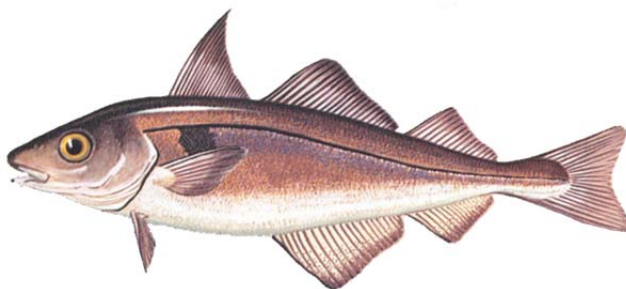


Supplemental Environmental Assessment
Fishing Year 2015 Gulf of Maine Haddock Recreational Management Measures

*Supplements the Environmental Assessment for Framework Adjustment 53 to the
Northeast Multispecies Fishery Management Plan*

Prepared By:

National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office
55 Great Republic Drive, Gloucester, MA. 01930



Melanogrammus aeglefinus

Final:

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1.0 INTRODUCTION

The National Marine Fisheries Service (NMFS) has prepared this supplemental analysis to evaluate potential impacts that would result from the proposed action to revise recreational management measures for Gulf of Maine (GOM) haddock for fishing year (FY) 2015. The FY 2014 recreational fisheries catch for GOM cod and haddock exceeded the sub-annual catch limits (ACL) established for the recreational fishery for both stocks. Additionally, the recreational sub-ACL for GOM cod will decline over 75 percent while the recreational sub-ACL for GOM haddock will increase over 200 percent. As outlined by the Northeast Multispecies Fishery Management Plan (FMP), the Regional Administrator has authority to proactively adjust recreational management measures to ensure FY 2015 recreational catch does not exceed the GOM cod and haddock sub-ACLs in FY 2015.

In accordance with the National Environmental Policy Act (NEPA), NMFS evaluated the potential impacts of a range of catch limits and management measures in an Environmental Assessment (EA) submitted to NMFS by the New England Fishery Management Council (Council), on February 20, 2015. The Framework 53 EA analyzes the impact of prohibiting recreational possession of GOM cod, as approved by the Council. However, recreational measures for GOM haddock are contained in this document and are predicated on zero possession of GOM cod.

The conclusion reached in the EA completed by the Council for Framework 53 is that the action of approving the preferred measures, including a range of catch limits and management measures including the recreational sub-ACLs for GOM cod and haddock, would not significantly impact the quality of the human environment. All beneficial and adverse impacts of the proposed FY 2015 measures are evaluated in the Framework 53 EA, resulting in the conclusion of no significant impacts. This supplemental EA presents impact information on the physical, biological, habitat, and socio-economic ecosystem components that would result from revising measures for the FY 2015 GOM haddock recreational fishery. This document is not a stand-alone document, but rather a supplemental EA, intended to be utilized in conjunction with the attached Framework 53 EA.

2.0 BACKGROUND

GOM cod and haddock are cooperatively managed by the Council and NMFS under the FMP. Under the FMP, specific sub-ACLs for the recreational fishery are established for each fishing year for GOM cod and haddock. These sub-ACLs are a subcomponent of the overall stock catch limit for both species. The FMP also contains accountability measures, in accordance with Magnuson-Stevens Fishery and Conservation Management Act (Magnuson-Stevens Act) National Standard 1 guidelines. The multispecies fishery opens on May 1 each year and runs through April 30 of the following calendar year.

Recreational catch and effort data are estimated by the Marine Recreational Information Program (MRIP). MRIP is a comprehensive, multi-faceted survey system administered by NMFS. MRIP information is released in 2 month ‘waves’ with preliminary data provided approximately 6 weeks following the end of a wave¹. For example, Wave 1 data for January and February would be available around mid-April. This system means that catch data for cod and haddock through wave 5 (i.e., May 1 start of the fishing year through October) is not available until mid-December. Typically, the Council concludes recommending management measures for the upcoming fishing year in November of the year preceding the start of the fishing year (i.e., November 2014 for a May 1, 2015, start of the fishing year). This means that in most years, the Council is unable to contemplate potential recreational management measure changes until January or later, often after any analyses for the upcoming fishing year have been completed and formally submitted to NMFS for review and implementation.

NMFS informed the Council in an August 1, 2014, letter that an update of the GOM cod stock assessment (Palmer 2014) had been completed and that all major indicators of stock health had deteriorated since the 2012 assessment. On Wednesday October 1, 2014, the Council requested that NMFS take emergency action to reduce mortality on GOM cod. In response, on November 13, 2014, NMFS implemented interim measures for GOM cod protection. The interim measures included an extension of zero recreational possession of GOM cod through the end of the fishing year and implemented Seasonal Interim Closure Areas closed to federally permitted vessels using recreational gear (or commercial gear) capable of catching cod.

On August 24, 2014, NMFS notified the Council that the 59th Stock Assessment Review Committee (SARC 59) concluded that GOM haddock stock health had improved, but incorporation of an assumed recreational discard mortality rate of 50 percent for haddock had a substantial impact on recreational catch of GOM haddock (NEFSC 2014). Because of the incorporation of assumed discard mortality, and strong summer catch, the FY 2014 recreational measures for GOM haddock were retained despite an emergency action to increase the GOM haddock ACL which increased the recreational sub-ACL from 87 mt to 173 mt.

Table 1. Preliminary FY 2014 and 2015 Recreational Catch Information for GOM cod and Haddock (all weights in mt).

GOM Stock	FY 2014 sub-ACL	Total Catch	% of FY 2014 sub-ACL Caught	FY 2015 sub-ACL	% reduction in landings needed for FY 2015
Cod	486	561	115%	121	78%
Haddock	173	505	292%	372	84%

¹ Final data for a calendar year is typically available by April 15th of the following calendar year.

The accountability measures outlined in the FMP (§ 648.89(f)(2)) indicate that the Greater Atlantic Regional Fisheries Office (GARFO) Regional Administrator may, in consultation with the Council, modify the recreational management measures for the upcoming fishing year to ensure that the sub-ACL is not exceeded. This is the proactive accountability measure². Because the status quo measures for GOM cod and GOM haddock are not expected to constrain catch to the FY 2015 sub-ACL, the proactive accountability measure requires adjustment of the measures.

The proactive accountability measure consultation process was developed because of timing issues with the availability of recreational catch data and the Council's process, as described above. Framework 48 adopted the proactive accountability measure and provided guidance on measures that NMFS should consider (minimum size, possession limit, season length) if additional effort controls are necessary to reduce the catch of cod or haddock. However, the framework stipulated that the guidance on measures that NMFS should consider, and the priority order, is not intended to restrict NMFS' discretion in choosing measures. Framework 48 also specified that NMFS would explain any deviations from Council recommendations when measures are adopted. The recreational catch in FY 2015 for GOM cod would need to be reduced 78 percent, and haddock catch reduced 84 percent, from FY 2014 levels to constrain catch to the recreational sub-ACLs.

The Council convened its Recreational Advisory Panel (RAP) on January 22, 2015, to recommend management measure changes for the Council's consideration at its meeting January 29. These two meetings were designed to provide the necessary consultation between NMFS and the Council outlined in the accountability measures implementing language. The RAP reviewed catch projections under various scenarios of changed measures for FY 2015 modeled by staff from the Northeast Fisheries Science Center (Center) Social Sciences Branch (SSB). SSB staff used a model that was peer-reviewed in 2012 by the Council's Scientific and Statistical Committee and previously described in the supplemental EA prepared to analyze FY 2012 GOM cod interim management measures prepared by NMFS. This bioeconomic simulation model predicts the expected number GOM cod and haddock that would be kept and discarded from alternative seasons, and possession and size limits. The model combines economic information derived from an angler choice experiment survey with biological information about the current stock structure for both stocks with historical catchability data from recreational anglers. Ultimately, the model simulates the effects of proposed changes in seasons, and possession and size limits on angler effort and the resultant mortality for recreationally caught GOM cod and haddock.

At the RAP meeting SSB staff provided the RAP a brief overview of the bioeconomic model and its recent performance. When compared to MRIP catch estimates, the model underestimated recreational mortality by 33% in FY 2013 and 25% in FY 2014. For FY 2014

² There is also a reactive accountability measure that evaluates a 3-year rolling average of catch compared to sub-ACLs. However, this is largely rendered unnecessary by the proactive accountability measure.

catch estimates, the model began to incorporate size limit non-compliance into the model using MRIP data. For FY 2015 catch estimates, the model now incorporates bag limit noncompliance, and the algorithm for how trips are retained in the simulation was changed. These changes to the model in 2014 and 2015 were intended to try and address the previously observed underestimation in comparison to MRIP catch estimates and improved the model's ability to accurately predict previous years' catches, when compared to MRIP data.

The model estimates for FY 2015 were presented to the RAP, noting that for the FY 2015 projections, the model did not consider potential changes in fishing behavior that may result from the zero cod possession limit. If anglers are able to adjust their fishing locations and avoid cod, discard mortality would likely be lower than the model estimated. The model used the stock assessment assumptions about recreational discard mortality: 30 percent for cod and 50 percent for haddock. All projections included a zero possession limit for cod, consistent with Framework 53. Some model runs used a reduced cod discard mortality rate or 10 percent and assumed a 50-percent increase in compliance to demonstrate the importance of those two factors.

The RAP passed 5 motions and 3 consensus statements for the Council to consider. The Council subsequently passed 3 of the RAP's motions (below), which were made as recommendations for NMFS to consider for proactive accountability measures for FY 2015. The motions included zero possession of GOM cod, and for GOM haddock, a 4-fish bag limit, a 17-inch minimum size, and closed seasons during wave 2 (March 1 to April 30) and wave 5 (September 1 to October 31). Based on the model, the recommended measures would only work if discard mortality for cod and haddock were reduced, while compliance was increased. The two remaining motions that were passed included gear requirements to reduce recreational discard mortality, and outreach to increase compliance with the recreational measures.

MOTION 1:

Recommend that the outreach component to recreational anglers regarding changes to the GOM cod and haddock management measures, currently underway by the Greater Atlantic Regional Fisheries Office, continue and its impact on reducing non-compliance be considered when predicting recreational catches for FY 2015.

MOTION 2:

For the purposes of reducing discard mortality on GOM cod and haddock, recommend prohibiting the use of more than two hooks per line while fishing for groundfish in the GOM. Only inline circle hooks may be baited. When using a jig or artificial lure, only single point j-hooks may be used (e.g., no treble hooks). Teasers, feathers, flies etc. may be used but count toward the use of no more than two hooks per line.

Consensus Statement 1:

The RAP feels that directed GOM angler trips will decline substantially in FY 2015 under no possession for GOM cod and the anticipated low bag limit for GOM haddock for the recreational fishery. The RAP feels that the change in effort between FY 2014 and FY 2015 would be at least a 50% decline. Data provided in Table 12 (Document # 4b, NEFSC/SSB, Recreational Catch and Effort Tables, dated January 14, 2015) supports this concern as declines in effort between FY 2013 to FY 2014 from the GOM cod and GOM haddock wave 5 (September 1 to October 31) closure were estimated to be a 85% decline overall.³

Consensus Statement 2:

The RAP feels that under no possession of GOM cod that party, charter, and private vessels will be much less likely to fish in areas known to have aggregations of cod and less likely to use equipment to target cod. The ability of anglers to avoid cod is not taken into account in FY 2015 recreational catch projections. Therefore, the RAP feels that cod bycatch would be greatly reduced from what is projected for FY 2015.

Consensus Statement 3:

Recreational discards were not considered in the allocation of GOM cod and haddock. Discard mortality estimates are being used in recreational catch projections to determine potential accountability measures. The RAP recommends that this concern be considered when implementing AMs.

MOTION 3:

In light of no possession on cod and expected declines in effort (including consideration of Motions 1 and 2 and Consensus Statements 1, 2, and 3), recommend that proactive AMs for GOM haddock in FY 2015 be a bag limit of at least 4 fish, a 17-inch minimum fish size, and closed seasons during wave 2 (March 1 to April 30) and wave 5 (September 1 to October 31). The motion and discussion was based on earlier statements and motions made by the RAP.

3.0 PURPOSE AND NEED

The purpose of this action is to implement management measures for the recreational GOM haddock fishery that include a bag limit reduction. This action is needed to reduce the recreational fishery mortality below FY 2014 levels to ensure FY 2015 GOM cod and haddock recreational sub-ACLs are not exceeded, while providing the greatest possible benefit to the nation, particularly with respect to food production and recreational opportunities. Constraining catch to the sub-ACLs is required by the MSA and needed to ensure that stocks are not subject to overfishing and, for GOM cod, to foster stock rebuilding consistent with the rebuilding program.

³ During wave 5 of 2014, both cod and haddock were closed. Only cod will be closed in FY 2015. The estimated 85% decline likely indicates that there will be a substantial decline in effort, but since anglers will still be able to land 3 haddock on a given angler-trip the decline is likely to be < 85%.

4.0 PROPOSED ACTION AND ALTERNATIVES

The preferred alternative and other alternatives considered in this supplemental EA are described in the following sections and summarized in the subsequent tables. All of the alternatives considered for this action are predicated on a zero-possession limit for GOM cod, as implemented in FW 53. Despite prohibiting recreational possession of GOM cod, the GOM haddock measures have a direct impact on achieving or exceeding the GOM cod sub-ACL because of cod bycatch in the haddock fishery. Cod discard mortality counts against the cod sub-ACL.

In addition to the no action (status quo) alternative, only two additional alternatives were identified that may achieve the purpose and need for this action. This action is narrowly focused on achieving, but not exceeding, the FY 2015 recreational sub-ACLs for GOM cod and haddock. Alternatives necessarily must meet the objective of providing a reasonable probability that the catch resulting in FY 2015 will be below the recreational fishery catch limit.

The discard mortality estimates in the most recent stock assessments were based on a modified Delphi method, incorporating recreational discards-at-length for the more recent years, available information for closely related gadoid species, and personal communication with people familiar with the Gulf of Maine recreational groundfish fishery. The Delphi method is a structured method of using experts to generate a consensus opinion as a way to address a problem. The 55th Stock Assessment Review Committee (SARC 55) revised the assumed recreational discard mortality of cod from 100 percent to 30 percent (NEFSC 2013). The 59th Stock Assessment Review Committee (SARC 59) incorporated an assumed recreational discard mortality for haddock of 50 percent mid-way through FY 2014 (NEFSC 2014). At the time of the assessments, there were no directed field studies available to better inform the estimates. The assumption of 50 percent discard mortality was applied based on available information for closely related gadoid species and personal communication with people familiar with the Gulf of Maine recreational groundfish fishery.

A recently conducted study provides preliminary GOM cod post-release mortality estimates of approximately 15 percent, rather than the 30 percent assumed in SARC 55 (summarized in Mandelman; et al. 2014 and Capizzano, et al. 2014). The study design accounted for longer term mortality under natural conditions with fishing practices (season, depths, gear types, fisher experience, handling methods, etc.) representative of the Gulf of Maine recreational fishery. These results are consistent with another recent study conducted in the Baltic Sea (Weltersback and Strehlow, 2013), though this study was conducted in depths shallower than those of the Gulf of Maine fishery and utilized a different study design. It should be stressed that the Mandelman/Capizzano, et al. results are preliminary and there are several areas of uncertainty in that study that should be highlighted:

1. A mean mortality rate of 15.3 percent was estimated based on an average of the gear-

specific rates (clam baited J-hooks: 13.9 percent; jigs with treble hooks: 19.7 percent).

2. Over 90 percent of the cod captured in the study were within 5 inches of the 19-inch minimum size (14 to 24 inches) in place at the time of the study.

3. This study also found mortality to be positively related to fight time and handling time – both of which are related to fisher experience. These effects are difficult to quantify, though changes in the experience level of recreational fishery participants could impact the overall mortality rates.

These new studies suggest that the actual post-release mortality experienced by cod may be lower than 30 percent. The true mortality will be sensitive to the actual mixture of terminal tackle fished. Use of terminal gear other than that utilized in the study adds additional uncertainty. Since terminal gear usage is not monitored in MRIP there is no way to currently apply gear-specific mortality rates. Despite the uncertainties highlighted above, the 15-percent estimate of this work has a stronger scientific justification than the 30-percent rate established through the modified-Delphi process. Therefore, when analyzing the alternatives for this supplemental EA the model used an assumed discard rate of 15 percent.

The bioeconomic model (described further in Section 6.1) now incorporates estimates of noncompliance with the minimum size limit and the bag limit according to historical noncompliance rates developed from the Marine Recreational Information Program (MRIP) data. This data was developed from sampled angler-trips and probably provide a lower bound estimate of noncompliance because the data likely only capture involuntary noncompliance from anglers who do not realize their catch is not legal. Because the noncompliance estimates included in the model are thought to be from a lack of knowledge of the regulations, we expect that increased outreach efforts begun by NMFS this year will increase compliance by 50 percent, and incorporated that assumption in the model when analyzing the alternatives. This outreach includes a new text alert system for recreational fishing regulations; increased presence at fishing, boating, and sporting shows; presentations to fishing clubs; and direct outreach at bait and tackle shops, boat ramps, and marinas.

4.1 NO ACTION (STATUS QUO) ALTERNATIVE 1

The no action alternative would maintain the FY 2014 measures for the recreational GOM haddock fishery in combination with zero recreational possession of GOM cod. These are:

Possession Limit	Minimum Fish Size	Closed Season
3 fish per angler	21 inches	3/1-4/30 9/1-10/31

These haddock measures were implemented as proactive accountability measures under the Regional Administrators authority and were designed to achieve, but not exceed, the sub-ACLs in place for FY 2014 (cod: 486 mt; haddock: 173 mt). Projected recreational catch in FY 2014 (cod: 561 mt; haddock: 505 mt) exceeded both sub-ACLs. The FY 2015 sub-ACLs are 121 mt for cod and 372 mt for haddock, and were set in Framework 53. The status quo measures are not expected to result in FY 2015 recreational GOM cod and haddock catches lower than the sub-ACLs of 121 mt for cod and 372 mt for haddock and could result in overfishing, particularly for GOM cod.

4.2 PREFERRED ALTERNATIVE 2

In comparison to the FY 2014 measures, the preferred alternative would decrease the minimum fish size for haddock. Specifically, the preferred alternative measures for the Gulf of Maine haddock recreational fishery are:

Possession Limit	Minimum Fish Size	Closed Season
3 fish per angler	17 inches	3/1-4/30 9/1-10/31

Rationale: These measures are expected to result in FY 2015 recreational GOM cod and haddock catches lower than the sub-ACLs of 121 mt for cod and 372 mt for haddock. The current 21-inch minimum size for haddock results in high discards. Reducing the minimum size resulted in the model estimating a decline in haddock and cod mortality due to anglers discarding fewer fish.

4.3 ALTERNATIVE 3 (Council Recommendation)

In comparison to the FY 2014 measures, alternative 3 would decrease the minimum fish size for haddock and increase the possession limit. Specifically, the preferred alternative measures for the Gulf of Maine haddock recreational fishery are:

Possession Limit	Minimum Fish Size	Closed Season
4 fish per angler	17 inches	3/1-4/30 9/1-10/31

Rationale: This alternative was considered as another approach to reducing GOM cod and haddock mortality, and was recommended by the Council, but it is not selected because these

measures are not expected to result in FY 2015 recreational GOM cod and haddock catches lower than the sub-ACLs of 121 mt for cod and 372 mt for haddock. This alternative is analyzed in this supplemental EA to satisfy the consultative process contained in the regulations implementing the Northeast Multispecies Fishery Management Plan under the Magnuson-Stevens Act.

As discussed in Section 2.0, the Recreational Advisory Panel (RAP) and Council passed motions which were made as recommendations for NMFS to consider for proactive accountability measures for FY 2015. The motions included zero possession of GOM cod, and for GOM haddock, a 4-fish bag limit, a 17-inch minimum size, and closed seasons during wave 2 (March 1 to April 30) and wave 5 (September 1 to October 31).

Based on the bioeconomic model estimates presented to the RAP, these recommended measures would work only if discard mortality for cod and haddock were reduced (to 10 percent and 25 percent, respectively), while compliance was increased (by 50 percent). The Council passed two additional motions that included gear requirements to reduce recreational discard mortality, and outreach to increase compliance with the recreational measures. NMFS has continued its increased outreach efforts and has incorporated that in the model runs for all alternatives, as discussed above. However, the gear restrictions recommended by the RAP and Council were considered, but rejected from further analysis (see section 4.4 for more detail). Therefore, these Council-recommended measures were considered with the updated recreational cod discard mortality rate (15 percent) and improved compliance rate, but without the recommended gear restrictions.

4.4 ALTERNATIVES CONSIDERED, BUT REJECTED FROM FURTHER ANALYSIS

As discussed in Section 2.0, the Recreational Advisory Panel (RAP) and Council passed motions which were made as recommendations for NMFS to consider for proactive accountability measures for FY 2015. The motions included zero possession of GOM cod, and for GOM haddock, a 4-fish bag limit, a 17-inch minimum size, and closed seasons during wave 2 (March 1 to April 30) and wave 5 (September 1 to October 31), as considered in alternative 3.

Based on the bioeconomic model estimates, these recommended measures would only work if discard mortality for cod and haddock were reduced, while compliance was increased. The two remaining motions that were passed included gear requirements to reduce recreational discard mortality, and outreach to increase compliance with the recreational measures. NMFS has continued its increased outreach efforts and has incorporated that in the model runs for all alternatives. This alternative considered the gear restrictions recommended by the RAP and Council.

Hook Limit	Bait Hook Restriction	Jig and Artificial Lure Hook Restriction
2 Hooks per Line	Only Inline Circle Hooks may be Baited	Only Single-Point J-Hooks may be used

Rationale: The RAP discussed recreational discard mortality, the need to reduce discard mortality, and potential ways to meet that need. Ultimately, for the purpose of reducing discard mortality on GOM cod and haddock, the RAP voted up a motion to recommend prohibiting the use of more than two hooks per line while fishing for groundfish in the GOM, to require in-line circle hooks be used for bait, and to require that jigs and artificial lures use only single point J hooks (e.g., no treble hooks). The Council subsequently passed this motion as a recommendation to NMFS. These measures were considered, but rejected from further analysis because of a lack of available conclusive scientific evidence that the recommended gear restrictions will have positive conservation benefits in the Gulf of Maine recreational groundfish fishery.

There is a large body of scientific research demonstrating the conservation benefits of circle hooks (Cooke and Suski, 2004; Burns and Froeschke, 2012; Sauls and Ayala, 2012), but the effects are not always positive, or detectable (Matlock et al., 1993; Cooke and Suski 2004; Sauls and Ayala, 2012). A Michael and Fleming (2008) report found that use of circle hooks significantly reduced the incidence of both gut and external hooking in the Gulf of Maine cod and haddock fishery. This study did not track post-release fate and therefore the subsequent impacts on post-release mortality are unknown. Treble hooks have been shown to result in higher mortality in at least one study (Ayvazian, et al., 2002); however, the majority of scientific work suggests that the opposite is true (Matlock, et al., 1993; Diodati and Richards, 1996; Bartholomew and Bohnsack, 2005). A recent study of post-release mortality of Atlantic cod in the Gulf of Maine (summarized in Mandelman, et al., 2014 and Capizzano, et al., 2014) indicated slightly higher mortality of treble-hooked jigs compared to baited J-hooks, though this cannot be used to infer that single point J hooks on jigs would lead to reduced mortality. Quantifying the post-release mortality effect of various terminal tackle is difficult without directed field studies on the species and fisheries in question. This point was stressed in Cooke and Suski (2004): *“For these reasons, it is difficult to promote the adoption of the use of circle hooks as a panacea for all fish and fisheries. Instead, we recommend that management agencies focus on recommending circle hooks only for instances for which appropriate scientific data exist.”* Without additional directed research, there is no conclusive scientific evidence that the recommended gear restrictions will have positive conservation for benefits the Gulf of Maine recreational groundfish fishery.

5.0 AFFECTED ENVIRONMENT

The Valued Ecosystem Components (VECs) affected by the proposed action include the physical environment, Essential Fish Habitat (EFH), target species, non-target species/bycatch, protected resources, and human communities, which are described in Section 6.0 of the Framework 53 EA.

Section 6.5.9.3 of the Framework 53 EA provides additional detail on the groundfish recreational fishery and is incorporated by reference. The following section provides a summary of the Framework 53 description of the VECs as well as additional information that is specific to the proposed recreational management measure alternatives under consideration in this supplemental EA.

5.1 HUMAN COMMUNITIES AND THE FISHERY

Harvest of GOM Cod and Haddock

Catch estimates for both GOM cod and haddock are provided in Table 2. Within this data, the highest catch of cod occurred in FY 2012 when over 950,000 fish were caught, with over 38 percent of the fish kept by anglers. The stock assessment assumes that thirty percent of recreationally captured cod that are released die. For example, in FY 2012 anglers were estimated to catch 957,497 GOM cod, of which, 590,012 were released. Within the released fish, 177,003 were assumed to have died after being returned to the sea.

Haddock catches have increased each year since 2012, increasing from an estimated 455,898 fish in FY 2012 to a projected 810,643 fish in FY 2014. The 59th Stock Assessment Review Committee (SARC 59) incorporated an assumed recreational discard mortality rate for haddock of 50 percent mid-way through FY 2014. Discard mortality estimates in the most recent stock assessments were based on a modified Delphi method, incorporating available information for closely related gadoid species and personal communication with people familiar with the Gulf of Maine recreational groundfish fishery. Recreational anglers historically kept fewer haddock than cod, according to MRIP information. However, that will change in FY 2015 because recreational cod possession will be prohibited. On average, anglers have kept less than 1 haddock per trip in the FY 2012 to 2014 time frame.

Because very few fish are sampled for weight by the MRIP survey methods, average weight information is derived by applying a length/weight relationship from stock assessments to the more plentiful length information collected through MRIP. Based on this, average cod weights in FY 2012 and 2013 were similar which should be expected given the minimum fish size was unchanged from 19 inches for both years. Average cod weights increased to over 5 lb in 2014, consistent with the increase in minimum size from 19 inches to 21 inches. Average haddock weights in FY 2014 decreased after being very consistent in FY 2013 and FY 2014. This is more unexpected given that the minimum fish size increased 18 inches in FY 2012 to 21 inches in FY 2013, but remained unchanged in FY 2014.

Table 2. Gulf of Maine Recreational Catch Estimates by Fishing Year, 2012-2014¹.

	FY2012	FY2013	FY2014 ³
Angler Trips ²		194,912	
Cod Catch (numbers, a+b1+b2)		729,541	
Cod Kept (numbers, a+b1)		273,181	
Cod Released (numbers, b2)		456,360	
Cod Removals (numbers, a+b1+(0.3*b2))		410,089	
Cod Removals (weight ⁴ , mt)	758	610	561
Cod Avg. Catch Per Trip (numbers)	4.9	3.7	3.8
Cod Avg. Kept Per Trip (numbers)	1.9	1.4	1.0
Cod Avg. Released Per Trip (numbers)	3.0	2.3	2.7
Cod Avg. Weight of Kept Fish (weight ⁴ , lbs)	3.8	4.1	5.3
Haddock Catch (numbers, a+b1+b2)		601,846	810,643
Haddock Kept (numbers, a+b1)		121,863	129,978
Haddock Released (numbers, b2)		479,983	680,665
Haddock Removals (numbers, a+b1+(0.5*b2))		361,855	470,311
Haddock Removals (weight ⁴ , mt)	420	422	505
Haddock Avg. Catch Per Trip (numbers)	2.3	3.1	4.5
Haddock Avg. Kept Per Trip (numbers)	1.1	0.6	0.7
Haddock Avg. Released Per Trip (numbers)	1.2	2.5	3.8
Haddock Avg. Weight of Kept Fish (weight ⁴ , lbs)	3.9	4.0	3.7
¹ Source: Available MRIP data as of Jan. 2, 2015			
² Angler trips = number of trips that targeted and/or caught cod or haddock			
³ Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014 and wave 6, 2013 used as proxies.			
⁴ All weights are based on round weights calculated from MRIP length frequencies and length to weight equations used in the assessments.			

Private boat anglers have caught (harvest + discard) more cod than the total number caught by party and charter boat anglers (combined) during the past 3 fishing seasons (Table 3). This is a function not only of their harvest (greater than charter/party harvest in 2013 and 2014), but also their higher proportion of discards. This suggests the for-hire fleet may have a greater ability to target fish of harvestable size.

Table 3. Number of Recreationally Caught Cod by Mode, Fishing Years 2012-2014.

Mode	Harvest (a+b1)			Released (b2)			Total Catch (a+b1+b2)		
	FY2012	FY2013	FY2014*	FY2012	FY2013	FY2014*	FY2012	FY2013	FY2014*
Headboat	55,437	57,993	30,078	71,112	66,429	75,060	126,549	124,422	105,138
Charterboat	158,192	34,469	50,920	168,646	57,647	120,859	326,838	92,116	171,780
Privateboat	153,856	180,719	102,478	350,253	332,032	301,049	504,109	512,751	403,527
Shore	0	0	0	0	253	0	0	253	0
	367,485	273,181	183,476	590,011	456,361	496,968	957,496	729,542	680,445

*Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014, and wave 6, 2013, used as proxies.

The amount of haddock caught among the charter/party fleet and private anglers has varied as to which group caught more. A strong increase in haddock catch by the for-hire fleet was estimated by MRIP for FY 2014 (Table 4), while discards for all modes combined blossomed to 84 percent from 79 percent in FY 2013 and 52 percent in FY 2012.

Table 4. Number of Recreationally Caught Haddock by Mode, Fishing Years 2012-2014.

Mode	Harvest (a+b1)			Released (b2)			Total Catch (a+b1+b2)		
	FY2012	FY2013	FY2014*	FY2012	FY2013	FY2014*	FY2012	FY2013	FY2014*
Headboat	48,272	15,102	42,157	62,711	127,963	247,674	110,983	143,065	289,831
Charterboat	115,824	20,078	39,434	61,259	49,431	141,246	177,083	69,509	180,680
Privateboat	51,362	86,684	48,387	116,469	302,588	291,744	167,831	389,272	340,131
Shore	0	0	0	0	0	0	0	0	0
	215,458	121,864	129,978	240,439	479,982	680,664	455,897	601,846	810,642

*Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014, and wave 6, 2013, used as proxies.

The amount of MRIP estimated effort (all recreational trips) by each MRIP wave (2-month periods) showed an increase in effort in Wave 3 (May and June) and slight decrease in effort in Wave 4 (July and August) between FY 2013 and FY 2014 (Table 5). This was not surprising since anglers were aware a new closure in Wave 5 (September and October) for both cod and haddock would be implemented in 2014.

Table 5. Total Recreational Effort¹ by Wave, Fishing Years 2012-2014.

	Wave					
	2	3	4	5	6	
FY2012	35,251	901,593	1,175,250	420,345	12,507	2,544,946
FY2013	14,045	697,942	1,097,035	690,268	38,873	2,538,163
FY2014 ²	14,045	541,285	1,461,148	547,456	38,873	2,602,807
¹ Angler trips = all angler trips in Gulf of Maine						
² Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014, and wave 6, 2013, used as proxies.						

Overall, recreational effort in the Gulf of Maine in Wave 5 (September and October) declined 21 percent from FY 2013 to FY 2014 (Table 6). The decline was greatest in the headboat mode (67 percent decline), followed by the private boat mode (55 percent), and the charterboat mode (21 percent).

Table 6. Wave 5 Total Recreational Effort¹, Fishing Years 2012-2014.

Mode	Angler Trips		% Change
	FY2013	FY2014 ²	
Headboat	25,143	8,222	-67%
Charterboat	5,941	4,717	-21%
Privateboat	452,731	214,960	-52%
Shore	206,453	319,557	55%
Total	690,268	547,456	-21%
¹ Angler trips = all angler trips in Gulf of Maine			
² Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014, and wave 6, 2013, used as proxies.			

Wave 5 (September and October) effort targeted at GOM cod and haddock declined 85 percent overall. This ranged from a 74 percent decline in the headboat mode to an 81 percent decline in charterboat effort, and a 90 percent drop off in the private recreational boat mode (Table 7). This was to be expected as the recreational fishery both for cod and for haddock was closed during this wave. The fact that effort did not decline 100 percent reflects that anglers were still able to fish for other groundfish stocks (e.g., pollock), and could in part be due to non-compliance.

Table 7. Wave 5 Targeted Cod and Haddock Recreational Effort¹, Fishing Years 2012-2014.

Mode	Angler Trips		% Change
	FY2013	FY2014 ²	
Headboat	16,914	4,381	-74%
Charterboat	3,168	616	-81%
Privateboat	45,725	4,726	-90%
Shore	0	0	0%
	65,807	9,723	-85%
¹ Angler trips = number of trips that targeted and/or caught cod or haddock			
² Data available for wave's 3, 4, and 5 in FY2014. Data from wave 2, 2014, and wave 6, 2013, used as proxies.			

6.0 DIRECT AND INDIRECT IMPACTS OF THE ALTERNATIVES

This supplemental EA evaluates the potential impacts using the criteria outlined in Table 8. Impacts from all alternatives are compared individually and judged relative to the baseline conditions, as described in Section 4.0 and Section 6.0 of the Framework 51 EA.

Table 8. Criteria Used to Evaluate the Direct and Indirect Impacts of the Proposed and No-Action Alternatives.

Impact Definition			
VEC	Direction		
	Positive (+)	Negative (-)	Negligible (Negl)
Target species, other landed species, and protected resources	Actions that increase stock/population size	Actions that decrease stock/population size	Actions that have little or no positive or negative impacts to stocks/populations
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 impact on habitat quality
Human Communities	Actions that increase revenue and social well-being of fishermen and/or associated businesses	Actions that decrease revenue and social well-being of fishermen and/or associated businesses	Actions that have no positive or negative impact on revenue and social well-being of fishermen and/or associated businesses

Impact Qualifiers:	
Low (L, as in low positive or low negative)	To a lesser degree
High (H; as in high positive or high negative)	To a substantial degree (not significant)
Likely	Some degree of uncertainty associated with the impact

6.1 BIOLOGICAL IMPACTS

Target and Non-target Species Impacts

A bioeconomic simulation model developed by the NEFSC was used to predict the expected number of GOM cod and haddock that would be kept and discarded from alternative possession and size limits. The model combines economic information derived from an angler choice experiment survey with biological information about the current stock structure for GOM cod and haddock stocks with historical catchability data from recreational anglers to project recreational catches. The choice experiment survey was administered in conjunction with NMFS' Marine Recreational Fisheries Statistics Survey (MRFSS) in New England during calendar year 2009.

Anglers intercepted in Maine, New Hampshire, and Massachusetts for the MRFSS were asked to participate in a voluntary follow-up mail survey. Anglers that agreed to participate in the follow-up were sent mail questionnaires using a modified Dillman Tailored Design (Dillman, 2000), in which anglers were asked to simultaneously compare features (e.g., size and possession limits) of different hypothetical fishing trips and then to choose the trip they liked best or to choose not to fish at all. A total of 2,039 surveys were mailed out in New England and 775 completed mail surveys were returned for a response rate of 38%. The collection of choice responses from the various choice scenarios were used to examine tradeoffs and behavioral responses to various biological and regulatory changes.

A Random Utility Model (RUM) estimated from a conditional logit was used as the behavioral model for anglers. In this model, the angler faces a choice among alternative saltwater fishing trips and opting out of saltwater fishing. The utility function is specified so that regulations

affect an angler’s utility (e.g., trip duration, kept fish) indirectly by altering an angler’s expected distribution of kept and released fish. The model also attempts to adjust potential catch projections based on anglers’ willingness to pay for fishing trips in relation to the number and size of fish that may be kept. The effects of changes in kept or released fish on both angler welfare (i.e., angler satisfaction) and probability of trip occurrence were evaluated using simulation methods, which attempt to replicate actual fishing behavior under different regulatory scenarios. The most recent assessment of GOM haddock assumed that 50 percent of all recreationally discarded GOM haddock (known as class “B2”) die. To be consistent with the new assessment, this model assumes a 50-percent haddock discard mortality rate. For the reasons described above (see section 4.2), the model assumes a 15-percent GOM cod discard mortality rate.

The model predicts that only the preferred Alternative 2 has greater than a 50% probability of constraining mortality of GOM haddock below the FY 2015 catch limit; and none of the alternatives contains measures that have greater than a 50% probability of constraining mortality of GOM cod below the FY 2015 catch limit (Table 9). The FY 2015 recreational sub-ACLs for GOM cod and haddock are 121 mt and 372 mt, respectively. Under status quo measures, the median estimated mortality for GOM cod is 126 percent of the ACL and GOM haddock catch is 116 percent of the sub-ACL. The preferred Alternative 2 has a median estimated mortality for GOM haddock that is only 87 percent of the sub-ACL, but GOM cod catch is 109 percent of the sub-ACL. Under Alternative 3, the median estimated mortality for GOM cod is 116 percent of the sub-ACL and GOM haddock catch is 105 percent of the sub-ACL. As explained in 6.1.2, we believe the model likely overestimates cod catch and we expect a reduction of at least 10 percent below the model estimate, such that under Alternative 2 the cod catch would be below the recreational sub-ACL. Thus, the preferred Alternative 2 would be expected to have low positive biological impacts compared to the no action (status quo) and Council-recommended alternatives.

Table 9. Estimated FY 2015 Mortality of GOM Cod and Haddock by Management Alternative.

Option	Cod Mortality (mt)		Haddock Mortality	
	Metric Tons	Percent of sub-ACL	Metric Tons	Percent of sub-ACL
No Action (Status Quo)	152	126	430	116
Alternative 2 (Preferred)	132	109	323	87
Alternative 3 (Council)	140	116	391	105

The model also predicts that both the preferred Alternative 2 and the Council-recommended Alternative 3 would result in a slight increase in the number of angler trips in the recreational fishery for GOM haddock, when compared to the No Action alternative. Because the minimum size for haddock is being reduced, the preferred alternative is expected to reduce catch of cod and haddock despite forecasting a slight increase in trips when compared to the No Action alternative. There are a large number of haddock in the 17-inch to 20-inch range, which will result in anglers achieving their bag limit more quickly and discarding fewer fish than under the 21-inch minimum size. There is little high-grading in the recreational groundfish fishery (SARC 59) and anglers will end their trip or target other species after reaching their haddock bag limit.

Table 10. Estimated Number of FY 2015 Angler Trips for GOM Haddock by Management Alternative.

	No Action	Preferred	Council Recommended
Angler Trips	170,000	172,555	174,858

6.1.1 Alternative 1 (No Action)

Under the no action (status quo) alternative, there would be no change to the recreational minimum fish size, possession limit, or closed season for GOM haddock. This suite of haddock measures was implemented as a proactive accountability measure under the Regional Administrator’s authority and was designed to achieve, but not exceed, the larger sub-ACLs in place for FY 2014. The status quo alternative would not result in the recreational mortality reductions necessary to constrain catches below the FY 2015 catch limits. The projected catch under this alternative is 430 mt for GOM haddock and 152 mt for GOM cod. The sub-ACLs for these stocks in 2015 are 372 mt for haddock and 121 mt for cod. These estimates are 116 percent of the GOM haddock recreational sub-ACL, and 126 percent of the GOM cod recreational sub-ACL. This alternative is inconsistent with the FMP and the intent of National Standard 1 guidelines. Exceeding the recreational sub-ACL could contribute to overfishing. National Standard 1 guidelines used to implement the annual catch limit and accountability measure system contained in the 2006 revisions to the Magnuson-Stevens Act go to some length to describe a system that mitigates for uncertainties and, based on best available science, seeks to avoid exceeding catch limits designed to prevent overfishing. Providing status quo catch would exceed the FY 2015 recreational catch limits for both stocks. The most recent assessment for GOM cod (NEFSC 2014) indicated the stock was overfished and subject to overfishing. FY 2015 is to be the second year of a revised rebuilding program designed to rebuild the stock following the failure of the previous program to achieve rebuilding. The most recent assessment for GOM haddock (NEFSC 2014) indicated the stock is not overfished and overfishing is not occurring. This alternative would likely have a negative impact on the GOM cod stock. When compared to Alternatives 2 and 3, the no action alternative would have low negative impacts on the GOM cod stock.

6.1.2 Alternative 2 (Preferred Alternative)

Under the preferred alternative, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would remain 3 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015; and March 1, 2016, through April 30, 2016). The model estimates that the measures proposed under the preferred alternative would achieve the recreational mortality reductions necessary to constrain haddock catch below the FY 2015 catch limit. However, the model estimates that catch of cod would exceed the FY 2015 catch limit. The projected catch under this alternative is 323 mt for GOM haddock and 132 mt for GOM cod. The sub-ACLs for these stocks in 2015 are 372 mt for haddock and 121 mt for cod. These estimates are 87 percent of the GOM haddock recreational sub-ACL, and 109 percent of the GOM cod recreational sub-ACL. However, NMFS believes that the preferred alternative would prevent both sub-ACLs from being exceeded because the model is likely overestimating effort and GOM cod catch.

The estimated recreational catches for GOM cod and haddock come from the bioeconomic model developed by the Northeast Fisheries Science Center's Social Sciences Branch. The model projects effort and catch based on data collected through FY 2013 (complete FY 2014 data is not yet available). The data and model do not take into account other factors that are likely to reduce effort and catch in FY 2015. We believe the model likely overestimates cod catch because the model does not take into account factors that we expect will keep cod catch low, including a prohibition on retention of cod and the ability of vessels to avoid cod while targeting other species. A reduction of only 10 percent below the model estimates would be sufficient to keep cod catch below the recreational sub-ACL.

The bioeconomic model is limited in its ability to account for how a zero possession limit for GOM cod will affect effort because there is no available historical data for cod catch during a period when cod possession was prohibited while haddock retention was permitted. The model estimates that FY 2015 effort will decline a further 12-15 percent from FY 2014. Recreational cod catch declined from 2012 to 2013, and again from 2013 to 2014. In FY 2014, the open season for cod was shortened to 4 months and the open seasons for haddock were reduced to 8 months (in total). However, during September and October of 2014 recreational possession of both of cod and haddock was prohibited. During that time (MRIP Wave 5), recreational angler trips declined 85 percent compared to the same period in 2013 (Table 7). The 85-percent decline in angler trips is an indication that prohibiting recreational possession of cod will likely cause a substantial reduction in effort, beyond what the model is estimating, but the reduction is expected to be less than 85 percent because anglers would still be able to retain 3 haddock per trip.

When the Council's Recreational Advisory Panel (RAP) discussed measures to recommend for FY 2015, the RAP specifically considered the 85-percent decline in angler trips in Wave 5 and made Consensus Statement 1 (see Section 2.0) which stipulated that effort would decline at least 50 percent from 2013 to 2014 because of the cod prohibition. The RAP also discussed the ability for vessels to avoid cod while targeting others species, including haddock. In Consensus Statement 2 (see Section 2.0) the RAP asserted that cod bycatch "would be greatly reduced" from the model estimate because with cod possession prohibited vessels would be much less likely to fish in areas know to have aggregations of cod and less likely to use equipment to target cod. RAP members from the for-hire modes highlighted that captains actively move off aggregations

of fish their customers cannot retain to target other stocks because it is in their best business interest to have their clients catching fish that can be landed.

For these reasons we expect the preferred alternative will be successful in preventing an overage of either recreational sub-ACL while allowing an opportunity to target the healthy GOM haddock stock. The preferred alternative would be expected to result in positive impacts to the GOM cod and haddock resources as compared to the other alternatives, given that catches would not exceed established catch limits which, in turn, is a component of the overall management system designed to prevent overfishing the stocks.

6.1.3 Alternative 3 (Council Recommendation)

Under Alternative 3, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would increase to 4 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). Similar to the no action alternative, alternative 3 would not result in the recreational mortality reductions necessary to constrain catches below the FY 2015 catch limits. The projected catch under this alternative is 391 mt for GOM haddock and 140 mt for GOM cod. The recreational sub-ACLs for these stocks in 2015 are 372 mt for haddock and 121 mt for cod. These estimates are 105 percent of the GOM haddock recreational sub-ACL, and 116 percent of the GOM cod recreational sub-ACL. For the reasons explained below, we do not believe these measures have a reasonable probability of preventing either sub-ACL from being exceeded.

As explained under the preferred Alternative 2, we believe the bioeconomic model likely overestimates cod catch because the model does not take into account factors that we expect will keep cod catch low, including a prohibition on retention of cod and the ability of vessels to avoid cod while targeting other species. However, unlike Alternative 2, the measures for Alternative 3 are also estimated to exceed the recreational GOM haddock sub-ACL. While a reduction of only 10 percent below the model estimates would be sufficient to keep cod catch below the recreational sub-ACL under the Alternative 2 measures, under the Alternative 3 measures a reduction of 17 percent would be necessary. Additionally, the model predicts the Alternative 3 suite of measures would also exceed the recreational GOM haddock sub-ACL. Unlike cod, recreational anglers are expected to target haddock, so the factors expected to result in the model providing an overestimate of cod catch may not apply to haddock. This alternative is not expected to result in the recreational mortality reductions necessary to constrain catches below the FY 2015 catch limits. This alternative would have low negative impacts when compared to alternative 2, but low positive impacts when compared to the no action alternative.

6.2 IMPACTS ON ENDANGERED AND OTHER PROTECTED SPECIES

Section 6.4 of the Framework 53 EA outlines in detail the protected species that are expected to be found in the GOM. In addition, the Framework 53 EA provides information on anticipated impacts to protected

species resulting from commercial fisheries that operate in the GOM.

6.2.1 No Action (Status Quo) Alternative 1

Under the No Action (status quo) alternative, there would be no change to the recreational minimum fish size, possession limit, or fishing seasons for GOM haddock from the FY 2014 measures, and there would be zero recreational possession of GOM cod as analyzed in the Framework 53 EA. As a result, fishing behavior (e.g., effort, gear time in water) in the recreational fishery is expected to be reduced from 2014.

The recreational component of the multispecies fisheries is prosecuted with hook and line gear. As ESA and non-ESA listed species of marine mammals, sea turtles, or fish (protected species) may occur in the affected area of the multispecies fishery, protected species interactions with hook and line gear is possible. However, records of recreational hook and line interactions, and therefore, incidences of serious injury and mortality with protected resources are limited for this component of the multispecies fishery. In fact, regardless of FMP, information on recreational fishing impacts on protected species is poorly documented, specifically because there is no observer program dedicated to the recreational fisheries. As a result, it is unclear to what extent recreational fisheries, and therefore, hook and line gear, affect populations of protected species. However, as a dedicated observer program exists for all commercial fisheries, there is a wealth of information on observed protected species interactions with all fishing gear types (e.g., bottom trawl, hook and line, gillnet) and therefore, years of data assessing resultant population level effects of these interactions. Additionally, other sources of information, such as state fishing records, stranding databases, and marine mammal stock assessment reports, provide additional sources of information that can assist in better understanding, in general, hook and line interaction risks to protected species. These sources of information will serve as the best available information in our assessment of the potential effects of the recreational fishery on protected species under the No Action Alternative.

In regards to marine mammals (ESA listed and non-listed), large whale interactions (i.e., entanglement) with hook and line gear are considered rare events (to date, only 7 have been observed) and to date, none of the documented interactions with this gear type have resulted in serious injury or mortality to the whale (NMFS 2013). There have also been no documented pinniped interactions with hook and line gear, and with the exception of bottlenose dolphins (all stocks), small cetacean interactions with hook and line gear have also not been documented (Waring *et al.* 2014). Stocks of bottlenose dolphins are the only small cetacean species where interactions (ingestion or entanglement) with this gear type have been documented (Waring *et al.* 2014); however, based on documented interactions over the last 4 or more years, these interactions appear to be rare and therefore, are not likely to represent a large risk to the continued survival of each bottlenose dolphin stock. In addition, in terms of risk to marine mammal species, all commercial Northeast/Mid-Atlantic bottom longline/hook-and-line fisheries are considered Category III fisheries.

Similar trends are also seen in documented hook and line interactions with Atlantic salmon, and Atlantic sturgeon. There have been no documented interactions of Atlantic salmon in hook and line gear (Kocik *et al.* 2014). Atlantic sturgeon; however, have been reported as captured in hook and line gear associated with state fisheries, such as striped bass and shad (NMFS 2011b, NMFS 2013). As a result, Atlantic sturgeon

interactions with this gear type are possible; however, based on available information, they are likely to be rare occurrences.

Sea turtles are known to interact with hook and line gear. Interactions primarily involve hooking, ingestion of baited hooks, or entanglement in line (NMFS 2013). Although interactions with this gear type are possible, based on available reports, these interactions are more common in southern waters (i.e., Virginia and waters further south). In fact, based on information provided in the Sea Turtle Disentanglement Network (STDN), there have been no confirmed hook and line interactions in the GOM and only several confirmed cases in New England waters outside of the GOM (i.e., south of Cape Cod; STDN, unpublished data). Based on this information, we expect sea turtle interactions with recreational hook and line gear in waters of the GOM to be rare to non-existent.

Based on the above information, protected species interactions in the recreational component of the multispecies fishery are expected to be rare to non-existent. As the No Action alternative will not change current recreational fishing behavior, we do not expect the interaction risk to protected species to change from that which has been described above. As a result, the No Action will not introduce any new risks to protected species that have not been considered and assessed by NMFS (NMFS 2013; Waring *et al.* 2014) and therefore, is not expected to result in a level of protected species take that threatens the continued existence of ESA or non-ESA listed species. As such, the continued existence of any ESA listed or non-listed species of marine mammal, fish, or sea turtle are not expected to be jeopardized by the No Action (NMFS 2013; Waring *et al.* 2014). For these reasons, the No Action is expected to have neutral impacts on protected species; however would likely result in marginally less interactions than the other alternatives given that they would provide for additional effort.

6.2.2 Preferred Alternative 2

Under the preferred alternative, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would remain 3 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. The overall level of recreational effort would be expected to increase about 1.5 percent relative to the status quo measures. However, as was outlined in the status quo discussion, interaction between the recreational fishery and endangered and protected species in the GOM is expected to be rare and associated impacts minimal. Based on this, and the fact that any changes in fishing behavior will not introduce any new risks to protected species above and beyond that which has been considered in the No Action, impacts to protected resources from Preferred Alternative 2 are expected to be negligible.

Relative to the No Action, Alternative 2 would have a slightly more negative impact on protected species as effort is expected to increase, and therefore, the potential for an interaction is also likely to increase. Relative to Alternative 3, Alternative 2 would have a more positive impact on protected species as effort is expected to decrease to a greater extent and therefore, further reduce the risk of potential interactions.

6.2.3 Alternative 3 (Council Recommendation)

Under Alternative 3, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would increase to 4 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. Interactions between the recreational fishery and protected resources are rare as outlined under the No Action alternative discussion above. The overall level of recreational effort would be expected to increase about 2.9 percent relative to the No Action alternative's status quo measures, slightly more than under the preferred Alternative 2. Based on this, and the fact that any changes in fishing behavior will not introduce any new risks to protected species above and beyond that which has been considered in the No Action, impacts to protected resources from the Council-recommended Alternative 3 as compared to the other alternatives including the no action alternative are still expected to be negligible.

Relative to the No Action, Alternative 3 would have a slightly more negative impact on protected species as effort is expected to increase, and therefore, the potential for an interaction is also likely to increase. Relative to Alternative 2, Alternative 3 would have slightly more negative impacts on protected species as effort is expected to increase more than under Alternative 2, and therefore, there is slight increase in the potential for an interaction.

6.3 PHYSICAL ENVIRONMENT/HABITAT/EFH IMPACTS

6.3.1 No Action Alternative 1 (Status Quo)

Under the No Action (status quo) alternative, there would be no change to the recreational minimum fish size, possession limit, or fishing seasons for GOM haddock from the FY 2014 measures, and there would be zero recreational possession of GOM cod as analyzed in the Framework 53 EA. Hook and line gear, in this case with rod and reels, have poorly understood interactions with EFH; however, it does not impact EFH to the same degree as other gear used to harvest groundfish. Hook and line gear would be expected to have less impact than other fixed gear (such as bottom longline) which have medium to low impacts, because hook and line gear does not use anchors or lead lines (see section 6.1.6.1.4.1 of Framework 53). Under the No Action alternative, recreational fishing effort would be expected to be reduced from 2014 and, consequently, associated impacts to EFH would be expected to remain negligible.

6.3.2 Preferred Alternative 2

Under the preferred alternative, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would remain 3 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. The overall level of recreational effort would be expected to increase about 1.5 percent relative to the status quo measures. Similar to the status quo alternative, hook and line gear, in this case with rod and reels, have poorly understood interactions with EFH; however, it does not

impact EFH to the same degree as other gear used to harvest groundfish. Hook and line gear would be expected to have less impact than other fixed gear (such as bottom longline) which have medium to low impacts, because hook and line gear does not use anchors or lead lines (see section 6.1.6.1.4.1 of Framework 53). Under the Preferred Alternative 2, recreational fishing effort would be expected to increase slightly, but due to the low impact of this gear on the benthos, associated impacts to EFH would be expected to remain negligible as compared to the other alternatives and no action.

6.3.3 Alternative 3 (Council Recommendation)

Under Alternative 3, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would increase to 4 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. The overall level of recreational effort would be expected to increase about 2.9 percent relative to the No Action alternative's status quo measures, slightly more than under the preferred Alternative 2. Because rod and reel gear has minimal interaction with habitat, impacts to EFH resulting from the Council-recommended Alternative 3 would be expected to be negligible as compared to the other alternatives and no action.

6.4 HUMAN COMMUNITIES/ECONOMIC/SOCIAL ENVIRONMENT IMPACTS

6.4.1 Economic Impacts by Alternative

The Framework 53 EA (see Section 7.4.2.1.2.2) determined that prohibiting GOM cod possession by the recreational fleet would have negative impacts on the recreational fishery, particularly if discards of GOM cod still caused an overage of the recreational sub-ACL and triggered future constraints on recreational fishing effort. This would cause negative social impacts, as the projected discards would exceed the sub-ACL, likely leading to future constraints on recreational fishing effort. For the party/charter vessels, cod is a popular target species for customers, so these vessels may experience declines in their businesses if customers are unwilling to fish for other stocks instead. The Framework 53 EA concluded that the Size and Demographic Characteristics of the party/charter fleet may be negatively impacted as a result of the GOM cod prohibition. Both private boats and party boats will incur some negative impacts because of an inability to catch cod. The exact impacts are difficult to quantify. However, Framework 53 is expected to have a greater impact on the recreational fleet than the haddock measures proposed in this action.

6.4.1.1 No Action Alternative 1 (Status Quo)

Under the No Action (status quo) alternative, there would be no change to the recreational minimum fish size, possession limit, or fishing seasons for GOM haddock from the FY 2014 measures; and there would be zero recreational possession of GOM cod as analyzed in the Framework 53 EA.

The No Action alternative (status quo) would maintain the current GOM haddock management measures, and is projected to exceed the recreational sub-ACLs for both GOM cod (126 percent) and GOM haddock (116 percent). As discussed above, the Framework 53 EA determined that prohibiting GOM cod possession by the recreational fleet would have negative impacts on the recreational fishery, particularly if discards of GOM cod still caused an overage of the recreational sub-ACL and triggered future constraints on recreational fishing effort. Accordingly, the effects of the No Action alternative would be expected to lead to additional constraints on recreational fishing effort in future years, with additional long term negative effects. Because the status quo measures for GOM haddock include a larger minimum size than the other alternatives, it is predicted to result in fewer angler trips (see Table 10) which should lead to negative economic impacts in the short-term for the for hire fleet, in comparison to the other alternatives. The additional GOM haddock catch resulting from the no action alternative in comparison to the other alternatives (see Table 9) would not be expected to be landings, but discards as anglers seek fish that meet the larger minimum size. Therefore, the no action alternative would have negative long term impacts and negative short-term impacts when compared to the other alternatives.

6.4.1.2 Preferred Alternative 2

The preferred alternative would reduce the minimum size for GOM haddock from 21 inches to 17 inches. The possession limit for GOM haddock would remain 3 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015; and March 1, 2016, through April 30, 2016). GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53.

The overall level of recreational effort would be expected to increase approximately 1.5 percent relative to the status quo measures, but not as much as Alternative 3. This would provide a slight positive short-term economic impact in comparison to the No Action Alternative, but slightly less positive than Alternative 3.

These preferred measures are expected to result in FY 2015 recreational GOM cod and haddock catches that will not exceed the sub-ACLs of 121 mt for cod and 372 mt for haddock. By constraining the recreational catches of GOM cod and haddock to their respective sub-ACLs, the Preferred Alternative 2 would be expected to have positive impacts in comparison to the No Action (status quo) Alternative and Alternative 3. Keeping catch below the sub-ACLs increases the chance that the GOM cod rebuilding plan will lead to larger sub-ACLs in future years, which would provide increased recreational access and positive economic impacts for the for-hire fleet.

6.4.1.3 Alternative 3 (Council Recommendation)

The Council-recommended Alternative 3 would reduce the minimum size for GOM haddock from 21 inches to 17 inches, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016), but the possession limit for GOM haddock would increase to 4 fish. GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. The overall level of recreational effort would be expected to

increase approximately 2.9 percent relative to the No Action alternative's status quo measures, slightly more than under the preferred Alternative 2.

The addition of an extra fish to the haddock bag limit is predicted to lead to additional effort and short-term economic benefits for the for hire fleet. However, similar to the No Action (status quo) alternative, Alternative 3 would not result in the recreational mortality reductions necessary to constrain catches below the FY 2015 catch limits. The projected catches under this alternative are 105 percent of the GOM haddock recreational sub-ACL, and 116 percent of the GOM cod recreational sub-ACL. As explained in the discussion of the No Action alternative (status quo), the zero possession limit for GOM cod implemented by Framework 53 is expected to have negative impacts to the recreational fishery, and those negative impacts would be greater if discards of GOM cod cause an overage of the sub-ACL and lead to future constraints on the recreational fishery. Accordingly, the effects of Alternative 3 would be slightly positive in the short term, but would be expected to lead to additional constraints on recreational fishing effort in future years, with additional negative effects over time as compared to the preferred alternative, but similar to the no action alternative.

6.4.2 Social Impacts by Alternative

6.4.2.1 Alternative 1 (No Action)

Under the No Action (status quo) alternative, there would be no change to the recreational minimum fish size, possession limit, or fishing seasons for GOM haddock from the FY 2014 measures; and there would be zero recreational possession of GOM cod as analyzed in the Framework 53 EA. Maintaining the current GOM haddock management measures would be unlikely to change perceptions of the management program because these measures were unpopular in FY 2014 and would now be paired with the zero possession of GOM cod implemented in Framework 53. Continuing the current measures may alleviate concerns that some charter/party fishery participants may have that more restrictive measures will lead to fewer customers. However, the current minimum size is more restrictive than what is proposed in the other alternatives, and the current bag limit is more restrictive than the Alternative 3 measures recommended by the RAP and Council. Operating under the current management measures in FY 2015 would also increase the likelihood that the recreational fishery would exceed the FY 2015 sub-ACLs for GOM cod and haddock and trigger more restrictive accountability measures in future fishing years. If the sub-ACLs are exceeded and additional restrictive AMs are implemented, then the management program may be perceived to be ineffective and fishery participants may lose faith in the management process.

The Framework 53 EA determined that prohibiting GOM cod possession by the recreational fleet would have negative impacts on the recreational fishery, particularly if discards of GOM cod still caused an overage of the recreational sub-ACL and triggered future constraints on recreational fishing effort. This would cause negative social impacts, as the projected discards would exceed the sub-ACL, likely leading to future constraints on recreational fishing effort. For the party/charter vessels, cod is a popular target species for customers, so these vessels may experience declines in their businesses if customers are unwilling to

fish for other stocks instead. The Framework 53 EA concluded that the Size and Demographic Characteristics of the party/charter fleet may be negatively impacted as a result for the GOM cod prohibition.

The No Action alternative (status quo) would maintain the current GOM haddock management measures, and is projected to exceed the recreational sub-ACLs for both GOM cod (126 percent) and GOM haddock (116 percent). Accordingly, the effects of the No Action alternative would be expected to lead to additional constraints on recreational fishing effort in future years, with additional long term negative effects. Because the status quo measures for GOM haddock include a larger minimum size than the preferred alternative and other alternatives, it is unlikely that the No Action alternative would provide short-term economic benefits for the for hire fleet. The additional GOM haddock catch resulting from the no action alternative in comparison to the other alternatives (see Table 9) would not be expected to be landings, but discards as anglers seek fish that meet the larger minimum size. Therefore, the no action alternative would have negative long term impacts and negative short-term impacts when compared to the other alternatives.

6.4.2.2 Preferred Alternative 2

The preferred alternative would reduce the minimum size for GOM haddock by 4 inches, while the possession limit and the seasonal possession restriction for haddock would be unchanged. GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53.

These measures for haddock are less restrictive than the status quo measures because smaller fish may be taken. Smaller fish, in the 17-inch to 20-inch range, are more abundant than fish that are 21 inches or larger in size. Accordingly, the overall level of recreational effort would be expected to increase approximately 1.5 percent relative to the status quo measures, but not as much as Alternative 3 because the preferred alternative does not increase the haddock bag limit. As indicated by the increase in effort predicted in relation to the No Action alternative, there may be some positive short-term effects for anglers and business that support recreational fishermen, though slightly less than under Alternative 3.

However, implementation of the Preferred Alternative 2 measures is unlikely to alleviate concerns of charter/party fishery participants that more restrictive measures will lead to fewer customers, because the preferred alternative measures are still more restrictive than the measures in Alternative 3 that are recommended by the RAP and Council. Additionally, the GOM cod prohibition implemented by FW 53 will have a more significant impact on effort than the haddock measures.

These measures are expected to result in FY 2015 recreational GOM cod and haddock catches lower than the sub-ACLs. If the sub-ACLs for haddock and cod are not exceeded, and additional AMs are not triggered, the management program may be perceived to be effective and fishery participants may gain trust in the management process. It is expected that the preferred management measures will contribute to a sustainable resource and to result in positive benefits to anglers and to businesses that support marine recreational activities in the short- and long-term.

If the catch and landings limits established in the FMP continue to be achieved over the long-term, it is expected that recreational fishing opportunities for GOM cod and haddock would increase. By constraining the recreational catches of GOM cod and haddock to their respective sub-ACLs, the Preferred Alternative 2 would be expected to have positive long-term impacts in comparison to the No Action (status quo) Alternative and Alternative 3. Keeping catch below the sub-ACLs increases the chance that the GOM cod rebuilding plan will lead to larger sub-ACLs in future years, which would provide increased recreational access and positive economic impacts for the for-hire fleet. However, the preferred alternative may have slightly negative short-term impacts in comparison to Alternative 3 because of the smaller bag limit (3 fish rather than 4 fish), and slightly positive short-term impacts than the No Action alternative because of the smaller minimum fish size (17 inches rather than 21 inches).

6.4.2.3 Alternative 3 (Council Recommendation)

The Council-recommended Alternative 3 would reduce the minimum size for GOM haddock from 21 inches to 17 inches, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016), but the possession limit for GOM haddock would increase to 4 fish. GOM cod retention would be prohibited for recreational vessels, consistent with Framework 53. Implementation of the Alternative 3 measures is unlikely to alleviate concerns of charter/party fishery participants that more restrictive measures will lead to fewer customers, because the GOM cod prohibition implemented by FW 53 will have a more significant impact on effort than the haddock measures. The management measures in Alternative 3 would also increase the likelihood that the recreational fishery would exceed the FY 2015 sub-ACLs for GOM cod and haddock and trigger restrictive accountability measures in future fishing years. If the sub-ACLs are exceeded and additional restrictive AMs are implemented the management program may be perceived to be ineffective and fishery participants may lose faith in the management process.

The addition of an extra fish to the haddock bag limit could lead to additional effort and short-term benefits to recreational anglers, consistent with the predicted slight increase in angler trips in comparison to the preferred alternative. However, similar to the No Action (status quo) alternative, Alternative 3 would not result in the recreational mortality reductions necessary to constrain catches below the FY 2015 catch limits. The projected catches under this alternative are 105 percent of the GOM haddock recreational sub-ACL, and 116 percent of the GOM cod recreational sub-ACL. As explained in the discussion of the No Action alternative (status quo), the zero possession limit for GOM cod implemented by Framework 53 is expected to have negative impacts to the recreational fishery, and those negative impacts would be greater if discards of GOM cod cause an overage of the sub-ACL and lead to future constraints on the recreational fishery. Accordingly, the effects of Alternative 3 would be expected to lead to additional constraints on recreational fishing effort in future years, with additional negative effects over time as compared to the preferred alternative. Alternative 3 would be expected to have slightly positive effects as compared to the No Action alternative because of short-term increases in trips (see Table 9), and because predicted overages of the GOM cod and haddock sub-ACLs are lower and could result in comparatively less onerous additional restrictions in future years in comparison to the No Action alternative.

7.0 CUMULATIVE EFFECTS ANALYSIS

7.1 INTRODUCTION

A cumulative effects assessment (CEA) is a required part of an EIS or EA according to the Council on Environmental Quality (CEQ) (40 CFR part 1508.7) and NOAA's agency policy and procedures for NEPA, found in NOAA Administrative Order 216-6. The purpose of the CEA is to integrate into the impact analyses, the combined effects of many actions 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. This section serves to examine the potential direct and indirect effects of the alternatives in this supplemental EA together with past, present, and reasonably foreseeable future actions that affect the groundfish environment. It should also be noted that the predictions of potential synergistic effects from multiple actions, past, present and/or future will generally be qualitative in nature.

This CEA assesses the combined impact of the direct and indirect effects of the proposed recreational measures with the impact from the past, present, and reasonably foreseeable future fishing actions, as well as factors external to the multispecies fishery that affect the physical, biological, and socioeconomic resource components of the groundfish environment. This analysis is focused on the VECs (see below) and because this action is supplementing the final Framework 53 EA, it relies heavily and incorporates by reference the analysis contained in the attached final Framework 53 EA.

Valued Ecosystem Components (VECs): As noted in section 4.0 of FW 53 and this document (Affected Environment), the VECs that exist within the groundfish fishery are identified and include the following:

- Target species
- Other species (incidental catch and bycatch);
- Habitat, including non-fishing effects; and
- Endangered and other protected species;
- Human Communities (includes economic and social effects on the fishery and fishing communities).

Temporal Scope of the VECs

While the effects of historical fisheries are considered, the temporal scope of past and present actions for regulated groundfish stocks, non-groundfish species, habitat and the human environment is primarily focused on actions that have taken place since implementation of the initial NE Multispecies

FMP in 1977. An assessment using this timeframe demonstrates the changes to resources and the human environment that have resulted through management under the Council process and through U.S. prosecution of the fishery, rather than foreign fleets. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, this analysis examines the period between the expected implementation of these recreational measures and Framework 51 is the start of FY 2014 (May 1, 2015) and 2020.

Geographic Scope of the VECs

The geographic scope of the analysis of impacts to regulated groundfish stocks, non-groundfish species and habitat for this action is the total range of these VECs in the Western Atlantic Ocean, as described in the Affected Environment section of the document (Section 6.0, Framework 51 EA). However, the analyses of impacts presented in this framework focuses primarily on actions related to the harvest of the managed resources. The result is a more limited geographic area used to define the core geographic scope within which the majority of harvest effort for the managed resources occurs. For endangered and protected species, the geographic range is the total range of each species (Section 6.4, Framework 53 EA).

Because the potential exists for far-reaching sociological or economic impacts on U.S. citizens who may not be directly involved in fishing for the managed resources, the overall geographic scope for human communities is defined as all U.S. human communities. Limitations on the availability of information needed to measure sociological and economic impacts at such a broad level necessitate the delineation of core boundaries for the human communities. Therefore, the geographic range for the human environment is defined as those primary and secondary ports bordering the range of the groundfish fishery (Section 6.5, Framework 53 EA) from the U.S.- Canada border to, and including, North Carolina.

Analysis of Total Cumulative Effects

A cumulative effects assessment ideally makes effect determinations based on the culmination of the following: (1) impacts from past, present and reasonably foreseeable future actions; PLUS (2) the baseline condition for resources and human communities (note – the baseline condition consists of the present condition of the VECs plus the combined effects of past, present and reasonably foreseeable future actions); PLUS (3) impacts from the Preferred Alternative and other alternatives.

A description of past, present and reasonably foreseeable future actions is presented for the actions outlined in this supplemental EA. The baseline conditions of the resources and human community are subsequently summarized although it is important to note that beyond the stocks managed under this FMP and protected species, quantitative metrics for the baseline conditions are not available. Finally, a brief summary of the impacts from the alternatives contained in this framework is included. The culmination of all these factors is considered when making the cumulative effects assessment.

7.2 PAST, PRESENT AND REASONABLY FORESEEABLE FUTURE ACTIONS

A summary of the effects of past, present and reasonably foreseeable future actions is presented in Section 7.6 of the Framework 53 EA (NEFMC 2015), including other previous actions taken in the NE Multispecies FMP. The baseline conditions of the resources and human community are also summarized here, although it is important to note that beyond the stocks managed under this FMP and protected species, quantitative metrics for the baseline conditions are not available. Finally, a brief summary of the impacts from the alternatives contained in this supplemental EA is included. The culmination of all these factors is considered when making the cumulative effects assessment.

Most of the actions affecting this supplemental EA come from fishery-related activities (e.g., Federal fishery management actions). As expected, these activities have fairly straightforward effects on environmental conditions, and were, are, or will be taken, in large part, to improve those conditions. The Magnuson-Stevens Act stipulates that management comply with a set of National Standards that collectively serve to optimize the conditions of the human environment. Under this regulatory regime, the cumulative impacts of past, present, and future Federal fishery management actions on the VECs should be expected to result in positive long-term outcomes. Nevertheless, these actions are often associated with offsetting impacts. For example, constraining fishing effort frequently results in negative short-term socio-economic impacts for fishery participants. However, these impacts are usually necessary to 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 managed resource.

Non-fishing activities were also considered when determining the combined effects from past, present and reasonably foreseeable future actions. Activities that have meaningful effects on the VECs include the introduction of chemical pollutants, sewage, and impacts from climate change such as changes in water temperature, salinity, dissolved oxygen, and suspended sediment into the marine environment. These activities pose a risk to all of the identified VECs in the long term. Human induced non-fishing activities that affect the VECs under consideration in this document are those that tend to be concentrated in near shore areas. 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 resources, 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.

7.3 BASELINE CONDITIONS FOR RESOURCES AND HUMAN COMMUNITIES

For the purposes of a CEA, the baseline conditions for resources and human communities is considered the present condition of the VECs plus the combined effects of the past, present, and reasonably foreseeable future actions. Table 11 below illustrates the baseline conditions found as part of the final Framework 53 EA cumulative effects analysis. Please refer to the cumulative effects assessment in Section 7.6.3 of the

final Framework 51 EA (NEFMC 2014) to review a complete summary of the baseline conditions for each VEC.

Table 11. Summary of Baseline Conditions for Each VEC.

VEC	Past Actions	Present Actions	Reasonably Foreseeable Future Actions	Combined Effects of Past, Present, Future Actions
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Regulated Groundfish Stocks	Mixed Combined effects of past actions have decreased effort, improved habitat protection, and implemented rebuilding plans when necessary. However, some stocks remain overfished	Positive Current regulations continue to manage for sustainable stocks	Positive Future actions are anticipated to continue rebuilding and strive to maintain sustainable stocks	Short-term Negative Several stocks are currently overfished, have overfishing occurring, or both Long-Term Positive Stocks are being managed to attain rebuilt status
Non-Groundfish Species	Positive Combined effects of past actions have decreased effort and improved habitat protection	Positive Current regulations continue to manage for sustainable stocks, thus controlling effort on direct and discard/bycatch species	Positive Future actions are anticipated to continue rebuilding and target healthy stocks, thus limiting the take of discards/bycatch	Positive Continued management of directed stocks will also control incidental catch/bycatch
Endangered and Other Protected Species	Positive Combined effects of past fishery actions have reduced effort and thus interactions with protected resources	Positive Current regulations continue to control effort, thus reducing opportunities for interactions	Mixed Future regulations will likely control effort and thus protected species interactions, but as stocks improve, effort will likely increase, possibly increasing interactions	Positive Continued effort controls along with past regulations will likely help stabilize protected species interactions
Habitat	Mixed Combined effects of effort reductions and better control of non-fishing activities have been positive but fishing activities and non-fishing activities continue to reduce habitat quality	Mixed Effort reductions and better control of non-fishing activities have been positive but fishing activities and non-fishing activities continue to reduce habitat quality	Mixed Future regulations will likely control effort and thus habitat impacts but as stocks improve, effort will likely increase along with additional non-fishing activities	Mixed Continued fisheries management will likely control effort and thus fishery related habitat impacts but fishery and non-fishery related activities will continue to reduce habitat quality
Human Communities	Mixed Fishery resources have	Mixed Fishery resources	Short-term Negative As effort controls are	Short-term Negative Revenues would likely

	<p>supported profitable industries and communities but increasing effort and catch limit controls have curtailed fishing opportunities</p>	<p>continue to support communities but increasing effort and catch limit controls combined with non-fishing impacts such as high fuel costs have had a negative economic impact</p>	<p>maintained or strengthened, economic impacts will be negative</p> <p>Long-term Positive</p> <p>As stocks improve, effort will likely increase which would have a positive impact</p>	<p>decline dramatically in the short term and may remain low until stocks are fully rebuilt</p> <p>Long-term Positive</p> <p>Sustainable resources should support viable communities and economies</p>
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7.4 SUMMARY OF THE IMPACTS FROM THE PROPOSED ACTIONS

Under the preferred alternative, the minimum size for GOM haddock would be reduced from 21 inches to 17 inches. The possession limit for GOM haddock would remain 3 fish, and the seasonal possession restriction for haddock would be unchanged (September 1, 2015, through October 31, 2015, and March 1, 2016, through April 30, 2016). The model estimates that the measures proposed under the preferred alternative would achieve the recreational mortality reductions necessary to constrain haddock catch below the FY 2015 catch limit. However, the model estimates that catch of cod would exceed the FY 2015 catch limit. The projected catch under this alternative is 323 mt for GOM haddock and 132 mt for GOM cod. The sub-ACLs for these stocks in 2015 are 372 mt for haddock and 121 mt for cod. These estimates are 87 percent of the GOM haddock recreational sub-ACL, and 109 percent of the GOM cod recreational sub-ACL. However, NMFS believes that the preferred alternative would likely prevent either sub-ACL from being exceeded because the model is likely overestimating effort and GOM cod catch (see detailed discussion in Section 7.1 of this EA).

7.5 SUMMARY OF THE CUMULATIVE EFFECTS

The following analysis summarizes the cumulative effects on the VECs identified in this section through the consideration of past, present, and reasonably foreseeable future actions in combination with the baseline condition for resources and human communities and impacts from the proposed action.

7.5.1 Target and Other Species

As found in the cumulative effects analysis for the final Framework 53 EA (NEFMC 2015), the long-term trend in this fishery has been positive for cumulative impacts to target species. While several groundfish species remain overfished or overfishing is occurring, substantial effort reductions since implementation of the NE Multispecies FMP have allowed several stocks to rebuild and the rebuilding process for others is underway. Thus, the cumulative effect of this action is expected to provide stock growth for both species, with no anticipated significant impacts. Therefore, the combination of past actions with the proposed action would continue the sustainable harvest of other regulated species and would not be expected to result in any significant cumulative effects.

7.5.2 Endangered and Other Protected Species

Historically, the implementation of FMPs has resulted in reductions in fishing effort and as a result, past fishery management actions are thought to have had a slightly positive impact on strategies to protect protected species. Gear entanglement continues to be a source of injury or mortality, resulting in some adverse effects on most protected species to varying degrees. As summarized in Section 7.6.5 of Framework 53, the current management measures, including

those implemented through Amendment 16 and expected to continue to control effort and catch and, as a result, to reduce interactions with protected resources. The actions proposed in Framework 53 are expected to continue this trend. As stocks rebuild to sustainable levels, future actions may lead to increased effort, which may increase potential interactions with protected resources in the fishery overall. However, interactions between the recreational fishery and protected resources are rare, so the cumulative result of these actions to meet mortality objectives, in combination with past, present, and reasonably foreseeable future actions, would not be expected to result in any significant cumulative effects.

7.5.3 Habitat Including Non-fishing Effects

While the impact analysis in this action is focused on direct and indirect impacts to habitat and EFH, there are a number of non-fishing impacts that must be considered when assessing cumulative impacts. Many of these activities are concentrated near-shore and likely work either additively or synergistically to decrease habitat quality. Other non-fishing factors such as climate change and ocean acidification are also thought to play a role in the degradation of habitat. The effects of these actions, combined with impacts resulting from years of commercial fishing activity, have negatively affected habitat and EFH. However, the general trend in fisheries management toward effort reductions, particularly with the implementation of Amendment 16, has yielded positive impacts to habitat and EFH. Furthermore, gear used in the recreational fishery does not interact with habitat as other groundfish gears do and thus, impacts from the proposed action were found to be negligible. Based on this rationale, when considered with past, present and reasonably foreseeable future actions, the cumulative impacts from the proposed action would not be significant.

7.5.4 Human Communities

Past commercial management actions have had significant negative impacts on communities that depend on the groundfish fishery, particularly as a result of decreases in revenue. Although special programs implemented through Amendment 13 and subsequent framework actions have provided the industry additional opportunities to target healthier groundfish stocks, substantial increases in landings and revenue will likely not take place until further stock rebuilding occurs under the various rebuilding plans implemented for individual stocks in Amendment 16 and recent frameworks. Current management measures will maintain effort and catch limit controls, which together with non-fishing impacts such as rising fuel costs have had significant negative short term economic impacts on human communities. The specifications proposed in Framework 53 are expected to have long-term positive impacts to human communities as they promote stock rebuilding, but in the short-term revenues are mixed compared to what would otherwise be expected. Slightly increased ACLs for some stocks could have positive social impacts, however, these may be offset by reductions in ACLs for other stocks and overall greater fishing effort is not likely. Given decreases or generally low catch limits for many key stocks

that resulted in a fishery disaster declaration for FY 2013, the overall impact on human communities is expected to be negative as the result of decreased revenue. Framework 53 is expected to result in decreased revenue in the short term that will compound the significant negative economic impact on the fishing industry from past actions, though not beyond levels anticipated in Amendment 16.

The proposed action analyzed in this supplemental EA would be expected to result in a predicted slight increase in effort in the recreational fishery (though less than Alternative 3), which may result in an increase in revenue for associated businesses, including charter/party operators, and their communities (see sections 7.5 and 9.1 for a detailed assessment of revenue impacts). However, the Framework 53 EA (see Section 7.4.2.1.2.2) determined that prohibiting GOM cod possession by the recreational fleet would have negative impacts on the recreational fishery. For the party/charter vessels, cod is a popular target species for customers, so these vessels may experience declines in their businesses if customers are unwilling to fish for other stocks instead. The Framework 53 EA concluded that the Size and Demographic Characteristics of the party/charter fleet may be negatively impacted as a result of the GOM cod prohibition. Both private boats and party boats will incur some negative impacts because of an inability to catch cod. The cumulative impact of this action in conjunction with other past, present, and reasonably foreseeable future actions would likely negative impacts on communities until future stock rebuilding occurs.

8.0 LIST OF PREPARERS AND PERSONS/AGENCIES CONSULTED

Questions concerning this document may be addressed to:

John K. Bullard, Regional Administrator
Northeast Region
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930-2276

This document was prepared by the following NMFS personnel:

Mark Grant
Scott Steinback
Timothy Cardiasmenos

This document was reviewed by staff of the NMFS Greater Atlantic Regional Fisheries Office (GARFO), Northeast Fisheries Science Center (NEFSC), and NOAA Office for Program Planning and Integration. Staff members of the Council, GARFO, and the NEFSC were also consulted in preparing the Framework 53 EA and this supplement. No other persons or agencies were consulted.

9.0 COMPLIANCE WITH APPLICABLE LAWS AND EXECUTIVE ORDERS

9.1 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT (MAGNUSON-STEVENSONS ACT)

Section 301 of the Magnuson-Stevens Act requires that FMPs contain conservation and management measures that are consistent with the ten National Standards. The most recent FMP changes implemented by Amendment 16 address how the proposed management actions comply with the National Standards. Under Amendment 16, the NEFMC adopted conservation and management measures that would end overfishing and rebuild NE multispecies stocks to achieve, on a continuing basis, the optimum yield for NE multispecies stocks and the U.S. fishing industry using the best scientific information available consistent with National Standards 1 and 2. The NE Multispecies FMP and implementing regulations manage all 20 groundfish stocks (13 species) throughout their entire range, as required by National Standard 3. Section 9.1.1 of Amendment 16 describes how the sector measures implemented under that action do not discriminate among residents of different states consistent with National Standard 4, do not have economic allocation as their sole purpose (National Standard 5), account for

variations in these fisheries (National Standard 6), avoid unnecessary duplication (National Standard 7), take into account fishing communities (National Standard 8), addresses bycatch in fisheries (National Standard 9), and promote safety at sea (National Standard 10). By proposing to meet the National Standards requirements of the Magnuson-Stevens Act through future FMP amendments and framework actions, the NEFMC will ensure that overfishing is prevented, overfished stocks are rebuilt, and the maximum benefits possible accrue to the ports and communities that depend on these fisheries and the Nation as a whole.

The proposed action would comply with all elements of the Magnuson-Stevens Act, including the National Standards, and the NE Multispecies FMP. This action is being taken to put in place recreational management measures that will better ensure the FY 2015 recreational sub-ACLs are met, but not exceeded, consistent with both the FMP and National Standard 1 guidelines (74 FR 3178; January 16, 2009). The final Framework 53 EA, completed prior to the development of revised recreational management measures, and prior to the Framework 53 proposed rule (80 FR 12394) did not contain an analysis of the revised recreational fishery measures for GOM haddock that would be necessary to constrain catches to the GOM cod and haddock recreational sub-ACLs. Therefore, this supplemental EA analyzes the impacts of the revised recreational fishery measures, in compliance with applicable laws requiring an analysis of proposed measures.

9.2 ESSENTIAL FISH HABITAT (EFH)

There are no adverse impacts associated with this action, so no EFH assessment or EFH consultation is required, as determined by a Habitat Conservation Division Review (April 2, 2015).

9.3 ENDANGERED SPECIES ACT (ESA)

As outlined in the impacts analysis of Framework 53's EA and in sections 6.2 and 7.4 of this supplement, the fishing activities anticipated to occur under this action are not expected to affect endangered and threatened species or critical habitat in any manner not considered in prior consultations on this fishery

9.4 MARINE MAMMAL PROTECTION ACT (MMPA)

As outlined in the impacts analysis of Framework 53's EA and in sections 6.2 and 7.4 of this supplement, the FY 2015 recreational management measures have been determined to be consistent with the provisions of the MMPA and would not alter existing measures to protect

the species likely to inhabit the management unit of the NE multispecies FMP. For further information on the potential impacts of the proposed management action on marine mammals, see Section 6.2.

9.5 NATIONAL ENVIRONMENTAL POLICY ACT

9.5.1 Finding of No Significant Impact (FONSI)

National Oceanic and Atmospheric Administration (NOAA) Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40

C.F.R. 1508.27 states that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed below is relevant in 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?*

Response: The proposed action described in the supplemental EA would not jeopardize the sustainability of the target species affected by the action (GOM cod and haddock), because the measures are designed to reduce mortality resulting from the recreational fishery and, thus, are expected to result positive biological impacts, as discussed in Section 6.1.

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

Response: The proposed action described in the supplemental EA is not expected to jeopardize the sustainability of any non-target species. Additional stocks taken incidentally during the GOM recreational cod and haddock fisheries would be mitigated by mortality controls in place for these species and would be expected to be minimal. The biological impacts of the proposed action are analyzed in Section 6.1.

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?*

Response: The proposed action described in the supplemental EA is not expected to allow substantial damage to the ocean and coastal habitats and/or Essential Fish Habitat (EFH) as defined under the Magnuson-Stevens Act and identified in the FMP. Because rod and reel

gear is believed to have minimal interaction with habitat, impacts to EFH resulting from the proposed action would be expected to be negligible. The physical environmental/habitat impacts of the proposed action are analyzed in Section 6.3.

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

Response: The proposed action described in the supplemental EA is not expected to have a substantial adverse impact on public health and safety. Open ocean recreational fishing is an activity with some inherent safety risks; however, the measures contained in the proposed action are not expected to fundamentally change how recreational fisheries operate in the Gulf of Maine. As such, no adverse impact beyond those already present in recreational fishing activities is expected by the proposed action.

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

Response: As discussed in Section 6.2 in this supplemental EA, hook and line gear used in the recreational multispecies fishery rarely interacts with protected resources or habitat, if at all, and, as a result, impacts of the proposed action on protected resources are expected to be negligible.

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.)?*

Response: The proposed action described in the supplemental EA is not expected to have a substantial impact on biodiversity and ecosystem function within the Gulf of Maine. The use of ACLs are designed to tightly control catches of target and incidental regulated groundfish stocks. Catches of target and incidental catch species under this program will be consistent with the mortality targets for those stocks established by of Amendment 16 and modified through subsequent frameworks, including Framework 53. The proposed action will not have a substantial impact on predator-prey relationships or biodiversity. This action will have no more than minimal adverse impacts to EFH, because recreational hook and line gear do not interact with habitat. It is, therefore, reasonable to expect that there will not be substantial impact on biodiversity or ecosystem function.

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

Response: The supplemental EA documents that no significant natural or physical effects will result from the implementation of the proposed action. The action's potential economic and

social impacts are also addressed in the supplemental EA (see Section 6.4) and are not projected to be significant. The proposed action is designed to reduce recreational fishing mortality to ensure overfishing does not occur and to provide continued stock growth and rebuilding for GOM cod. As described in Section 6.1, the action is expected to result in a low positive biological impact by reducing mortality and would not be expected to more than minimally increase mortality on other stocks caught recreationally. The action cannot be reasonably expected to have a substantial impact on protected species or habitat (see Sections 6.2 and 6.3), as the impacts are expected to fall within the range of those resulting from Amendment 16.

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

Response: The effects of the proposed action for the supplemental EA on the quality of human environment are not expected to be highly controversial. The public is aware of the revised recreational measures contemplated in the proposed action for the supplemental EA, as they were openly discussed at public meetings held New England Fishery Management Council in January 2015. The data used for recreational fisheries management, MRIP estimates of effort and catch derived from a multi-faceted survey system, remains somewhat controversial. The data are survey derived estimates, not a total census of catch and effort. As such, there are uncertainties contained with the estimation process that, in some cases, results in large confidence intervals around the estimates available. NMFS has reviewed the available FY 2014 catch and effort information used to evaluate the necessary catch reductions and finds the MRIP data to have been appropriately generated, quality inspected, and made available for use, consistent with National Standard 2 of the Magnuson-Stevens Act. Plainly stated, there are no other alternate data available for recreational fisheries management. NMFS and the Council are obligated under the FMP and National Standard 1 provisions of the Magnuson-Stevens Act to implement measures with a high probability of ensuring catch limits are not exceeded in the overarching effort to prevent overfishing. The measures of the proposed action are intended to ensure the FY 2015 recreational sub-ACLs for GOM cod and haddock are not exceeded. As such, they are consistent with both the FMP and the Magnuson-Stevens Act requirements. They provide a reasonable probability of being effective at their designed objective of constraining GOM cod and haddock catch below the FY 2015 catch limits. The proposed action is not expected to negatively impact habitat, target and non-target species, protected resources, or the human environment as described in Sections 6.1 through 6.4.

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

Response: The proposed action cannot be reasonably expected to result in substantial impacts to unique areas or ecological critical areas. Although it is possible that historic or cultural resources such as shipwrecks could be present in the area where the recreational

fishery is prosecuted, impacts to habitat or ship wrecks from recreational gear are minimal (see Section 6.3). Further, vessels try to 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 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?*

Response: The effects of the proposed action described in the supplemental EA on the human environment are not expected to be highly uncertain or involve unique or unknown risks. Anglers fishing for GOM cod and haddock will primarily use hook and line gear and maintain traditional fishing practices which will have no greater impact on habitat, protected species, and limit bycatch species as those conditions existing currently. The measures contemplated in this action are similar to those adopted in past management actions, and these prior actions have reduced fishing mortality on many stocks and initiated stock rebuilding. While there is a degree of uncertainty over how fishermen will react to the proposed measures, the analytic tools used to evaluate the measures attempt to take that uncertainty into account and reflect the likely results as a range of possible outcomes. Overall, the impacts of the proposed action can be, and are, described with a relative amount of certainty. Therefore, the effects on the human environment are not uncertain or involve unique or unknown risks.

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

Response: The cumulative effects analysis presented in Section 7 of this supplemental EA considers the impacts of the proposed action in combination with relevant past, present, and reasonably foreseeable future actions and concludes that no significant cumulative impacts are expected from the approval of the revised recreational fishery measures for GOM cod and haddock. Since none of the cumulative impacts of the preferred alternatives in the final Framework 53 EA or the supplemental proposed action in this supplemental EA are considered significant, and the measures under Amendment 16 are environmentally preferred, Section 7.0 of this document concluded there are no significant cumulative impacts among these related actions. Further, the proposed action would not have any significant impacts when considered individually or in conjunction with any of the other actions presented in Section 7.0 (fishing related and non-fishing related).

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?*

Response: The fishing operations would take place on ocean waters and would not affect any human communities on the adjacent shorelines. Although there are shipwrecks present in areas where fishing occurs, including some registered on the National Register of Historic Places. Due to the minimal impact on the human environment, the effect of the approval of the revised recreational fishery measures would not cause loss or destruction of significant scientific, cultural, or historical resources.

13. *Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?*

Response: No non-indigenous species would be introduced during the proposed action because the action is not expected to expand the scope of current fishing practices and is not expected to introduce new fishing methods. No non-indigenous species would be expected to be used or transported during fishing activities

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?*

Response: No, the proposed action is not likely to establish precedent for future actions with significant effects. The proposed action adopts measures that are designed to react to the necessity to reduce fishing mortality for GOM cod and haddock in order to achieve mortality targets adopted for FY 2015. As such, these measures are designed to address a specific problem and are not intended to represent a decision about future management actions that may adopt different measures.

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?*

Response: The proposed action is not expected to threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment. Vessels fishing in the GOM are required to comply with all local, regional, and national laws and permitting requirements.

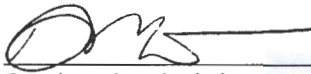
Response: The proposed action is not expected to threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment. Vessels fishing in the GOM are required to comply with all local, regional, and national laws and permitting requirements.

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?*

Response: The proposed action is not expected to result in cumulative adverse effects that could have a substantial effect on target or non-target species. As stated in Section 6.1, impacts on GOM cod and haddock are expected to be low positive and impacts to other stocks are expected to be minimal.

9.5.2 FONSI Statement

In view of the information presented in the Framework 53 EA and this document, the analysis contained in the supporting EA prepared for the approval of revised recreational measures for GOM haddock, it is hereby determined that the approval of the revised GOM haddock recreational minimum size restrictions, possession limits, and fishing seasons will not significantly impact the quality of the human environment as described above and in the supporting 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 Environmental Impact Statement (EIS) for this action is not necessary


JOHN BULLARD 4/13/15
Regional Administrator
Greater Atlantic Regional Fisheries Office
National Marine Fisheries Service

9.6 ADMINISTRATIVE PROCEDURE ACT (APA)

Section 553 of the APA establishes procedural requirements applicable to rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process and to give the public adequate notice and opportunity for comment. Pursuant to 5 U.S.C. 553(b)(B) and 5 U.S.C. 553(d)(3), the Assistant Administrator for Fisheries finds good cause to waive the otherwise applicable requirements for both notice and comment rulemaking and a 30-day delay in effectiveness for this interim final action implementing FY 2015 recreational GOM haddock management measures. As explained in further detail below, the availability of information necessary to ensure that measures were in place for the May 1, 2015, start of the fishing year made it impracticable to provide prior notice and comment without sacrificing needed conservation benefits.

Because of the need to consider data and consult with the Council on this action it was not possible to provide opportunity for prior notice and comment before the start of the fishing year, May 1, 2015. If these measures are not in place by the start of the fishing year, important conservation benefits may be lost. The majority of the recreational fishery occurs in the late spring and early summer months. Over the last 3 years (FYs 2012-2014) an average of 28 percent of the recreational fishery has occurred in May and June (Wave 3). Delaying implementation of FY 2015 measures until sometime after May 1, 2015, would allow the recreational fishery for haddock to occur without the new measures during some or all of one of the busiest recreational seasons of the year. Even if the foregone benefits could be made up it would require the implementation of even more stringent measures with possibly more negative social and economic impacts to fishery participants to ensure total catch limits for the year are not exceeded. Doing so would be contrary to the public interest. Development of measures was publicly discussed at a RAP meeting and a Council meeting in January 2015, and NMFS is soliciting public comment on the interim measures contained in this rule.

For these same reasons, NMFS finds it necessary to waive the delayed effective date for this action. By implementing these measures through an interim final rule, NMFS will receive comments on this rule. If the rule is published before May 1, 2015, it may even be possible to receive comments before the effective date of the final rule. These comments will be considered and any necessary changes to these measures can be made at a later date.

9.7 PAPERWORK REDUCTION ACT (PRA)

The purpose of the PRA is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by, or for, the Federal Government. This action contains no new information collection requirements and, as such, no review under the PRA is necessary.

9.8 COASTAL ZONE MANAGEMENT ACT (CZMA)

Section 307(c)(1) of the CZMA requires that all Federal activities which affect any coastal use or resource be consistent with approved state coastal zone management programs (CZMP) to the maximum extent practicable. NMFS has reviewed the relevant enforceable policies of each coastal state in the NE region for this action and has determined that this action is incremental and repetitive, without any cumulative effects, and is consistent to the maximum extent practicable with the enforceable policies of the CZMP of the following states: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, and North Carolina. NMFS finds this action to be consistent with the enforceable policies to manage, preserve, and protect the coastal natural resources, including fish and wildlife, and to provide recreational opportunities through public access to waters off the coastal areas. Pursuant to the general consistency determination provision codified at 15 CFR 930.36(c), NMFS sent a general consistency determination applying to the current NE Multispecies FMP, and all routine Federal actions carried out in accordance with the FMP, to the following states: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, and North Carolina on October 21, 2009. North Carolina, Rhode Island, Virginia, Connecticut, New Hampshire, New Jersey, Delaware, and Pennsylvania have concurred with the general consistency determination. Consistency was inferred for those states that did not respond.

9.9 INFORMATION QUALITY ACT (IQA)

Pursuant to NOAA guidelines implementing Section 515 of Public Law 106-554 (the Data Quality Act), all information products released to the public must first undergo a Pre-Dissemination Review to ensure and maximize the quality, objectivity, utility, and integrity of the information (including statistical information) disseminated by or for federal agencies. The following section addresses these requirements.

Utility

The information presented in this document is helpful to the intended users (the affected public) by presenting a clear description of the purpose and need of the proposed action, the measures proposed, and the impacts of those measures. A discussion of the reasons for selecting the proposed action is included so that intended users may have a full understanding of the proposed action and its implications.

This action is intended to describe and implement measures that reduce recreational Gulf of Maine cod and haddock catches in the fishing year that begins on May 1, 2015 (i.e., Fishing year (FY) 2015). The action is necessary to reduce catches so that recreational catches do not exceed established recreational catch limits for these two stocks which, in turn, is part of the

Northeast Multispecies Fishery Management Plan (FMP) requirements to prevent overfishing consistent with Magnuson-Stevens Fishery Conservation and Management Act National Standard 1 guidelines.

The public had the opportunity to review and comment on the development of management measures during the a Recreational Advisors Panel meeting on January 22, 2015, and again during a New England Fishery Management Council (Council) meeting on January 29, 2015. Analytical and information documents for these meetings were posted and remain accessible on the Council's website: www.nefmc.org

The public will have further opportunity to comment once NMFS publishes a request for comments on the interim rule measures in the Federal Register. The Federal Register notice will include a description of the measures and an abbreviated description of the agency's reasons for selecting the interim measures. The Federal Register notice that announces the interim rule, supporting analytical documents, and compliance guides will be made available in printed publication, on the website for the Greater Atlantic Regional Fisheries Office (GARFO), and on Regulations.gov. These documents use consistent attribute naming and unit conventions. Technical jargon is avoided where possible, but when it must be included, it is familiar to the affected and interested public.

Integrity

Prior to dissemination, information associated with this action, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information. All electronic information disseminated by NMFS adheres to the standards set out in Appendix III, "Security of Automated Information Resources," of OMB Circular A-130; the Computer Security Act; and the Government Information Security Act. All confidential information (e.g., dealer purchase reports) is safeguarded pursuant to the Privacy Act; Titles 13, 15, and 22 of the United States Code (confidentiality of census, business, and financial information); the Confidentiality of Statistics provisions of the Magnuson Act; and NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics.

Objectivity

For the purposes of the Pre-Dissemination Review, this supplemental EA is considered to be a "Natural Resource Plan." Accordingly, the document adheres to the published standards of the Magnuson-Stevens Act; the Operational Guidelines, Fishery Management Plan Process; the EFH Guidelines; the National Standard Guidelines; and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the NEPA.

The catch levels established for FY 2015 are based on assessments conducted by experts

and specialists familiar with the core data sets, life history of the species, population dynamics, and statistical modeling as well as having extensive knowledge of the fishery. As such, the information used to develop the catch levels, of which a component is set aside as a recreational- specific amount, represents the best available, most recent information for the GOM cod and haddock populations.

Estimates of recreational data are provided by the Marine Recreational Information Program (MRIP), a multi-faceted survey conducted by NMFS. The survey system and underlying methodology have been extensively peer reviewed and provide a robust, unbiased estimation of recreational catch and effort. Data produced by MRIP undergo both internal and external quality assurance and quality control procedures before being made available to the public. This action makes extensive use of MRIP data to characterize FY 2014 catch and effort and evaluate potential FY 2015 recreational management measures. Analyses of potential FY 2015 measures are evaluated using a peer-reviewed model developed and run by staff from the NMFS Northeast Fisheries Science Center (Center).

Clear distinctions have been drawn between policy choices and the supporting science upon which they are based. Supporting materials, information, data and analyses used for the recreational management measures action are properly referenced. Many of these supporting documents are readily available on the Council or GARFO web sites. All supporting materials, information, data, and analyses within this document have been, to the maximum extent practicable, properly referenced according to commonly accepted standards for scientific literature to ensure transparency.

The review process for development of this action and associated documents involves staff from the Council, NMFS, Center, and NMFS headquarters. The Center's technical review is conducted by senior level scientists with specialties in fisheries ecology, population dynamics, and biology, as well as economics and social anthropology. Review by GARFO is conducted by those with expertise in fisheries management and policy, habitat conservation, protected resources, and compliance with the applicable law. Final approval of the documents and clearance of the rule is conducted by staff at NMFS Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

9.10 REGULATORY IMPACT REVIEW

The National Marine Fisheries Service (NMFS) requires the preparation of a Regulatory Impact Review (RIR) for all regulatory actions that either implement a new Fishery Management Plan (FMP) or significantly amend an existing plan. This RIR provides a comprehensive review of the economic benefits associated with proposed regulatory actions. This analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems. The purpose of this analysis is to ensure that the regulatory agency systematically

and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way. This RIR addresses many items in the regulatory philosophy and principles of Executive Order (EO) 12866.

9.10.1 Description of the Management Objectives

A complete description of the purpose and need and objectives of this action is found under section 3.0 of this supplemental EA. This action is taken under the authority of the Magnuson-Stevens Act and regulations at 50 CFR part 648.

9.10.2 Description of the Fishery

A description of the GOM cod and haddock fisheries is presented in section 6.0 and 6.5 of the Framework 53 EA. A description of recreational catch statistics is presented in 5.1 of this EA.

9.10.3 A Statement of the Problem

A statement of the problem for resolution is presented under sections 2.0 and 3.0.

9.10.4 Regulatory Impact Review Impacts

The Preferred Alternative 2 measures are expected to have positive economic impacts in the short-term. Alternatives 2 and 3 each reduce the minimum size for haddock from 21 inches to 17 inches. The smaller minimum size for haddock would have positive short-term economic impacts in comparison to the No Action alternative because the smaller minimum size increases the likelihood of anglers catching legal-sized haddock and is expected to lead to more angler trips. Under Alternative 2, the overall level of recreational effort would be expected to increase approximately 1.5 percent relative to the No Action Alternative, while Alternative 3 has an estimated 2.9-percent increase in angler trips when compared to the No Action alternative (see Table 10). Therefore, Alternative 2 would provide a slight positive short-term economic impact in comparison to the No Action Alternative, but slightly less positive than Alternative 3.

The Preferred Alternative 2 is also expected to have positive economic impacts in the long-term. Because the minimum size for haddock is being reduced, the preferred alternative is expected to reduce catch of cod and haddock despite forecasting a slight increase in trips when compared to the No Action alternative. There are a large number of haddock in the 17-inch to 20-inch range, which will result in anglers achieving their bag limit more quickly and discarding fewer fish than under the 21-inch minimum size. There is little high-grading in the recreational groundfish fishery (SARC 59) and anglers will end their trip or target other species after reaching their haddock bag limit. As explained in 6.1.2, the preferred measures are expected to result in FY 2015 recreational GOM cod and haddock catches that will not exceed the sub-ACLs of 121 mt for cod and 372 mt

for haddock. The No Action alternative and Alternative 3 are each estimated to exceed the recreational sub-ACLs for both GOM cod and GOM haddock (Table 9). By constraining the recreational catches of GOM cod and haddock to their respective sub-ACLs, the Preferred Alternative 2 would be expected to have positive impacts in comparison to the No Action (status quo) Alternative and Alternative 3. Keeping catch below the sub-ACLs increases the chance that the GOM cod rebuilding plan will lead to larger sub-ACLs in future years, which would provide increased recreational access and positive economic impacts for the for-hire fleet.

9.10.5 Evaluation of Significance Under Executive Order 12866

The purpose of Executive Order (E.O.) 12866 is to enhance planning and coordination with respect to new and existing regulations. This E.O. requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be “significant.” Section 9.1 of this document represents the RIR, which includes an assessment of the costs and benefits of the Proposed Action in accordance with the guidelines established by E.O. 12866.

E.O. 12866 requires a review of proposed regulations to determine whether or not the expected effects would be significant, where a significant action is any regulatory action that may:

- Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in the Executive Order.

The Preferred Alternative 2 measures are expected to have positive short-term impacts for private anglers, the for-hire fleet, and businesses that support recreational fishing as a result of the estimated increase in angler trips resulting from the reduction of the minimum size for haddock from 21 inches to 17 inches. This comes in the form of increased access for private anglers and increased revenues to the for-hire fleet and associated businesses.

Long-term positive impacts will also accrue from the biological effects of the proposed actions. As explained in 6.1.2, the preferred measures are expected to result in FY 2015 recreational GOM cod and haddock catches that will not exceed the sub-ACLs of 121 mt for cod and 372 mt for haddock. Although the long-term effects of these alternatives are less clear or quantifiable from a social and economic perspective, rebuilt stocks would presumably provide anglers with the ability to increase catch and possibly rates of kept fish resulting in higher overall welfare

benefits to anglers and the Nation as a whole. Therefore, this action should not adversely affect, in the long-term, competition, jobs, the environment, public health or safety, or state, local, or tribal government communities. Second, this action should 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 GOM cod and haddock fisheries in the EEZ. Third, this action will not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of their participants. Lastly, the proposed action does not raise novel legal or policy issues arising out of legal mandates or the President's priorities.

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