottom habitat and EFH for the managed resource and other species.³⁵ Therefore, alternative 2 is expected to likely have neutral to slight positive impacts on EFH and marine habitat, compared to the no action alternative. Alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod. Rod and reel is the typical gear used in the recreational tilefish fishery (MAFMC 2001). Alternative 3 is not expected to have a significant impact on fishing methods and practices and is not expected to result in changes in recreational fishing effort or redistribution in fishing effort. However, it is possible that a potential reduction in the use of mini-longline gear in the recreational fishery could reduce the amount of time fishing gear contacts/impacts the bottom habitat and EFH for the managed resource and other species. Therefore, alternative 3 is expected to likely have neutral to slight positive impacts on EFH and marine habitat, compared to the no action alternative. Hence, EFH and marine habitat impacts from alternatives 2 and 3 are expected to be similar.

7.2.6 Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action) is expected to result in neutral impacts on habitat. Alternative 2 would require that incidental golden tilefish landings cannot exceed of 25% of the total weight of all combined species landed. Alternative 2 is not expected to have a significant impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. However, it is possible that a potential reduction on the amount of time fishing gear contact/impacts the bottom habitat and EFH for the managed resource and other species could likely result in neutral to slight positive impacts on EFH and marine habitat, compared to the no action alternative. Alternative 3 would require that incidental golden tilefish landings cannot exceed of 50% of the total weight of all combined species landed. Alternative 3 is not expected to have a significant impact

³⁵ Longline gear causes some low degree impacts in mud, sand, and gravel habitats (Section 6.2.3).

on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. However, it is possible that a potential reduction on the amount of time fishing gear contact/impacts the bottom habitat and EFH for the managed resource and other species could likely result in neutral to slight positive impacts on EFH and marine habitat, compared to the no action alternative. Hence, EFH and marine habitat impacts from alternatives 2 and 3 are expected to be similar.

7.3 Impacts on ESA-Listed Species and MMPA Protected Species

7.3.1 Catch and Landings Limits Flow Chart Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on ESA-listed and MMPA protected resources. Alternative 2 (preferred) is purely administrative. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on ESA-listed and MMPA protected resources that are neutral, compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts on ESA-listed and MMPA protected resources.

7.3.2 IVR Reporting Requirements Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on ESA-listed and MMPA protected resources. Alternative 2 (preferred) would eliminate the IVR reporting requirements in the golden tilefish IFQ fishery. Alternative 2 is purely administrative as it deals with the elimination of a reporting system that is not used to track golden tilefish landings any longer. Alternative 2 is expected to have effects on ESA-listed and MMPA protected resources that are neutral when compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts on ESA-listed and MMPA protected resources.

7.3.3 Number of Allowable Fishing Allocations Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on ESA-listed and MMPA protected resources. Alternative 2 (preferred) would prohibit vessels from fishing more than one allocation at a time. The implementation of this alternative would prohibit two (or more) allocation number from authorizing the same vessel to fish those allocations at the same time. Alternative 2 is purely administrative. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on ESA-listed and MMPA protected resources that are neutral, compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts on ESA-listed and MMPA protected resources.

7.3.4 Golden Tilefish Product Form Landings Requirements

Alternative 1 (no action) is expected to result in neutral impacts on ESA-listed and MMPA protected resources. Alternative 2 (preferred) would make an administrative change to the

current regulations that would require vessels to land golden tilefish with the head attached. Alternative 2 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort. Alternative 2 is expected to have effects on ESA-listed and MMPA protected resources that are neutral when compared to the no action alternative. Therefore, none of the alternatives under consideration are expected to have adverse impacts on ESA-listed and MMPA protected resources.

7.3.5 Recreational Fishery Gear Requirements

Overall, it is expected that these alternatives (as well as the rest of the alternative described below) would result in relatively similar year to year fishing effort, and the duration of time fishing gear is in the water. According to the List of Fisheries for 2016, there are no documented interactions/takes in the directed tilefish fishery. While in general terms the potential interaction with rod and reel gear with sea turtles and Atlantic Sturgeon can pose a risk to these species (section 6.3.3), the recreational golden tilefish fishery is primarily conducted in deep waters (>200 meters or >656 feet), and as such, the potential interaction between golden tilefish recreational fishing gear and these species is likely relatively small. As such, minimal interaction is expected between bottom longline gear and rod and reel gear, and these protected resources, regardless of whether changes in fishing effort occur.

Alternative 1 (no action) would not make a modification to the current gear requirements for the recreational fishery. Alternative 2 would prohibit the use of mini-longlines in the golden tilefish recreational fishery and alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod. Rod and reel is the typical gear used in the recreational tilefish fishery (MAFMC 2001). Alternatives 2 and 3 are not expected to have any significant impact on fishing methods and practices and are not expected to result in changes in fishing effort or redistribution in fishing effort. Alternatives 1, 2, and 3 are expected to have relatively similar impacts on ESA-listed and MMPA protected resources. These three alternatives are expected to have a slight negative impact on protected species, similar to past years, compared to current conditions.

7.3.6 Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action) would not implement landings ratios/qualifiers for the incidental fishery. Alternative 2 would require that incidental golden tilefish landings cannot exceed of 25% of the total weight of all combined species landed. Alternative 3 (preferred) would require that incidental golden tilefish landings cannot exceed of 50% of the total weight of all combined species landed. Alternatives 2 and 3 are not expected to have any significant impact on fishing methods and practices and are not expected to result in changes in fishing effort or redistribution in fishing effort. Alternatives 1, 2, and 3 are expected to have relatively similar impacts on ESA-listed and MMPA protected resources. These three alternatives are expected to have a slight negative impact on protected species, similar to past years, compared to current conditions. However, it is expected that

interactions would be lower under alternative 3 than those under the no action alternative or alternative 2 and is therefore positive when compared to those alternatives.

7.4 Socioeconomic Impacts

7.4.1 Catch and Landings Limits Flow Chart Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 (preferred) is expected to result in neutral impacts on the social and economic environment, compared to the no action alternative. This action merely modifies the catch and landings limits flow chart for golden tilefish in order to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. The incidental fishery is allocated 5% of the quota and trip limits are used to achieve the incidental target quota. Current regulations stipulate that incidental landings cannot exceed 500 pounds live weight of golden tilefish per trip. The incidental fishery has not harvested all of their allocation since Amendment 1 was implemented in 2009. More recently, for example, in the last 4 fishing years (2012-2015), the incidental fishery landed from 21% of their 87,744 pound allocation in 2012 to 45% of their 99,750 pound allocation in 2014 (Table 3). Therefore, slightly adjusting the incidental quota downward to fully account for discards in that sector of the fishery would not likely constrain landings in the incidental fishery given recent fishing patterns. The proposed action is purely administrative; therefore, it does not alter the catch and landings limits for this species or the allocation of the resource among user groups, with no direct impact on fishing effort or effort distribution in the golden tilefish fishery.

7.4.2 IVR Reporting Requirements Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 (preferred) deals with the elimination of a reporting system that is not used to track golden tilefish landings any longer. The proposed action is purely administrative; therefore, it does not alter the catch and landings limits for this species or the allocation of the resource among user groups, with no direct impact on fishing effort or effort distribution in the golden tilefish fishery. However, it is likely that neutral to slight positive economic and social impacts would be obtained from not reporting landings via the IVR system, as this reporting system currently requires some time and effort on the part of fishermen, which would no longer be necessary.³⁶ Alternative 2 is expected to result in neutral to slight positive impacts on the social and economic environment, compared to the no action alternative.

7.4.3 Number of Allowable Fishing Allocations Alternatives

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 (preferred) would prohibit vessels from fishing more than one

³⁶ The fleet burden associated with the IVR reporting requirements was estimated at 16 hour/year or about 1.5 hours per IFQ vessel/year. Assuming an approximate wage rate of \$20 to \$30 per hour, the cost of submitting the IVR reports could range from \$30 to \$45 per year per IFQ vessel per year.

allocation at a time. The implementation of this alternative would prohibit two (or more) allocation numbers from authorizing the same vessel to fish those allocations at the same time. Therefore, for example, a fishing vessel (with no associated golden tilefish IFQ allocation) cannot fish or perform harvesting services for two (or more) allocation holders at the same time. Equally, a golden tilefish allocation holder fishing his/her allocation pounds cannot fish or perform harvesting services for another allocation holder at the same time. However, this alternative would not preclude a vessel from leasing from one or more allocation holders by transferring golden tilefish pounds. As such, in the two examples described above, if allocation pounds had been transferred via the leasing process, the harvesting services could have been performed.³⁷ Industry members have indicated that the implementation of alternative 2 would not affect their fishing practices and thus would not create efficiency issues or affect the IFQ leasing system. The proposed action is purely administrative; therefore, it does not alter the catch and landings limits for this species or the allocation of the resource among user groups, with no direct impact on fishing effort or effort distribution in the golden tilefish fishery. Alternative 2 is expected to result in neutral impacts on the social and economic environment, compared to the no action alternative.

7.4.4 Golden Tilefish Product Form Landings Requirements

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 (preferred) would make an administrative change to the current regulations that would require vessels to land golden tilefish with the head attached. In spring 2014, the APSD and the NEFSC removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off (golden tilefish are landed with the head-on). The need for this action is to close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. Alternative 2 is expected to result in neutral impacts on the social and economic environment, compared to the no action alternative.

7.4.5 Recreational Fishery Gear Requirements

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 would prohibit the use of mini-longlines in the golden tilefish recreational fishery. There is no clear indication of how prevalent the use of mini-longlines in the golden tilefish recreational fishery is. Industry members and Tilefish Advisors Panel members have indicated that using mini-longlines to fish for golden tilefish recreationally is likely to be a very rare event and not a typical recreational fishing activity. Furthermore, some commercial and recreational golden tilefish fishermen have indicated that they have seen greenstick boats tuna fishing that may be confused with recreational mini-longline use. Alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod

³⁷ It is also important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations at any time during the fishing year by written request to NMFS (50 CFR §648.294(b)(4)).

and reel fishery only - with a five hook maximum limit per rod. Rod and reel is the typical gear used in the recreational tilefish fishery (MAFMC 2001). It is not expected that alternative 2 and 3 will affect recent trends in recreational catches or recreational trips for golden tilefish. Furthermore, alternatives 2 and 3 are not expected to have any impact on fishing methods and practices and are not expected to result in changes in fishing effort or redistribution in fishing effort. Both alternatives 2 and 3 are expected to result in neutral impacts on the social and economic environment, compared to the no action alternative.

7.4.6 Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action) is expected to result in neutral impacts on the social and economic environment. Alternative 2 would require that incidental golden tilefish landings cannot exceed of 25% of the total weight of all combined species landed. If alternative 2 had been implemented during the 2011-2015 period, it would have resulted in a loss of golden tilefish revenues of \$119,244. This would have resulted in an average loss in revenues of approximately \$596/vessel/year (40 vessels) for the 2011-2015 period. Alternative 3 (preferred) would require that incidental golden tilefish landings cannot exceed of 50% of the total weight of all combined species landed. If alternative 3 (preferred) had been implemented during the 2011-2015 period, it would have resulted in a loss of golden tilefish revenues of \$118,185. This would have resulted in an average loss in revenues of approximately \$844/vessel/year (28 vessels) for the 2011-2015 period. However, it is possible that these revenue losses could be recuperated if vessels were to continue to land golden tilefish incidentally while meeting the landings ratio/qualifier. Both alternatives 2 and 3 are expected to likely result in neutral to slight negative impacts on the social and economic environment, compared to the no action alternative.

7.5 Cumulative Effects Analysis

A cumulative effects analysis (CEA) is required by the Council on Environmental Quality (CEQ) (40 CFR §1508.7). The purpose of CEA is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective, but rather, the intent is to focus on those effects that are truly meaningful. A formal cumulative impact assessment is not necessarily required as part of an EA under NEPA as long as the significance of cumulative impacts have been considered (U.S. EPA 1999). The following remarks address the significance of the expected cumulative impacts as they relate to the federally managed tilefish fishery.

7.5.1 Consideration of the VECs

In section 6.0 (Description of the Affected Environment), the VECs that exist within tilefish fishery environment are identified. Therefore, the significance of the cumulative effects will be discussed in relation to the VECs listed below.

1. Managed resource (golden tilefish)

2. Non-target species
3. Habitat including EFH for the managed resource and non-target species
4. ESA-listed and MMPA protected species
5. Human communities

7.5.2 Geographic Boundaries

The analysis of impacts focuses on actions related to the harvest of golden tilefish. The core geographic scope for each of the VECs is focused on the Western Atlantic Ocean (section 6.0). The core geographic scope for the managed resource is the range of the management unit (section 6.1). For non-target species, that range may be expanded and would depend on the biological range of each individual non-target species in the Western Atlantic Ocean. For habitat, the core geographic scope is focused on EFH within the EEZ but includes all habitat utilized by golden tilefish and other non-target species in the Western Atlantic Ocean. The core geographic scope for endangered and protected resources can be considered the overall range of these VECs in the Western Atlantic Ocean. For human communities, the core geographic boundaries are defined as those U.S. fishing communities directly involved in the harvest or processing of the managed resource, which were found to occur in coastal states from Maine through Virginia (section 6.4).

7.5.3 Temporal Boundaries

The temporal scope of past and present actions for VECs is primarily focused on actions that have occurred after FMP implementation (2001). For endangered and other protected resources, the scope of past and present actions is on a species-by-species basis (section 6.3) and is largely focused on the 1980s and 1990s through the present, when NMFS began generating stock assessments for marine mammals and sea turtles that inhabit waters of the U.S. EEZ. The temporal scope of future actions for all five VECs extends about three years (2019). This period was chosen because the dynamic nature of resource management and lack of information on projects that may occur in the future make it very difficult to predict impacts beyond this timeframe with any certainty.

7.5.4 Actions Other Than Those Proposed in this Amendment

The impacts of each of the alternatives considered in this framework document are given in section 7.1 through 7.4. Table 22 presents meaningful past (P), present (Pr), or reasonably foreseeable future (RFF) actions to be considered other than those actions being considered in this framework document. These impacts are described in chronological order and qualitatively, as the actual impacts of these actions are too complex to be quantified in a meaningful way. When any of these abbreviations occur together (i.e., P, Pr, RFF), it indicates that some past actions are still relevant to the present and/or future actions.

Past and Present Actions

The historical management practices of the Council have resulted in positive impacts on the health of the golden tilefish stock (section 6.1). Numerous actions have been taken to manage this fishery through amendment and framework adjustment actions. The specifications process provides the opportunity for the Council and NMFS to regularly assess the status of the fishery and to make necessary adjustments to ensure that there is a reasonable expectation of meeting the objectives of the FMP. The statutory basis for federal fisheries management is the MSA. To the degree with which this regulatory regime and National Standards are complied with, the cumulative impacts of past, present, and reasonably foreseeable future federal fishery management actions on the VECs should generally be associated with positive long-term outcomes, which should bring about long-term sustainability of a given resource, and as such, should, in the long-term, promote positive effects on human communities, especially those that are economically dependent upon the golden tilefish stock.

Non-fishing activities that introduce chemical pollutants, sewage, changes in water temperature, salinity, dissolved oxygen, and suspended sediment into the marine environment pose a risk to all of the identified VECs. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas where they occur. Examples of these activities include, but are not limited to agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging and the disposal of dredged material. Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and, as such, may indirectly constrain the sustainability of the managed resource, non-target species, and protected resources. Decreased habitat suitability would tend to reduce the tolerance of these VECs to the impacts of fishing effort. Mitigation of this outcome through regulations that would reduce fishing effort could then negatively impact human communities. The overall impact to the affected species and their habitats on a population level is unknown, but likely neutral to low negative, since a large portion of this species have a limited or minor exposure to these local non-fishing perturbations.

In addition to guidelines mandated by the MSA, NMFS reviews these types of effects through the review processes required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by federal, state, and local authorities. The jurisdiction of these activities is in "waters of the U.S." and includes both riverine and marine habitats.

Reasonably Foreseeable Future Actions

In the reasonably foreseeable future, annual or multi-year specifications for the golden tilefish fishery in future years should maintain the benefits as described above. In some cases, fishery management plan actions are developed in an omnibus fashion to update many plans at once. These amendments are considered amendments to the individual fishery management plans, and the actions associated with these amendments are described in the table below as needed, by FMP. One special case set of omnibus actions

are the Standardized Bycatch Reporting Methodology (SBRM) amendments, which cover Federal waters fisheries managed by the New England and/or the Mid-Atlantic Councils. The first SBRM amendment became effective in 2008, and an update to these measures was finalized in June 2015 (80 FR 37182). The updated regulations modify the following elements of the monitoring program: new prioritization process for allocation of observers if agency funding is insufficient to achieve target observer coverage levels; bycatch reporting and monitoring mechanisms; analytical techniques and allocation of at sea fisheries observers; a precision-based performance standard for discard estimates; a review and reporting process; framework adjustment and annual specifications provisions; and provisions for industry-funded observers and observer set-aside programs. Separate from the SBRM amendment, NMFS, in collaboration with the MAFMC and NEFMC, is currently developing an industry-funded monitoring amendment. The Omnibus Observer Coverage Amendment will not necessarily result in immediately increased observer coverage because sufficient funds (from both industry for at-sea costs and NOAA for shoreside costs) may not be available. Rather, this amendment will set up a mechanism for increasing observer coverage should sufficient funding become available.

The NEFMC has also developed a comprehensive Omnibus Habitat Amendment (submitted January 2016) which includes the closure of some New England fishing grounds to certain gear types. The NEFMC is also developing a Deep Sea Corals Amendment for coral protections within their management region.

The MAFMC is also developing an Omnibus Unmanaged Forage Amendment, to prohibit the development of new, or expansion of existing, directed fisheries on unmanaged forage species until adequate scientific information is available to promote ecosystem sustainability.

The development of the ABC Omnibus Framework is likely to be completed in the next three years and would consider adopting automatic incorporation of new accepted/approved biological reference points status determination for tilefish and develop consistency with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of overfishing equal the appropriate goal depending on current procedures. As a result, this Reasonably Foreseeable Future Action over the next three years will address outstanding issues for the management of tilefish and other Council managed species.

For many of the proposed non-fishing activities to be permitted under other federal agencies (such as beach nourishment, offshore wind facilities, etc.), those agencies would conduct examinations of potential impacts on the VECs. The MSA (50 CFR §600.930) imposes an obligation on other federal agencies to consult with the Secretary of Commerce on actions that may adversely affect EFH. The eight Fishery Management Councils are engaged in this review process by making comments and recommendations on any federal or state action that may affect habitat, including EFH, for their managed species and by commenting on actions likely to substantially affect habitat, including EFH.

In addition, under the Fish and Wildlife Coordination Act (Section 662), “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the U.S., or by any public or private agency under federal permit or license, such department or agency first shall consult with the U.S. Fish and Wildlife Service (USFWS), Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular state wherein the” activity is taking place. This act provides another avenue for review of actions by other federal and state agencies that may impact resources that NMFS manages in the reasonably foreseeable future.

In addition, NMFS and the USFWS share responsibility for implementing the ESA. ESA requires NMFS to designate "critical habitat" for any species it lists under the ESA (i.e., areas that contain physical or biological features essential to conservation, which may require special management considerations or protection) and to develop and implement recovery plans for threatened and endangered species. The ESA provides another avenue for NMFS to review actions by other entities that may impact endangered and protected resources whose management units are under NMFS’ jurisdiction.

Non-Fishing Impacts - Global Climate Change

Global climate change will affect all components of marine ecosystems, including human communities. Physical changes that are occurring and will continue to occur to these systems include sea-level rise, changes in sediment deposition, changes in ocean circulation, increased frequency, intensity and duration of extreme climate events, changing ocean chemistry, and warming ocean temperatures. Emerging evidence demonstrates that these physical changes are resulting in direct and indirect ecological responses within marine ecosystems which may alter the fundamental production characteristics of marine systems (Stenseth et al. 2002). Climate change will potentially exacerbate the stresses imposed by harvesting (fishing) and other non-fishing human activities and stressors (described in this section).

Results from the Northeast Fisheries Climate Vulnerability Assessment for mid-Atlantic Council managed species indicate that climate change could have overall directional impacts that range from negative to positive depending on the adaptability of these managed species to the changing environment (Gaichas et al. 2016). Overall, climate change is expected to have impacts that range from positive to negative on all VECs depending on the species. Based in expert opinion, the directional effect of climate change on golden tilefish is neutral (Gaichas et al. 2016). However, future mitigation and adaptation strategies to climate change may mitigate some of these impacts as the science surrounding predicting, evaluating, monitoring, and categorizing these changes evolves.

7.5.5 Magnitude and Significance of Cumulative Effects

In determining the magnitude and significance of the cumulative effects, the additive and synergistic effects of the proposed action, as well as past, present, and future actions, must be taken into account. The following section discusses the effects of these actions on each of the VECs.

Table 22. Impacts of past (P), present (Pr), and reasonably foreseeable future (RFF) actions on the five VECs (not including those actions considered in this framework document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr Original FMP and subsequent Amendments and Frameworks to the FMP	Established management measures	Indirect Positive Regulatory tool available to rebuild and manage stocks	Indirect Positive Reduced fishing effort	Indirect Positive Reduced fishing effort	Indirect Positive Reduced fishing effort	Indirect Positive Benefited domestic businesses
Pr Golden Tilefish Specifications	Establish quotas, other fishery regulations	Indirect Positive Regulatory tool to specify catch limits, and other regulation; allows response to annual stock updates	Indirect Positive Reduced effort levels and gear requirements	Indirect Positive Reduced effort levels and gear requirements	Indirect Positive Reduced effort levels and gear requirements	Indirect Positive Benefited domestic businesses
P, Pr, RFF Developed, Applied, and Redo of Standardized Bycatch Reporting Methodology	Established acceptable level of precision and accuracy for monitoring of bycatch in fisheries	Neutral May improve data quality for monitoring total removals of managed resource	Neutral May improve data quality for monitoring removals of non-target species	Neutral Will not affect distribution of effort	Neutral May increase observer coverage and will not affect distribution of effort	Potentially Indirect Negative May impose an inconvenience on vessel operations
P, Pr, RFF Agricultural runoff	Nutrients applied to agricultural land are introduced into aquatic systems	Indirect Negative Reduced habitat quality	Indirect Negative Reduced habitat quality	Direct Negative Reduced habitat quality	Indirect Negative Reduced habitat quality	Indirect Negative Reduced habitat quality negatively affects resource
P, Pr, RFF Port maintenance	Dredging of coastal, port and harbor areas for port maintenance	Uncertain – Likely Indirect Negative Dependent on mitigation effects	Uncertain – Likely Indirect Negative Dependent on mitigation effects	Uncertain – Likely Direct Negative Dependent on mitigation effects	Direct and Indirect Negative Reduce habitat quality; entrainment risk; Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects
P, Pr, RFF Offshore disposal of dredged materials	Disposal of dredged materials	Indirect Negative Reduced habitat quality	Indirect Negative Reduced habitat quality	Direct Negative Reduced habitat quality	Direct and Indirect Negative Reduced habitat quality; entrainment risk	Indirect Negative Reduced habitat quality negatively affects resource viability

Table 22 (Continued). Impacts of past (P), present (Pr), and reasonably foreseeable future (RFF) actions on the five VECs (not including those actions considered in this framework document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF Beach nourishment	Offshore mining of sand for beaches	Indirect Negative Localized decreases in habitat quality	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality	Direct and Indirect Negative Localized decreases in habitat quality; entrainment risk	Mixed Positive for mining companies, possibly negative for fishing industry
	Placement of sand to nourish beach shorelines	Indirect Negative Localized decreases in habitat quality	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality	Indirect Negative Localized decreases in habitat quality	Positive Beachgoers like sand; positive for tourism
P, Pr, RFF Marine transportation	Expansion of port facilities, vessel operations and recreational marinas	Indirect Negative Localized decreases in habitat quality	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality	Direct and Indirect Negative Ship strike; Localized decreases in habitat quality	Mixed Positive for some interests, potential displacement for others
P, Pr, RFF National Offshore Aquaculture Act of 2007	Bill that grants DOC authority to issue permits for offshore aquaculture in federal waters	Uncertain - Potentially Indirect Negative Localized decreases in habitat quality possible	Potentially Indirect Negative Localized decreases in habitat quality possible	Direct Negative Localized decreases in habitat quality possible	Potentially Direct and Indirect Negative gear entanglement risk; Localized decreases in habitat quality possible	Uncertain – Likely Mixed Costs/benefits remain unanalyzed
P, Pr, RFF Renewable and Non-renewable Offshore and Nearshore Energy Development	Transportation of oil, gas, and electric through pipelines and cables; Construction of oil platforms, wind facilities, liquefied natural gas facilities; Additional port development infrastructure	Uncertain – Likely Indirect Negative Dependent on mitigation effects	Uncertain – Likely Indirect Negative Dependent on mitigation effects	Uncertain – Likely Direct Negative Reduced habitat quality; offshore platforms may benefit structure oriented fish species habitat	Potentially Direct and indirect Negative Reduced habitat quality; Sound Exposure (physical injury or behavioral harassment); Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects

Table 22 (Continued). Impacts of past (P), present (Pr), and reasonably foreseeable future (RFF) actions on the five VECs (not including those actions considered in this framework document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
RFF Convening of Gear Take Reduction Teams (periodically)	Recommend measures to reduce mortality and injury to marine mammals	Indirect Positive Will improve data quality for monitoring total removals	Indirect Positive Reducing availability of gear could reduce bycatch	Indirect Positive Reducing availability of gear could reduce gear impacts	Direct Positive Reducing availability of gear could reduce encounters	Indirect Negative Reducing availability of gear could reduce revenues
RFF Protection for Deep Sea Corals in the Mid-Atlantic (within next 1 year)	Minimize the impacts of fishing gear on deep sea corals in the Mid-Atlantic	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects
RFF ABC Omnibus Framework	Automatic incorporation of new accepted / approved biological reference points status determination. Addresses constant multi-year ABCs specifications	Neutral Administrative - no direct or indirect impacts	Neutral Administrative - no direct or indirect impacts	Neutral Administrative - no direct or indirect impacts	Neutral Administrative - no direct or indirect impacts	Uncertain – Likely Mixed Dependent on mitigation effects
RFF NEFMC Omnibus Habitat Amendment 2	Review/revision of EFH designations; actions to minimize adverse effects of fishing on EFH	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects

Table 22 (Continued). Impacts of past (P), present (Pr), and reasonably foreseeable future (RFF) actions on the five VECs (not including those actions considered in this framework document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
RFF NEFMC Omnibus Deep Sea Coral Amendment	Amendment to protect deep sea corals from the impacts of fishing gear in the NEFMC region	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Indirect Positive Dependent on mitigation effects	Uncertain – Likely Mixed Dependent on mitigation effects
RFF Omnibus Observer Coverage Amendment	Measures to implement industry-funded monitoring coverage in some FMPs above levels required by SBRM	Likely Indirect Positive May improve monitoring and reporting for managed resources	Likely Indirect Positive May improve monitoring and reporting for managed resources	Uncertain – Likely Neutral Depending on actions implemented, will not likely result in significant changes to fishing behavior	Likely Indirect Positive May improve monitoring and reporting for protected resources interactions	Likely Direct Negative Likely to impose additional costs on fishing operations

7.5.5.1 Managed Resources

Those past, present, and reasonably foreseeable future actions, whose effects may impact the managed resource and the direction of those potential impacts, are summarized in Table 22. The indirectly negative actions described in Table 22 are mainly localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on the managed resource is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on productivity of the managed resource is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP have had a positive cumulative effect on the managed resource. It is anticipated that the future management actions, described in Table 23, will result in additional indirect positive effects on the managed resource through actions which reduce and monitor bycatch, protect habitat, and protect ecosystem services on which golden tilefish productivity depends. The 2012 fishing year was the first year of implementation for an Amendment which requires specification of ACLs and ACTs, and this process has been carried forward into the 2015-2017 proposed measures. This represents a major change to the current management program and is expected to lead to improvements in resource sustainability over the long-term. These impacts could be broad in scope. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to tilefish have had a positive cumulative effect.

Catch limits and commercial quotas for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The impacts of management measures established in previous years on the managed resource are largely dependent on how effective those measures were in meeting their intended objectives (i.e., preventing overfishing, achieve OY) and the extent to which mitigating measures were effective.

The proposed action in this document would positively reinforce the past and anticipated positive cumulative effects on the golden tilefish stock, by achieving the objectives specified in the FMP. Therefore, the proposed action would not have any significant effect on the managed resources individually or in conjunction with other anthropogenic activities (see Table 23).

Table 23. Summary of the effects of past, present, and reasonably foreseeable future actions on the managed resource.

Action	Past to the Present		Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	Indirect Positive		
Golden Tilefish Specifications	Indirect Positive		
Developed, Apply, and Redo Standardized Bycatch Reporting Methodology	Neutral		
Agricultural runoff	Indirect Negative		
Port maintenance	Uncertain – Likely Indirect Negative		
Offshore disposal of dredged materials	Indirect Negative		
Beach nourishment – Offshore mining	Indirect Negative		
Beach nourishment – Sand placement	Indirect Negative		
Marine transportation	Indirect Negative		
National Offshore Aquaculture Act of 2007	Uncertain – Likely Indirect Negative		
Renewable and Non-renewable Offshore and Nearshore Energy Development	Uncertain – Likely Indirect Negative		
Convening Gear Take Reduction Teams			Indirect Positive
Protection for Deep Sea Corals in the Mid-Atlantic			Uncertain – Likely Indirect Positive
ABC Omnibus Framework			Neutral
NEFMC Omnibus Habitat Amendment 2			Uncertain – Likely Indirect Positive
NEFMC Omnibus Deep Sea Coral Amendment			Uncertain – Likely Indirect Positive
Omnibus Observer Coverage Amendment			Likely Indirect Positive
Summary of past, present, and future actions excluding those proposed in this framework document	Overall, actions have had, or will have, positive impacts on the managed resources. * See section 7.5.5.1 for explanation.		

7.5.5.2 Non-Target Species or Bycatch

Those past, present, and reasonably foreseeable future actions, whose effects may impact non-target species and the direction of those potential impacts, are summarized in Table 22. The effects of indirectly negative actions described in Table 22 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on non-target species is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on productivity of non-target resources and the oceanic ecosystem is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. At this time, NMFS can consider impacts to non-target species (federally-managed or otherwise) and comment on potential impacts. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources within NMFS' jurisdiction.

Past fishery management actions taken through the FMP have had a positive cumulative effect on non-target species. Implementation and application of an SBRM would have a particular impact on non-target species by improving the methods which can be used to assess the magnitude and extent of a potential bycatch problem. The redevelopment of the SBRM will result in better assessment of potential bycatch issues and allow more effective and specific management measures to be developed to address a bycatch problem. It is anticipated that future management actions, described in Table 24, will result in additional indirect positive effects on non-target species through actions which reduce and monitor bycatch, protect habitat, and protect ecosystem services on which the productivity of many of these non-target resources depend. The impacts of these future actions could be broad in scope, and it should be noted the managed resource and non-target species are often coupled in that they utilize similar habitat areas and ecosystem resources on which they depend. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful have had a positive cumulative effect on non-target species.

Catch limits and commercial quotas for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed action in this document have impacts that range from neutral to positive impacts, and would not change the past and anticipated positive cumulative effects on non-target species and thus, would not have any significant effect on these species individually or in conjunction with other anthropogenic activities (Table 24).

Table 24. Summary of the effects of past, present, and reasonably foreseeable future actions on the non-target species.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	Indirect Positive	
Golden Tilefish Specifications	Indirect Positive	
Developed, Apply, and Redo Standardized Bycatch Reporting Methodology	Neutral	
Agricultural runoff	Indirect Negative	
Port maintenance	Uncertain – Likely Indirect Negative	
Offshore disposal of dredged materials	Indirect Negative	
Beach nourishment – Offshore mining	Indirect Negative	
Beach nourishment – Sand placement	Indirect Negative	
Marine transportation	Indirect Negative	
National Offshore Aquaculture Act of 2007	Potentially Indirect Negative	
Renewable and Non-renewable Offshore and Nearshore Energy Development	Uncertain – Likely Indirect Negative	
Convening Gear Take Reduction Teams		Indirect Positive
Protection for Deep Sea Corals in the Mid-Atlantic		Uncertain – Likely Indirect Positive
ABC Omnibus Framework		Neutral
NEFMC Omnibus Habitat Amendment 2		Uncertain – Likely Indirect Positive
NEFMC Omnibus Deep Sea Coral Amendment		Uncertain – Likely Indirect Positive
Omnibus Observer Coverage Amendment		Likely Indirect Positive
Summary of past, present, and future actions excluding those proposed in this framework document	Overall, actions have had, or will have, positive impacts on the non-target species * See section 7.5.5.2 for explanation.	

7.5.5.3 Habitat (Including EFH)

Those past, present, and reasonably foreseeable future actions, whose effects may impact habitat (including EFH) and the direction of those potential impacts, are summarized in Table 22. The direct and indirect negative actions described in Table 22 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on habitat is expected to be limited due to a lack of exposure to habitat at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on habitat and EFH is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources and the habitat on which they rely prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of direct and indirect negative impacts those actions could have on habitat utilized by resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP have had a positive cumulative effect on habitat and EFH. The actions have constrained fishing effort at a large scale and locally, and have implemented gear requirements, which may reduce habitat impacts. As required under these FMP actions, EFH and Habitat Areas of Particular Concern (HAPCs) were designated for the managed resource. It is anticipated that the future management actions, described in Table 25, will result in additional direct or indirect positive effects on habitat through actions which protect EFH for federally-managed species and protect ecosystem services on which these species' productivity depends. These impacts could be broad in scope. All of the VECs are interrelated; therefore, the linkages among habitat quality and EFH, managed resources and non-target species productivity, and associated fishery yields should be considered. For habitat and EFH, there are direct and indirect negative effects from actions which may be localized or broad in scope; however, positive actions that have broad implications have been, and it is anticipated will continue to be, taken to improve the condition of habitat. There are some actions, which are beyond the scope of NMFS and Council management such as coastal population growth and climate changes, which may indirectly impact habitat and ecosystem productivity. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to habitat have had a neutral to positive cumulative effect.

Catch limits and commercial quotas for the managed resources have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed action in this document would not change the past and anticipated cumulative effects on habitat and thus, would not have any significant effect on habitat individually or in conjunction with other anthropogenic activities (Table 25).

Table 25. Summary of the effects of past, present, and reasonably foreseeable future actions on the habitat.

Action	Past to the Present		Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	Indirect Positive		
Golden Tilefish Specifications	Indirect Positive		
Developed, Apply, and Redo Standardized Bycatch Reporting Methodology	Neutral		
Agricultural runoff	Direct Negative		
Port maintenance	Uncertain – Likely Direct Negative		
Offshore disposal of dredged materials	Direct Negative		
Beach nourishment – Offshore mining	Direct Negative		
Beach nourishment – Sand placement	Direct Negative		
Marine transportation	Direct Negative		
National Offshore Aquaculture Act of 2007	Direct Negative		
Renewable and Non-renewable Offshore and Nearshore Energy Development	Uncertain – Likely Direct Negative		
Convening Gear Take Reduction Teams			Indirect Positive
Protection for Deep Sea Corals in the Mid-Atlantic			Uncertain – Likely Indirect Positive
ABC Omnibus Framework			Neutral
NEFMC Omnibus Habitat Amendment 2			Uncertain – Likely Indirect Positive
NEFMC Omnibus Deep Sea Coral Amendment			Uncertain – Likely Indirect Positive
Omnibus Observer Coverage Amendment			Uncertain - Likely Neutral
Summary of past, present, and future actions excluding those proposed in this framework document	Overall, actions have had, or will have, neutral to positive impacts on habitat, including EFH * See section 7.5.5.3 for explanation.		

7.5.5.4 ESA-Listed and MMPA Protected Species

Those past, present, and reasonably foreseeable future actions, whose effects may impact the protected resources and the direction of those potential impacts, are summarized in Table 22. The indirectly negative actions described in Table 22 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on protected resources, relative to the range of many of the protected resources, is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on protected resources either directly or indirectly is unquantifiable. As described above (section 7.5.4), NMFS has several means, including ESA, under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' protected resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on protected resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on ESA-listed and MMPA protected species through the reduction of fishing effort (potential interactions) and implementation of gear requirements. It is anticipated that the future management actions, specifically those recommended by the Atlantic Large Whale Take Reduction Plan (ALWTRP) and the development of strategies for sea turtle conservation described in Table 26, will result in additional indirect positive effects on protected resources. These impacts could be broad in scope. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to protected resources have had a positive cumulative effect.

Catch limits and commercial quotas for managed resources have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed action in this document would not change the past and anticipated cumulative effects on ESA-listed and MMPA protected species and thus, would not have any significant effect on protected resources individually or in conjunction with other anthropogenic activities (Table 26).

Table 26. Summary of the effects of past, present, and reasonably foreseeable future actions on the protected resources.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	Indirect Positive	
Golden Tilefish Specifications	Indirect Positive	
Developed, Apply, and Redo Standardized Bycatch Reporting Methodology	Neutral	
Agricultural runoff	Indirect Negative	
Port maintenance	Direct and Indirect Negative	
Offshore disposal of dredged materials	Direct and Indirect Negative	
Beach nourishment – Offshore mining	Direct and Indirect Negative	
Beach nourishment – Sand placement	Indirect Negative	
Marine transportation	Direct and Indirect Negative	
National Offshore Aquaculture Act of 2007	Potentially Direct and Indirect Negative	
Renewable and Non-renewable Offshore and Nearshore Energy Development	Potentially Direct and indirect Negative	
Convening Gear Take Reduction Teams		Direct and indirect Positive
Protection for Deep Sea Corals in the Mid-Atlantic		Uncertain – Likely Indirect Positive
ABC Omnibus Framework		Neutral
NEFMC Omnibus Habitat Amendment 2		Uncertain – Likely Mixed
NEFMC Omnibus Deep Sea Coral Amendment		Uncertain – Likely Indirect Positive
Omnibus Observer Coverage Amendment		Likely Indirect Positive
Summary of past, present, and future actions excluding those proposed in this framework document	Overall, actions have had, or will have, positive impacts on protected resources * See section 7.5.5.4 for explanation.	

7.5.5.5 Human Communities

Those past, present, and reasonably foreseeable future actions, whose effects may impact human communities and the direction of those potential impacts, are summarized in Table 22. The indirectly negative actions described in Table 22 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on human communities is expected to be limited in scope. It may, however, displace fishermen from project areas. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude. This may result in indirect negative impacts on human communities by reducing resource availability; however, this effect is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on human communities.

Past fishery management actions taken through the FMP have had both positive and negative cumulative effects by benefiting domestic fisheries through sustainable fishery management practices, while at the same time potentially reducing the availability of the resource to all participants. Sustainable management practices are, however, expected to yield broad positive impacts to fishermen, their communities, businesses, and the nation as a whole. It is anticipated that the future management actions, described in Table 27, will result in positive effects for human communities due to sustainable management practices, although additional indirect negative effects on the human communities could occur through management actions that may implement gear requirements or area closures and thus, reduce revenues. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to human communities have had an overall positive cumulative effect.

Catch limits and commercial quotas for the managed resources have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA.

Despite the potential for negative short-term effects on human communities, the expectation is that there would be a positive long-term effect on human communities due to the long-term sustainability of golden tilefish. Overall, the proposed action in this document would not change the past and anticipated cumulative effects on human communities and thus, would not have any significant effect on human communities individually, or in conjunction with other anthropogenic activities (Table 27).

Table 27. Summary of the effects of past, present, and reasonably foreseeable future actions on human communities.

Action	Past to the Present		Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	Indirect Positive		
Golden Tilefish Specifications	Indirect Positive		
Developed, Apply, and Redo Standardized Bycatch Reporting Methodology	Potentially Indirect Negative		
Agricultural runoff	Indirect Negative		
Port maintenance	Uncertain – Likely Mixed		
Offshore disposal of dredged materials	Indirect Negative		
Beach nourishment – Offshore mining	Mixed		
Beach nourishment – Sand placement	Positive		
Marine transportation	Mixed		
National Offshore Aquaculture Act of 2007	Uncertain – Likely Mixed		
Renewable and Non-renewable Offshore and Nearshore Energy Development	Uncertain – Likely Mixed		
Convening Gear Take Reduction Teams			Indirect Negative
Protection for Deep Sea Corals in the Mid-Atlantic			Uncertain – Likely Mixed
ABC Omnibus Framework			Uncertain – Likely Mixed
NEFMC Omnibus Habitat Amendment 2			Uncertain – Likely Mixed
NEFMC Omnibus Deep Sea Coral Amendment			Uncertain – Likely Mixed
Omnibus Observer Coverage Amendment			Likely Direct Negative
Summary of past, present, and future actions excluding those proposed in this framework document	Overall, actions have had, or will have, positive impacts on human communities * See section 7.5.5.5 for explanation.		

7.5.6 Preferred Action on all the VECS

The Council has identified its preferred action alternatives in section 5.0. The cumulative effects of the range of actions considered in this document can be considered to make a determination if significant cumulative effects are anticipated from the preferred action. The direct and indirect impacts of the proposed action on the VECs are described in sections 7.1 through 7.4. The magnitude and significance of the cumulative effects, which include the additive and synergistic effects of the proposed action, as well as past, present, and future actions, have been taken into account throughout this section 7.5. The action proposed in this framework document builds off action taken in the original FMP and subsequent amendments and framework documents. When this action is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative. Based on the information and analyses presented in these past FMP documents and this document, there are no significant cumulative effects associated with the action proposed in this document (Table 28).

Table 28. Magnitude and significance of the cumulative effects; the additive and synergistic effects of the preferred action, as well as past, present, and future actions.

VEC	Status in 2016	Net Impact of P, Pr, and RFF Actions	Impact of the Preferred Action	Significant Cumulative Effects
Managed Resource	Complex and variable (Section 6.1)	Positive (Sections 7.5.4 and 7.5.5.1)	Catch and Landings Limits Flow Chart Alt. 2, Neutral (Section 7.1.1)	None
			IVR Reporting Requirements Alt. 2, Neutral (Section 7.1.2)	
			Number of Allowable Fishing Allocations Alt. 2, Neutral (Section 7.1.3)	
			Golden Tilefish Product Form Landings Requirements Alt. 2, Neutral (Section 7.1.4)	
			Recreational Fishery Gear Requirements Alt. 3, Likely Neutral to Slight Positive (Section 7.1.5)	
			Landings Ratios/Qualifiers for the Incidental Fishery Alt. 3, Neutral (Section 7.1.6)	
Non-target Species	Complex and variable (Section 6.1)	Positive (Sections 7.5.4 and 7.5.5.2)	Catch and Landings Limits Flow Chart Alt. 2, Neutral (Section 7.1.1)	None
			IVR Reporting Requirements Alt. 2, Neutral (Section 7.1.2)	
			Number of Allowable Fishing Allocations Alt. 2, Neutral (Section 7.1.3)	
			Golden Tilefish Product Form Landings Requirements Alt. 2, Neutral (Section 7.1.4)	
			Recreational Fishery Gear Requirements Alt. 3, Likely Neutral to Slight Positive (Section 7.1.5)	
			Landings Ratios/Qualifiers for the Incidental Fishery Alt. 3, Neutral (Section 7.1.6)	
Habitat	Complex and variable (Section 6.2)	Neutral to positive (Sections 7.5.4 and 7.5.5.3)	Catch and Landings Limits Flow Chart Alt. 2, Neutral (Section 7.2.1)	None
			IVR Reporting Requirements Alt. 2, Neutral (Section 7.2.2)	
			Number of Allowable Fishing Allocations Alt. 2, Neutral (Section 7.2.3)	
			Golden Tilefish Product Form Landings Requirements Alt. 2, Neutral (Section 7.2.4)	
			Recreational Fishery Gear Requirements Alt. 3, Likely Neutral to Slight Positive (Section 7.2.5)	
			Landings Ratios/Qualifiers for the Incidental Fishery Alt. 3, Likely Neutral to Slight Positive (Section 7.2.6)	

Table 28 (Continued). Magnitude and significance of the cumulative effects; the additive and synergistic effects of the preferred action, as well as past, present, and future actions.

VEC	Status in 2016	Net Impact of P, Pr, and RFF Actions	Impact of the Preferred Action	Significant Cumulative Effects
Protected Resources	Complex and variable (Section 6.3)	Positive (Sections 7.5.4 and 7.5.5.4)	Catch and Landings Limits Flow Chart Alt. 2, Neutral (Section 7.3.1)	None
			IVR Reporting Requirements Alt. 2, Neutral (Section 7.3.2)	
			Number of Allowable Fishing Allocations Alt. 2, Neutral (Section 7.3.3)	
			Golden Tilefish Product Form Landings Requirements Alt. 2, Neutral (Section 7.3.4)	
			Recreational Fishery Gear Requirements Alt. 3, Neutral (Section 7.3.5)	
			Landings Ratios/Qualifiers for the Incidental Fishery Alt. 3, Neutral (Section 7.3.6)	
Human Communities	Complex and variable (Section 6.4)	Positive (Sections 7.5.4 and 7.5.5.5)	Catch and Landings Limits Flow Chart Alt. 2, Neutral (Section 7.4.1)	None
			IVR Reporting Requirements Alt. 2, Likely Neutral to Slight Positive (Section 7.4.2)	
			Number of Allowable Fishing Allocations Alt. 2, Neutral (Section 7.4.3)	
			Golden Tilefish Product Form Landings Requirements Alt. 2, Neutral (Section 7.4.4)	
			Recreational Fishery Gear Requirements Alt. 3, Neutral (Section 7.4.5)	
			Landings Ratios/Qualifiers for the Incidental Fishery Alt. 3, Likely Neutral to Slight Negative (Section 7.4.6)	

8.0 APPLICABLE LAWS

8.1 Magnuson-Stevens Fishery Conservation and Management Act (MSA)

8.1.1 National Standards

Section 301 of the MSA requires that FMPs contain conservation and management measures that are consistent with the ten National Standards. The most recent FMP amendments address how the management actions implemented comply with the National Standards. First and foremost, the Council continues to meet the obligations of National Standard 1 by adopting and implementing conservation and management measures that will continue to prevent overfishing, while achieving, on a continuing basis, the optimum yield for golden tilefish and the U.S. fishing industry. To achieve OY, both scientific and management uncertainty need to be addressed when establishing catch limits that are less than the OFL; therefore, the Council develops recommendations that do not exceed the ABC recommendations of the SSC which have been developed to explicitly address scientific uncertainty. In addition, the Council has considered relevant sources of management uncertainty and other social, economic, and ecological factors, which resulted in recommendations for annual catch targets for both managed resources. The Council uses the best scientific information available (National Standard 2) and manages the species throughout its range (National Standard 3). These management measures do not discriminate among residents of different states (National Standard 4), they do not have economic allocation as their sole purpose (National Standard 5), the measures account for variations in these fisheries (National Standard 6), they avoid unnecessary duplication (National Standard 7), they take into account the fishing communities (National Standard 8) and they promote safety at sea (National Standard 10). Finally, actions taken are consistent with National Standard 9, which addresses bycatch in fisheries. The Council has implemented many regulations that have indirectly reduced impacts on EFH. By continuing to meet the National Standards requirements of the MSA through future FMP amendments, framework actions, and the annual specification setting process, the Council will insure that cumulative impacts of these actions will remain positive overall for the ports and communities that depend on these fisheries, the Nation as a whole, and certainly for the resources.

8.2 NEPA FINDING OF NO SIGNIFICANT IMPACT (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the CEQ regulations at 40 CFR §1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

None of the proposed measures presented in this document is expected to jeopardize the sustainability of the target species affected by the action (see section 7.0). Most of the proposed measures are generally administrative (changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements) and are not expected to result in overfishing on golden tilefish. The measures implementing recreational gear requirements and incidental landings requirements are not expected to impact levels of harvest for the golden tilefish stock or result in overfishing on golden tilefish.

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

None of the proposed measures presented in this document is expected to jeopardize the sustainability of any non-target species, including ESA-listed and MMPA protected species (see section 7.0). The proposed measures are not expected to alter fishing methods or activities.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

The proposed action as described in section 7.0 of the EA is not expected to cause substantial damage to the ocean, coastal habitats, and/or EFH as defined under the MSA and identified in the FMP. The tilefish fishery is primarily a commercial fishery. Based on dealer data from 2011-2015, the bulk of the tilefish landings are taken by the directed tilefish fishery which uses bottom longline gear (98%) followed by the incidental fishery using bottom trawl gear (< 2%; section 6.2). Bottom otter trawls, which catch very small amounts of tilefish incidentally have the potential to impact bottom habitat. However, the measures proposed in this action are not expected to alter fishing methods or activities or expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort. The administrative measures (changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements) included in the proposed action will not have any adverse habitat impact; impacts from all these alternatives are expected to be neutral on habitat. The measures implementing recreational gear requirements and incidental landings requirements could, under certain conditions, slightly decrease the amount of time that bottom longline gear or mini-long line gear used in the fishery contacts benthic habitats, but the positive impacts of this decrease level of fishing on benthic habitats would not be expected to be significant (see section 7.0).

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

None of the measures alters the manner in which the industry conducts fishing activities for the target species. Therefore, no changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed action on the fishery, including the communities in which they operate, will not impact adversely public health or safety.

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?

None of the proposed measures is expected to alter fishing methods or activities or is expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort (see section 7.0). Therefore, this action is not expected to affect ESA-listed or MMPA protected species or critical habitat in any manner not considered in previous consultations on the fisheries.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements, but these measures are not expected to impact levels of harvest for the golden tilefish stock, alter fishing effort, or result in overfishing on golden tilefish.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

The proposed action is not expected to have a substantial impact on the natural or physical environment. Commercial capture of tilefish occurs predominately in the Mid-Atlantic using bottom longline gear which causes some low degree impacts in mud, sand, and gravel habitats. Bottom otter trawls, which catch very small amounts of tilefish incidentally have the potential to impact bottom habitat. However, none of the proposed management measures is expected to alter fishing methods or activities or is expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, there are no social or economic impacts interrelated with significant natural or physical environmental effects (see section 7.0).

8) Are the effects on the quality of the human environment likely to be highly controversial?

The impacts of the proposed measures on the human environment are described in section 7.0 of the EA. This action will make administrative changes to the golden tilefish catch and

landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements, but because these measures are endorsed by the industry and are modeled after successfully implemented actions, they are not expected to be highly controversial.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. These measures are not expected to alter fishing activities that already occur in these areas, nor is it expected to alter fishing effort. Although it is possible that historic or cultural resources such as shipwrecks could be present, vessels try to avoid fishing too close to wrecks due to the possible loss or damage to fishing gear. Therefore, it is not likely that the proposed action would result in substantial impacts to unique areas.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The impacts of the proposed measures on the human environment are described in section 7.0 of the EA. This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. None of the proposed measures is expected to alter fishing methods or activities or is expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort. The measures contained in this action are not expected to have highly uncertain effects or to involve unique or unknown risks on the human environment.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

As discussed in section 7.5, the proposed action is not expected to have individually insignificant, but cumulatively significant impacts. The synergistic interaction of improvements in the management of the fishery is expected to generate insignificant positive impacts overall. The proposed actions, together with past, present, and reasonably foreseeable future actions, are not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

The impacts of the proposed measures on the human environment are described in section 7.0 of the EA. This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. Although there are shipwrecks present in the area where fishing may occur, including some registered on the National Register of Historic Places, vessels typically avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would adversely affect the historic resources listed above.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. This action is mostly administrative in nature and there is no evidence or indication that this fishery has ever resulted in the introduction or spread of nonindigenous species. None of the proposed actions is expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, it is highly unlikely that the proposed action would be expected to result in the introduction or spread of a non-indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. All these measures are consistent with those in place in other federal marine fisheries; they are not novel or unique. None of these measures results in significant effects, nor do they represent a decision in principle about a future consideration. The impact of any future changes will be analyzed as to their significance in the process of developing and implementing them.

15) Can the proposed action reasonably be expected to threaten a violation of federal, State, or local law or requirements imposed for the protection of the environment?

This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. None of the proposed measures is expected to alter fishing methods or activities such that they threaten a violation of federal, State, or local law or requirements imposed for the protection of the environment. In fact, the measures have been found to be consistent with other applicable laws (see sections 8.3 - 8.11 below).

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

The impacts of the proposed alternatives on the biological, physical, and human environment are described in section 7.0. The cumulative effects of the proposed action on target and non-target species, including ESA-listed and MMPA protected species, are detailed in section 7.0 of the EA. The proposed measures are not expected to alter fishing effort or the spatial and/or temporal distribution of current fishing effort.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting EA, it is hereby determined that the proposed actions in this document will not significantly impact the quality of the human environment as described above and in the EA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

Regional Administrator for GARFO, NMFS, NOAA

Date

8.3 Endangered Species Act

Sections 6.3 and 7.0 should be referenced for an assessment of the impacts of the proposed action on ESA-listed species. None of the actions proposed in this document are expected to alter fishing methods or activities or is expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, this action is not expected to affect endangered or threatened species or critical habitat in any manner not considered in previous consultations on these fisheries.

8.4 Marine Mammal Protection Act

Sections 6.3 and 7.0 should be referenced for an assessment of the impacts of the proposed action on marine mammals protected under the MMPA. None of the actions proposed in this document are expected to alter fishing methods or activities or is expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore,

this action is not expected to affect marine mammals or critical habitat in any manner not considered in previous consultations on the fisheries.

8.5 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, as amended, provides measures for ensuring stability of productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. It is recognized that responsible management of both coastal zones and fish stocks must involve mutually supportive goals. The Council has developed this framework document and will submit it to NOAA Fisheries; NOAA Fisheries must determine whether this action is consistent to the maximum extent practicable with the CZM programs for each state (Maine through Virginia).

8.6 Administrative Procedure Act

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by federal agencies. The purpose is to ensure public access to the federal rulemaking process and to give the public notice and opportunity to comment before the agency promulgates new regulations.

The Administrative Procedure Act requires solicitation and review of public comments on actions taken in the development of an FMP and subsequent amendments and framework adjustments. Development of this framework document provided many opportunities for public review, input, and access to the rulemaking process. This action and the proposed measures were developed through a multi-stage process that was open to review by affected members of the public. The public had the opportunity to review and comment on these actions during the Council meeting in December 7, 2015 and April 13, 2016. An Advisor Panel Meetings (via webinar) on April 6, 2016 to gather industry input on the framework was also open to the public. In addition, the public will have further opportunity to comment on this framework document when NOAA Fisheries publishes a request for comments notice in the *Federal Register*.

8.7 Section 515 (Data Quality Act)

Utility of Information Product

This action proposes measures to make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. This document includes: A description of the alternatives considered, the preferred action and rationale for selection, and any changes to the implementing regulations of the FMP (if applicable). As such, this document enables the implementing agency (NOAA Fisheries) to make a decision on implementation and this document serves as a supporting document for the proposed rule.

The action contained within this framework document was developed to be consistent with the FMP, MSA, and other applicable laws, through a multi-stage process that was open to review by affected members of the public. The public had the opportunity to review and comment on management measures during a number of public meetings (see section 8.6). In addition, the public will have further opportunity to comment on this amendment document once NOAA Fisheries publishes a request for comments notice in the *Federal Register*.

Integrity of Information Product

The information product meets the standards for integrity under the following types of documents: Other/Discussion (e.g., Confidentiality of Statistics of the MSA; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR §229.11, Confidentiality of information collected under the MMPA).

Objectivity of Information Product

The category of information product that applies here is “Natural Resource Plans.” This section (section 8.0) describes how this document was developed to be consistent with any applicable laws, including MSA with any of the applicable National Standards. The analyses used to develop the alternatives (i.e., policy choices) are based upon the best scientific information available and the most up to date information is used to develop the EA which evaluates the impacts of those alternatives (see section 7.0 of this document for additional details). The specialists who worked with these core data sets and population assessment models are familiar with the most recent analytical techniques and are familiar with the available data and information relevant to the golden tilefish fishery.

The review process for this amendment document involves MAFMC, NEFSC, GARFO, and NOAA Fisheries headquarters. The NEFSC technical review is conducted by senior level scientists with specialties in fisheries ecology, population dynamics and biology, as well as economics and non-economic social sciences. The MAFMC review process involves public meetings at which affected stakeholders have the opportunity to comments on proposed management measures. Review by GARFO is conducted by those with expertise in fisheries management and policy, habitat conservation, protected resources, and compliance with the applicable laws. Final approval of the framework document and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

8.8 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the Federal paperwork burden for individuals, small businesses, state and local governments, and other persons as well as to maximize the usefulness of information collected by the Federal government. There are additional requirements to the existing reporting requirements previously approved under this FMP for vessel permits,

dealer reporting, or vessel logbooks. However, this action is eliminating the IVR reporting requirements for the golden tilefish IFQ fishery, as this reporting system is no longer used by the NMFS to track golden tilefish landings (see section 7.1.2 for additional details).

8.9 Impacts of the Plan Relative to Federalism/EO 13132

This document does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order (EO) 13132.

8.10 Environmental Justice/EO 12898

This EO provides that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” EO 12898 directs each Federal agency to analyze the environmental effects, including human health, economic, and social effects of Federal actions on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA. Agencies are further directed to “identify potential effects and mitigation measures in consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices.”

The proposed actions are not expected to affect participation in the golden tilefish fishery. Since the proposed action represents no changes relative to the current levels of participation in these fisheries, no negative economic or social effects in the context of EO 12898 are anticipated as a result. Therefore, the proposed action is not expected to cause disproportionately high and adverse human health, environmental or economic effects on minority populations, low-income populations, or Indian tribes.

8.11 Regulatory Impact Review / Initial Regulatory Flexibility Analysis

NMFS requires the preparation of a Regulatory Impact Review (RIR) for all regulatory actions that either implement or significantly amend an FMP. The RIR presented in section 8.11.1 provides a comprehensive review of the changes in net economic benefits to society associated with the proposed regulatory action. This analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and evaluates the alternatives presented as a solution. This analysis ensures that the regulatory agency systematically and comprehensively considers all available alternatives so public welfare can be enhanced in the most efficient and cost-effective way. The RIR addresses multiple items in the regulatory philosophy and principles of EO 12866.

The Regulatory Flexibility Act (RFA) requires the Federal rulemaker to examine the impacts of proposed and existing rules on small businesses, small organizations, and small governmental jurisdictions. In reviewing the potential impacts of proposed regulations, the agency must either certify that the rule “will not, if promulgated, have a significant economic impact on a substantial number of small entities.” A determination of substantial depends on the context of the proposed action, the problem to be addressed, and the

structure of the regulated industry. Standards for determining significance are discussed below. Also, included under section 8.11.2 is an Initial Regulatory Flexibility Analysis (IRFA) which evaluates the economic impacts of the alternatives on small business entities.

As indicated in section 5.0, the proposed actions in this document would implement administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements.

8.11.1 Evaluation of EO 12866 Significance

8.11.1.1 Description of the Management Objectives

A complete description of the purpose and need and objectives of this proposed rule is found under section 4.0. This action is taken under the authority of the MSA and regulations at 50 CFR §648.

This framework action, if implemented, will be implemented under the Tilefish FMP. The management objectives of that FMP are to:

- Prevent overfishing and rebuild the resource to the biomass that would support MSY,
- Prevent overcapitalization and limit new entrants,
- Identify and describe essential tilefish habitat, and
- Collect necessary data to develop, monitor, and assess biological, economic, and social impacts of management measures designed to prevent overfishing and to reduce bycatch of tilefish in all fisheries.

The proposed action is consistent with, and does not modify these objectives. This action is taken under the authority of the MSA and regulations at 50 CFR §648.

8.11.1.2 Description of the Fishery

A description of the golden tilefish fishery is presented in section 6.0. A description of ports and communities that are dependent on golden tilefish is found in section 6.5 of Amendment 1 to the FMP (MAFMC 2009). Recent landing patterns among ports and permit data are examined in section 6.4.

8.11.1.3 A Statement of the Problem

A statement of the problem for resolution is presented under section 4.0.

8.11.1.4 A Description of the Proposed Action

All alternatives considered in this Framework are described in section 5.0. The Council has identified a set of preferred alternatives for this action that include:

Catch and Landings Limits Flow Chart (section 5.1)

- Alternative 2: Modification to the golden tilefish catch and landings limits flow chart

IVR Reporting Requirements (section 5.2)

- Alternative 2: Eliminate the IVR reporting requirements

Number of Allowable Fishing Allocations (section 5.3)

- Alternative 2: Prohibit vessels from fishing more than one allocation at a time

Golden Tilefish Product Form Landings Requirements (section 5.4)

- Alternative 2: Prohibit vessels from landing golden tilefish with the “head-off”

Recreational Fishery Gear Requirements (section 5.5)

- Alternative 3: Restrict the recreational golden tilefish fishery to rod and reel fishery only with a five hook maximum limit per rod

Landings Ratios/Qualifiers for the Incidental Fishery (section 5.6)

- Alternative 3: Incidental golden tilefish landings cannot exceed 50% of the total weight of all combined species landed

8.11.1.5 Analysis of the Proposed Action

For each alternative, potential impacts on several areas of interest are discussed such that the economic effects of the various alternatives are comprehensively evaluated. The types of effects that should be considered include the following changes in landings, prices, consumer and producer benefits, harvesting costs, enforcement costs, and distributional effects. Due to the lack of an empirical model for the golden tilefish fishery and knowledge of elasticities of supply and demand, a qualitative approach to the economic assessment was adopted. Nevertheless, quantitative measures are provided whenever possible. A more detailed description of the economic concepts involved can be found in "Guidelines for Economic Review of National Marine Fisheries Service Regulatory Actions" (NMFS 2007), as only a brief summary of key concepts will be presented here.

Benefit-cost analysis is conducted to evaluate the net social benefit from changes in consumer and producer surpluses that are expected to occur upon implementation of a regulatory action. Total Consumer Surplus (CS) is the difference between the amounts consumers are willing to pay for products or services and the amounts they actually pay. Graphically, it is the area below the demand curve and above the market clearing price where supply and demand intersect. Thus, CS represents net benefit to consumers.

Net benefit to producers is producer surplus (PS). Total PS is the difference between the amounts producers actually received for providing goods and services and the economic cost producers bear to do so. Graphically, it is the area above the supply curve and below the market clearing price where supply and demand intersect. Economic costs are measured

by the opportunity cost of all resources including the raw materials, and physical and human capital used in the process of supplying these goods and services to consumers.

One of the more visible societal costs of fisheries regulation is that of enforcement. From a budgetary perspective, the cost of enforcement is equivalent to the total public expenditure devoted to enforcement. However, the economic cost of enforcement is measured by the opportunity cost of devoting resources to enforcement vis à vis some other public or private use, and/or by the opportunity cost of diverting enforcement resources from one fishery to another.

8.11.1.5.1 Golden Tilefish Catch and Landings Limits Flow Chart Alternatives

Alternative 1 (no action/*status quo*) would not modify the existing golden tilefish system for deriving catch and landings limits. This alternative would continue to deduct discards (regardless of the sector producing them-IFQ fishery or incidental fishery) from the overall ACT in order to derive the TAL. Alternative 1 would not allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. Preferred alternative 2 would modify the structure of the golden tilefish catch and landings limits flow chart to allow for discards to be deducted from the specific component of the commercial sector (IFQ fishery and/or incidental fishery) generating them. Alternative 2 is purely administrative in nature.

These alternatives are not expected to alter the amount of golden tilefish landings, and as such changes in prices, CS, PS, and harvest costs are not expected. In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action.

8.11.1.5.2 IVR Reporting Requirements

Alternative 1 (no action/*status quo*) would not modify the existing IVR reporting requirements for the golden tilefish IFQ fishery. As such, vessels fishing under a Golden Tilefish IFQ Allocation Permit must continue submit a tilefish catch report by using the IVR phone line system within 48 hours after returning to port and offloading. Preferred alternative 2 would eliminate the IVR reporting requirements in the golden tilefish IFQ fishery. Alternative 2 is purely administrative as it deals with the elimination of a reporting system that is not used to track golden tilefish landings any longer. As previously indicated, with the implementation of electronic dealer reporting in 2004 and improved VTR reporting processing by the agency, the information provided by fishermen using the IVR system has become redundant. Currently, GARFO uses landings reported in the dealer system as the primary tool to track landings in the fishery.

These alternatives are not expected to alter the amount of golden tilefish landings, and as such changes in prices, CS, and PS are not expected. However, it is expected that harvest costs (i.e., reporting burden) would slightly decrease as fishermen do not have to report landings via the IVR system, as this reporting system currently requires some time and

effort on the part of fishermen, which would no longer be necessary.³⁸ In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action.

8.11.1.5.3 Prohibit Vessels From Fishing More Than one Allocation at a Time

Under alternative 1 (no action/*status quo*) vessels could harvest golden tilefish using more than one golden tilefish IFQ allocation number at a time. However, since the system is not designed to allow a trip to be split between multiple IFQ allocation numbers, the continuation of this system could create situations when it would be difficult to assign golden tilefish landed to a specific allocation number. This is due to the fact that there is no mechanism available to the vessel or dealer to correctly allocate fish landed to the specific allocation numbers used by the vessel performing the harvesting services. GARFO has indicated that since the IFQ system was implemented (6 years ago), they only encountered one case where a vessel was performing harvesting services for two allocation holders that had small amounts of golden tilefish pounds left at the end of the fishing year. In that case, when the vessel landed the golden tilefish harvested, there was no mechanism available to the vessel or dealer to correctly allocate fish landed to the specific allocation numbers used by the vessel performing the harvesting services. In that case, GARFO staff had to manually track landings and talk to the vessel captain/allocation holders to apportion golden tilefish landings to their respective allocation numbers.^{39, 40} Preferred alternative 2 (preferred) would prohibit vessels from fishing more than one allocation at a time. The implementation of this alternative would prohibit two (or more) allocation numbers from authorizing the same vessel to fish those allocations at the same time. Therefore, for example, a fishing vessel (with no associated golden tilefish IFQ allocation) cannot fish or perform harvesting services for two (or more) allocation holders at the same time. Equally, a golden tilefish allocation holder fishing his/her allocation pounds cannot fish or perform harvesting services for another allocation holder at the same time. However, this alternative would not preclude a vessel from leasing from one or more allocation holders by transferring golden tilefish pounds. As such, in the two examples described above, if allocation pounds had been transferred via the leasing process, the harvesting services could have been performed.⁴¹ Lastly, GARFO has indicated to the Council that this administrative change would enhance the management process for the golden tilefish IFQ system. GARFO has also indicated that while it is not common for vessels to fish with

³⁸ The fleet burden associated with the IVR reporting requirements was estimated at 16 hour/year or about 1.5 hours per IFQ vessel/year. Assuming an approximate wage rate of \$20 to \$30 per hour, the cost of submitting the IVR reports could range from \$30 to \$45 per year per IFQ vessel per year.

³⁹ It is important to note that this deficiency could be corrected, if the NMFS were to create a reporting mechanism to facilitate vessels and dealers to report specific IFQ allocation numbers and associated pounds landed for each fishing trip. However, this would create additional reporting burden for all vessels and dealers and the cost of IFQ-specific reporting would likely be recoverable, and therefore billed to the industry.

⁴⁰ Current golden tilefish accountability measures (50 CFR §648.293(a)) state that if the ACL is exceeded, the amount of the ACL overage that cannot be directly attributed to IFQ allocation holders having exceeded their IFQ allocation will be deducted from the ACL in the following fishing year. All overages directly attributable to IFQ allocation holders will be deducted from the appropriate IFQ allocation(s) in the subsequent fishing year, as required by 50 CFR §648.294(f).

⁴¹ It is also important to note that golden tilefish IFQ allocation holders can add or remove authorized vessel to harvest their allocations at any time during the fishing year by written request to NMFS (50 CFR §648.294(b)(4)).

more than one golden tilefish allocation at a time, this alternative if implemented would close the loop for potential IFQ monitoring issue in the future. Lastly, industry members have also indicated that the implementation of this alternative should not adversely affect their fishing practices and operations or affect the IFQ leasing process. Alternative 2 is purely an administrative issue in nature. These alternatives are not expected to alter the amount of golden tilefish landings, and as such changes in landings, prices, CS, PS, and harvest costs are not expected. In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action.

8.11.1.5.4 Require Golden Tilefish be Landed with the Head Attached

Alternative 1 (no action/*status quo*) would not implement product form landings requirements for golden tilefish. Preferred alternative 2 would make an administrative change to the current regulations that would require vessels to land golden tilefish with the head attached. In spring 2014, the APSD and the NEFSC removed the “head-off” category from the dealer reporting software to avoid dealers mistakenly reporting head-on fish as head-off.⁴² The need for this action is to close the loop on the change already made to dealer reporting, as well as help GARFO change to specifying the annual IFQ allocations and the incidental landing limit in landed weight, rather than whole weight. As a result, monitoring of IFQ and incidental limits would be easier and more logical for industry and enforcement. This alternative is not expected to have any impact on fishing methods and practices.

These alternatives are not expected to alter the amount of golden tilefish landings, and as such changes in prices, CS, PS, and harvest costs are not expected. In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action.

8.11.1.5.5 Recreational Fishery Gear Requirements

Alternative 1 (no action/*status quo*) would not make a modification to the current gear requirements for the fishery (see section 7.5.1).

Preferred alternative 3 would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod. Alternative 3 would only allow the recreational golden tilefish fishery to be conducted using rod and reel with a five hook maximum limit per rod. Rod and reel is the typical gear used in the recreational tilefish fishery (MAFMC 2001). The Council believes that limiting the number of hooks that can be used while fishing with rod and reel gear for golden tilefish to five hooks (per rod) is about the limit that is currently used by recreational anglers. For example, limiting the number of hooks to less than 5 (e.g., 2 or 3) would likely result in fishermen having to check their bait more frequently which anglers may want to avoid when fishing at depths of 400 to 800 feet. In addition, for-hire vessels limit the number of hooks fishermen use and do not typically use more than 3 to 5 hooks as this increases the potential for gear entanglement. The Council discussed that while the golden tilefish recreational fishery is limited by the recreational regulations (possession limit) regardless of the recreational gear type used, alternative 3 would not allow for other gear types (e.g., mini-longlines with large

⁴² Golden tilefish are landed with the head-on.

number of hooks) that could increase the success rate of catching fish, and if the number of fish caught is above the possession limit, discard mortality in the recreational fishery could increase. Alternative 3 is not expected to have any impact on fishing methods and practices and is not expected to result in changes in fishing effort or redistribution in fishing effort.

These alternatives are not expected to alter the amount of golden tilefish landings, and as such changes prices, CS, PS, and harvest costs are not expected. In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action.

8.11.1.5.6 Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action/*status quo*) would not implement landings ratios/qualifiers for the incidental fishery. Under preferred alternative 3, incidental golden tilefish landings cannot exceed 50% of the total weight of all combined species landed. Alternative 1 is not expected to alter the amount of golden tilefish landings, and as such changes in landings, prices, CS, and PS are not expected. Alternative 3 is expected to slightly decrease the amount of golden tilefish landed given recent fishing trends (section 7.1.6). Given recent fishing practices, under alternative 3, golden tilefish landings, on average, could potentially decrease by approximately 6,000 pounds per year (valued at \$27,000/year; assuming that alternative 3 had been implemented during the 2011-2015 period; see Table 21). It is not likely that such small reduction in landings in a fishery that has a quota of close to 2 million pounds would affect prices for this species, and as such changes in CS, and PS are not expected. Furthermore, it is possible that the potential reduction in landings under alternative 3 could be recuperated if vessels were to continue to land golden tilefish incidentally while meeting the landings ratio/qualifiers. Lastly, none of the alternatives are expected to impact harvest costs, enforcement cost or distributive effects are anticipated as a result of this action.

Alternative 2 (incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed) would have the smallest impacts compared to other evaluated landings ratios/qualifiers measures (section 7.1.6); but since the difference is minor, this alternative is not further discussed in this section.

8.11.1.5.4 Summary of OE 12866 Impacts for Preferred Alternatives

Most of the alternatives presented in this amendment are administrative in nature. This action will make administrative changes to the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements.

This action does not constitute a significant regulatory action under EO 12866 for the following reasons. First, it will not have an annual effect on the economy of more than \$100 million. The measures considered in this tilefish analysis will not affect total revenues

generated by the commercial sector to the extent that a \$100 million annual economic impact will occur in the tilefish fishery. Based on NMFS preliminary dealer data, the total commercial value in 2015 was estimated at approximately \$5.1 million for tilefish. As estimated above, none of the proposed alternatives are expected to affect landings or revenues for the fishery under any of the preferred alternatives evaluated.

Most of the proposed actions (with the exception of the landings ratios/qualifiers for the incidental fishery) are not expected to alter the amount of golden tilefish landings, and as such changes in landings, prices, CS, harvest costs, and PS are not expected. In addition, no changes in enforcement cost or distributive effects are anticipated as a result of this action. While the preferred alternative implementing landings ratios/qualifiers for the incidental fishery is expected to potentially decrease incidental golden tilefish landings by a very small amount and no impacts on prices, CS, harvest costs, and PS are expected. The preferred alternatives being considered by this action are necessary to improve the management of this fishery. The action benefits in a material way the economy, productivity, competition, and jobs. The action will not adversely affect, in the long-term, competition, jobs, the environment, public health or safety, or state, local, or tribal government communities. In addition, this action will not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency. No other agency has indicated that it plans an action that will affect the tilefish fishery in the EEZ. Further, this action will not materially alter the budgetary impact of entitlement, grants, user fees, or loan programs or the rights and obligations of their participants. And, finally, the proposed action does not raise novel, legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in EO 12866.

8.11.2 Initial Regulatory Flexibility Analysis

An IRFA which evaluates the economic impacts of the alternatives on small business entities is provided in this section. When an agency publishes a general notice of proposed rulemaking for any proposed rule, the agency is required to prepare an IRFA describing the impacts of the proposed rule on small entities. Agencies also are required to prepare a Final Regulatory Flexibility Analysis (FRFA) when they promulgate the final rule. However, agencies may forgo the preparation of a regulatory flexibility analysis if they can certify that the rule would not have a significant economic impact on a substantial number of small entities.

8.11.2.1 Description of the Reasons Why Action by the Agency is Being Considered

A complete description of the purpose and need and objectives of this proposed rule is found under section 4.0. A statement of the problem for resolution is presented under section 4.0.

This action is being considered to address issues related to the administration of the golden tilefish fishery, while continuing to achieve the management objectives of the Tilefish FMP. This action is taken in order to optimize the management system for the golden tilefish fishery.

This action is being considered to modify the present system of catch and landings limits derivation in the golden tilefish fishery. This action would modify the structure of the golden tilefish catch and landings limits flow chart to allow for discards to be deduct from the specific commercial sector (IFQ fishery and/or incidental fishery) generating them. This action would also eliminate the IVR reporting requirements. The IVR reporting system has become redundant as GARFO now uses landings reported in the dealer system as the primary tool to track landings in the fishery. This framework would also prohibit vessels from fishing more than one golden tilefish IFQ allocation at a time. However, this prohibition would not affect the leasing process for golden tilefish IFQs. The action will also require golden tilefish to be landed with the head attached (i.e., head-on gutted or whole); the need for this action is to close the loop on the change already made to dealer reporting. Lastly, this action is being considered to implement recreational gear requirements in the golden tilefish fishery.

8.11.2.2 The Objectives and Legal Basis of the Proposed Rule

A complete description of the objectives of this proposed rule is found under section 4.0. This action is taken under the authority of the MSA and regulations at 50 CFR §648.

8.11.2.3 Estimate of the Number of Small Entities

The proposed measures presented in this document could affect IFQ shareholders and any vessel holding an active Federal permit for tilefish. The category of small entities likely to be affected by the proposed actions is that of IFQ shareholders and fishermen in the golden tilefish fishery. The following discussion of impacts centers on the effects of the proposed actions on the mentioned small business entities. Who holds IFQ quota share is a matter of public record; lists of current IFQ shareholders of record may be found at: <http://www.greateratlantic.fisheries.noaa.gov/sustainable/species/tilefish/>.

The Small Business Administration (SBA) defines a small business in the commercial fishing industry as a firm with total annual receipts (gross revenues) not in excess of \$11.0 million. A small business in the recreational for-hire fishery is a firm with receipts of up to \$7.5 million.⁴³

Table 29 describes the number of small commercial fishing firms that are active in the tilefish fishery, their average revenues, and their average tilefish revenues. In order to identify firms, vessel ownership data⁴⁴, which have been added to the permit database, was used to identify all the individuals who own fishing vessels. With this information, vessels were grouped together according to common owners. The resulting groupings were then treated as a fishing business, for purposes of identifying small and large firms.

⁴³ A small business in the case of a fish processor or fish dealer is an entity that has fewer than 750 and 100 employees, respectively.

⁴⁴ Affiliate database for 2013-2015 was provided by Andrew Kitts and Min-Yang Lee (NMFS-NEFSC-Social Science Branch).

Of the 162 identified affiliates that landed tilefish during the 2013-2015 period, four are considered large entities and 158 are considered small businesses based on their fishing revenues in 2015. Two affiliates held party/charter permits and reported party/charter revenues between 2013 and 2015. These revenues are included in the total revenues reported in Table 29. The majority of the permitted commercial fishing firms readily fall within the definition of small business. In general terms, the active tilefish fishery participants derive a small share of gross receipts from the golden tilefish fishery.

Table 30 shows the number of small party/charter fishing firms that had a valid tilefish party/charter permit for the 2013-2015 period. In all, 210 small party/charter business firms had a tilefish party/charter permit during the 2013-2015 period. The revenue generated by those firms represents the revenues from all party/charter fishing activity for all species combined. It is anticipated that party/charter entities that have tilefish party/charter permits and are engage in party/charter golden tilefish fishing will be regulated entities under the recreational gear restrictions described in this framework.

The bulk of the options presented in this document are not expected to alter fishing methods or activities or are expected to increase fishing effort or the spatial and/or temporal distribution of current fishing effort, or the amount of golden tilefish landings. The preferred alternative dealing with adding landings ratios/qualifiers in the incidental fishery is not expected to have a significant impact on fishing methods and practices either; however, this alternative would likely slightly alter the amount of golden tilefish discards for some vessels fishing under the incidental permit regulations. However, this will not change the removal rates for this stock or the mechanisms to prevent that overfishing or ensure that the stock is not overfished. The following discussion of impacts centers on the effects of the proposed action on the mentioned small business entities.

Table 29. Small and large commercial fishing entities average revenues and golden tilefish revenues, 2013-2015.

Revenue (millions of dollars(M))	Count of Firms*	Average Gross Receipts	Average Tilefish Receipts	Tilefish Receipts as a Proportion of Gross Receipts
<0.5M	79	17,247,665	912,938	5.29%
0.5 - 1M	42	30,532,820	1,447,126	4.74%
1 - 2M	22	31,651,132	1,497,874	4.73%
2 - 5M	11	30,982,612	1,574,448	5.08%
5 - 11M	4	27,356,341	108,394	0.40%
> 11M	4	70,631,681	1,264	<0.01%
Total	162	208,402,251	5,542,044	2.66%

*At the ownership level as described above.

Table 30. Small party/charter fishing and associated revenues, 2013-2015.

Revenue (millions of dollars(M))	Count of Firms*	Average Gross Receipts	Average Receipts
<0.1M	165	3,662,983	22,220
0.1 – 0.5 M	26	7,726,443	297,171
0.5 - 1M	14	9,363,434	668,817
1 - 3M	5	8,306,960	1,661,392
Total	210	29,059,819	138,380

*At the ownership level as described above.

8.11.2.4 Reporting Requirements

There are no reporting or record-keeping requirements associated with the proposed actions discussed in this document. This action does not contain a collection-of-information requirement for purposes of the PRA (see section 8.8). This action will make administrative changes to the golden tilefish catch and landings limit flow chart, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements. In addition, this action would implement recreational gear requirements and incidental landings requirements. Lastly, this action will eliminate (administrative change) the IVR reporting system for the golden tilefish IFQ fishery, as this reporting system is no longer used by the NMFS to track golden tilefish landings (see section 8.8). Proposed and final rules on these actions will be published in the *Federal Register*.

8.11.2.5 Conflict with Other Federal Rules

This action does not duplicate, overlap, or conflict with other Federal rules.

8.11.2.6 Analysis of Economic Impacts

In this section, the effects of actions were analyzed by employing quantitative approaches to the extent possible. The management alternatives proposed in this document are described in detail in sections 4.0 and 5.0 and are briefly summarized in section 8.11.1.4. As previously indicated, the administrative changes under the measures addressing the golden tilefish catch and landings limit flow chart, IVR reporting requirements, the number of allowed fishing allocations that vessels can use at any specific time period, and tilefish product form landings requirements are not expected to change fishing methods or actives nor to alter the catch and landings limits for these species or the allocation of the resources among user groups (section 7.4). These alternatives are not expected to impact the economic aspects of the fishery. These alternatives are not further discussed in this section.

In addition to the administrative management measure mentioned above, two non-administrative management measures are also considered in this framework. The first issue deals with recreational fishery gear requirements. The second issue deals with landings

ratios/qualifiers for the incidental fishery. The economic impact of these non-administrative issues is described below.

The IFQ system implemented for this fishery allows industry participants to benefit from a high degree of flexibility in their fishing operations, as government regulation is basically reduced to quota holders not exceeding their individual allowances. Industry members are free to trade quota amongst themselves as best suits their individual business needs. Costs to society are reduced and efficiency greatly enhanced when the use of effort limitation and closed seasons to limit total annual harvests can be avoided. The ability to avoid use of input controls to limit total annual harvest, such as effort restrictions and seasonal closures, reduces costs to society and greatly enhances efficiency. Input control tools often have the effect of overcapitalizing fisheries with unneeded vessels that are obliged to operate inefficiently, reducing socioeconomic benefits derived from these fishery resources.

In this IRFA, the primary unit of observation when performing a threshold analysis is the affiliate entity that participated in the tilefish fishery during calendar years 2013-2015, irrespective of their current permit status.

The effects of actions were analyzed by employing quantitative approaches to the extent possible. Where quantitative data were not available, qualitative analyses were conducted. In the current analysis, effects on profitability associated with the proposed management measures should be evaluated by looking at the impact of the proposed measures on individual vessel costs and revenues. However, in the absence of cost data for individual affiliate entities engaged in this fishery, changes in gross revenues are used as a proxy for profitability.

Analysis of Impacts of Alternatives

Recreational Fishery Gear Requirements

Alternative 1 (no action) would not make a modification to the current gear requirements for the fishery. Alternative 1 is not expected to have any impact on fishing methods and practices, impact recent recreational trends or redistribution in fishing effort. Therefore, alternative 1 would result in no economic impacts when compared to the current conditions.

Alternative 3 (preferred) would restrict the golden tilefish recreational fishery to rod and reel fishery only - with a five hook maximum limit per rod. This alternative would only allow the recreational golden tilefish fishery, including vessels that carry anglers for hire, to be conducted using rod and reel with a five hook maximum limit per rod. As previously discussed, rod and reel is the typical gear used in the recreational tilefish fishery (sections 6.1.1 and 7.1.5) and the Council believes that limiting the number of hooks to five hooks (per rod) is about the limit that is currently used by recreational anglers (section 7.1.5). Alternative 3 is not expected to have any impact on fishing methods and practices, impact recent recreational trends or redistribution in fishing effort. Therefore, alternative 3 would result in no economic impacts when compared to the current conditions.

Landings Ratios/Qualifiers for the Incidental Fishery

Alternative 1 (no action) would not implement landings ratios/qualifiers for the incidental fishery. Alternative 1 is not expected to have any impact on fishing methods and practices, impact recent incidental landings trends or redistribution in fishing effort. Therefore, alternative 1 would result in no economic impacts when compared to the current conditions.

If alternative 3 had been implemented during the 2013-2015 period, some golden tilefish landed at the firm level (under the commercial incidental rules) could have not been landed (i.e., for some trips not all) because they did not meet the 50% threshold landings requirements (golden tilefish to other species) under this alternative. Table 30 indicates that a total of 19 firms could have been impacted under alternative 3 if it had been implemented during the 2013-2015 period.

In all, these 19 firms would have incurred an overall average gross receipts reduction of 0.44%; with the bulk of the impacted firms (68%; 13 out of 19 firms) incurring revenue losses of less than 2%. Two firms in the < \$ 0.5 million range would have been impacted with revenue losses of about 30% or more; however, average total gross sales (all species combined) for each of these firms was \$3,000 or less for the 2013-2015 period; thus, likely indicating that the dependence on fishing for these firms is very small. For the rest of the firms (4 firms), revenue losses would have range from 6% to 8%; however, average total gross sales (all species combined) for two of these firms (50%; 2 out of 4) was \$13,000 or less for the 2013-2015 period; thus, likely indicating that the dependence on fishing for some of these firms is also small.

It is likely that for those entities showing a higher golden tilefish contribution to total landings of all species combined the implementation of alternative 3 would result in revenue losses that are substantially higher as these firms may be targeting golden tilefish under the commercial incidental limit regulations. However, it is possible that some if not all these revenue losses could be recuperated if firms were to continue to land golden tilefish incidentally while meeting the landings ratio/qualifier under alternative 3. Alternative 2 (incidental golden tilefish landings cannot exceed 25% of the total weight of all combined species landed) would have the smallest impacts compared to other evaluated landings ratios/qualifiers measures (section 7.1.6); but since the difference is minor compared to alternative 3 (preferred), alternative 2 is not further discussed in this section.

Table 31. Changes in average revenues and golden tilefish revenues for small entities, if alternative 3 had been implemented during the 2013-2015 period.

Revenue (millions of dollars(M))	Count of Firms*	Actual values for the 2013-2015 period			Values if alternative 3 had been implemented during the 2013-2015 period			% Change in Overall Average Gross Receipts
		Average Gross Receipts	Average Tilefish Receipts	Tilefish Receipts as a Proportion of Gross Receipts	Average Gross Receipts	Average Tilefish Receipts	Tilefish Receipts as a Proportion of Gross Receipts	
<0.5M	14	1,443,973	169,426	17.73%	1,418,973	144,427	10.18%	-1.73%
0.5 - 1M	3	2,275,485	2,912	0.13%	2,275,333	2,760	0.12%	-0.01%
1 - 2M	2	2,982,343	5,617	0.19%	2,977,805	1,079	0.04%	-0.15%
Total	19	6,701,800	177,955	2.66%	6,672,111	148,266	2.22%	-0.44%

*At the ownership level as described above.

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10.0 LIST OF AGENCIES AND PERSONS CONSULTED

In preparing this framework document, the Council consulted with NMFS, The New England and South Atlantic Fishery Management Councils, U.S. Fish and Wildlife Service, and the states of Maine through North Carolina through their membership on the Council. To ensure compliance with NMFS formatting requirements, the advice of NMFS GARFO personnel was sought.

Copies of the framework document, including the Environmental Assessment and Initial Regulatory Flexibility Analysis and other supporting documents for the framework are available from Dr. Christopher M. Moore, Executive Director, Mid-Atlantic Fishery Management Council, Suite 201, 800 North State Street, Dover, DE 19901

APPENDIX A

Table 1. Essential Fish Habitat descriptions for federally-managed species/life stages in the U.S. Northeast Shelf Ecosystem that are vulnerable to bottom tending fishing gear.

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
American plaice	juvenile	GOM, including estuaries from Passamaquoddy Bay to Saco Bay, ME and from Massachusetts Bay to Cape Cod Bay	45 - 150	Fine grained sediments, sand, or gravel
American plaice	adult	GOM, including estuaries from Passamaquoddy Bay to Saco Bay, ME and from Massachusetts Bay to Cape Cod Bay	45 - 175	Fine grained sediments, sand, or gravel
Atlantic cod	juvenile	GOM, GB, eastern portion of continental shelf off SNE, these estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	25 - 75	Cobble or gravel
Atlantic cod	adult	GOM, GB, eastern portion of continental shelf off SNE, these estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	10 - 150	Rocks, pebbles, or gravel
Atl halibut	juvenile	GOM and GB	20 - 60	Sand, gravel, or clay
Atl halibut	adult	GOM and GB	100 - 700	Sand, gravel, or clay
Barndoor skate	juvenile/ adult	Eastern GOM, GB, SNE, Mid-Atlantic Bight to Hudson Canyon	10-750, most < 150	Mud, gravel, and sand
Black sea bass	juvenile	GOM to Cape Hatteras, NC, including estuaries from Buzzards Bay to Long Island Sound, Gardiners Bay, Barnegat Bay to Chesapeake Bay, Tangier/ Pocomoke Sound, and James River	1 - 38	Rough bottom, shellfish/ eelgrass beds, manmade structures, offshore clam beds, and shell patches
Black sea bass	adult	GOM to Cape Hatteras, NC, including Buzzards Bay, Narragansett Bay, Gardiners Bay, Great South Bay, Barnegat Bay to Chesapeake Bay, and James River	20 - 50	Structured habitats (natural and manmade), sand and shell substrates preferred
Clearnose skate	juvenile/ adult	GOM, along continental shelf to Cape Hatteras, NC, including the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, most < 111	Soft bottom and rocky or gravelly bottom
Haddock	juvenile	GB, GOM, and Mid-Atlantic south to Delaware Bay	35 - 100	Pebble and gravel
Haddock	adult	GB, eastern side of Nantucket Shoals, and throughout GOM	40 - 150	Broken ground, pebbles, smooth hard sand, and smooth areas between rocky patches
Little skate	juvenile/ adult	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes estuaries from Buzzards Bay south to mainstem Chesapeake Bay	0-137, most 73 - 91	Sandy or gravelly substrate or mud
Ocean pout	eggs	GOM, GB, SNE, and Mid-Atlantic south to Delaware Bay, including the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay and Cape Cod Bay	<50	Generally sheltered nests in hard bottom in holes or crevices
Ocean pout	juvenile	GOM, GB, SNE, Mid-Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, and Cape Cod Bay	< 50	Close proximity to hard bottom nesting areas
Ocean pout	adult	GOM, GB, SNE, Mid-Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay, MA Bay, Boston Harbor, and Cape Cod Bay	< 80	Smooth bottom near rocks or algae

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
Pollock	adult	GOME, GB, SNE, and Mid-Atlantic south to New Jersey and the following estuaries: Passamaquoddy Bay, Damariscotta R., MA Bay, Cape Cod Bay, Long Island Sound	15 – 365	Hard bottom habitats including artificial reefs
Red hake	juvenile	GOM, GB, continental shelf off SNE, and Mid-Atlantic south to Cape Hatteras, including the following estuaries: Passamaquoddy Bay to Saco Bay, Great Bay, MA Bay to Cape Cod Bay; Buzzards Bay to CT River, Hudson River, Raritan Bay, and Chesapeake Bay	< 100	Shell fragments, including areas with an abundance of live scallops
Red hake	adult	GOM, GB, continental shelf off SNE, Mid-Atlantic south to Cape Hatteras, these estuaries: Passamaquoddy Bay to Saco Bay, Great Bay, MA Bay to Cape Cod Bay; Buzzards Bay to CT River, Hudson River, Raritan Bay, Delaware Bay, and Chesapeake Bay	10 - 130	In sand and mud, in depressions
Redfish	juvenile	GOM, southern edge of GB	25 - 400	Silt, mud, or hard bottom
Redfish	adult	GOM, southern edge of GB	50 - 350	Silt, mud, or hard bottom
Rosette skate	juvenile/ adult	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33-530, most 74-274	Soft substrate, including sand/mud bottoms
Scup	juvenile/ adult	GOM to Cape Hatteras, NC, including the following estuaries: MA Bay, Cape Cod Bay to Long Island Sound, Gardiners Bay to Delaware inland bays, and Chesapeake Bay	0-38 for juv 2-185 for adult	Demersal waters north of Cape Hatteras and inshore estuaries (various substrate types)
Silver hake	juvenile	GOM, GB, continental shelf off SNE, Mid-Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Casco Bay, ME, MA Bay to Cape Cod Bay	20 – 270	All substrate types
Summer Flounder	juvenile/ adult	GOM to Florida – estuarine and over continental shelf to shelf break	0-250	Demersal/estuarine waters, varied substrates. Mostly inshore in summer and offshore in winter.
Smooth skate	juvenile/ adult	Offshore banks of GOM	31–874, most 110-457	Soft mud (silt and clay), sand, broken shells, gravel and pebbles
Thorny skate	juvenile/ adult	GOM and GB	18-2000, most 111-366	Sand, gravel, broken shell, pebbles, and soft mud
Tilefish	juvenile/ adult	Outer continental shelf and slope from the U.S./Canadian boundary to the Virginia/North Carolina boundary	100 - 300	Burrows in clay (some may be semi-hardened into rock)
White hake	juvenile	GOM, southern edge of GB, SNE to Mid-Atlantic and the following estuaries: Passamaquoddy Bay, ME to Great Bay, NH, Massachusetts Bay to Cape Cod Bay	5 - 225	Seagrass beds, mud, or fine grained sand
Winter flounder	adult	GB, inshore areas of GOM, SNE, Mid- Atlantic south to Delaware Bay and the estuaries from Passamaquoddy Bay, ME to Chincoteague Bay, VA	1 - 100	Mud, sand, and gravel
Winter skate	juvenile/ adult	Cape Cod Bay, GB, SNE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, most < 111	Sand and gravel or mud
Witch flounder	juvenile	GOM, outer continental shelf from GB south to Cape Hatteras	50 - 450 to 1500	Fine grained substrate
Witch flounder	adult	GOME, outer continental shelf from GB south to Chesapeake Bay	25 - 300	Fine grained substrate

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
Yellowtail flounder	adult	GB, GOM, SNE and Mid-Atlantic south to Delaware Bay and these estuaries: Sheepscot River and Casco Bay, ME, MA Bay to Cape Cod Bay	20 - 50	Sand or sand and mud