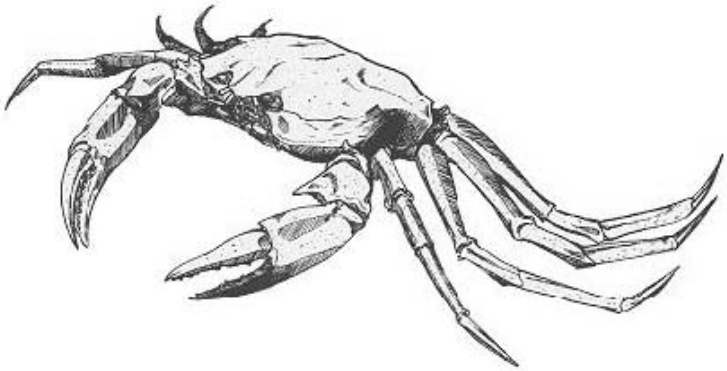
Atlantic Deep-Sea Red Crab Fishery Management Plan

Fishing Years 2020-2023 Specifications

Including a Supplemental Information Report (SIR), Regulatory Impact Review (RIR) and Regulatory Flexibility Analysis (RFA)



DRAFT
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Prepared by the

New England Fishery Management Council

In consultation with the

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New England
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NOAA

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List of Acronyms

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
APA	Administrative Procedures Act
BRP	Biological Reference Point
CEQ	Council on Environmental Quality
CZMA	Coastal Zone Management Act
DAS	Days-at-Sea
DCAC	Depletion-Corrected Average Catch
DFO	Department of Fisheries and Oceans Canada
DPS	Distinct Population Segment
DPSWG	Data Poor Stocks Working Group
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
ESA	Endangered Species Act of 1973
FMP	Fishery Management Plan
FY	Fishing Year
GARFO	Greater Atlantic Regional Fisheries Office
IRFA	Initial Regulatory Flexibility Analysis
IQA	Information Quality Act
LCMA	Lobster Conservation Management Area
LPUE	Landings per Unit Effort
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCC	Northeast Region Coordinating Council
OHA2	Omnibus Habitat Amendment 2
OFL	Overfishing Limit
OY	Optimum Yield
PDT	Plan Development Team
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SAFE	Stock Assessment and Fishery Evaluation
SBA	Small Business Administration
SIR	Supplemental Information Report
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch
TAL	Total Allowable Landings
VEC	Valued Ecosystem Component
VTR	Vessel Trip Reports

Executive Summary

The proposed action, as described in Section 3.0, would establish specifications for the 2020-2023 fishing years (FY) for the Atlantic deep-sea red crab fishery. The action is needed to put new specifications in place by the start of the FY on March 1, 2020. Under this action the New England Fishery Management Council (Council) is proposing a total allowable landings (TAL) limit for the red crab fleet that is a 12.7% increase from the level currently in effect under the FY 2017-2019 specifications and analyzed in Amendment 3 to the Atlantic Deep-Sea Red Crab Fishery Management Plan (FMP). The Council based its decision on the results of updated red crab fishery-dependent data, the most recent peer-reviewed assessment of the red crab resource carried out by the Data Poor Stocks Working Group in 2009, and recommendations from the Council's Scientific and Statistical Committee (SSC). The Council believes the TAL and discards adequately account for scientific uncertainty and are safely below an undetermined overfishing threshold (Section 4.2). The Council has also preliminarily determined that the Amendment 3 analyses remain valid for this action (NEFMC 2011a). A review of new information and circumstances (Section 5.0) did not change the conclusions or impacts described in Amendment 3.

The proposed action and the current specifications are summarized in Table Executive Summary (ES)-1.

Table ES-1. Red crab specifications for fishing years 2017-2019 & 2020-2023

	Specifications (FY17-19)	Proposed Action (FY20-23)
Maximum Sustainable Yield (MSY)	Undetermined	Undetermined
Overfishing Limit (OFL)	Undetermined	Undetermined
Optimum Yield (OY)	Undetermined	Undetermined
Acceptable Biological Catch (ABC)	1,775 mt	2,000 mt
Annual Catch Limit (ACL)	1,775 mt	2,000 mt
Total Allowable Landings (TAL)	1,775 mt	2,000 mt

1.0 INTRODUCTION

The purpose of this action is for the New England Fishery Management Council (Council or NEFMC) to establish an acceptable biological catch (ABC) and set specifications for the Atlantic deep-sea red crab fishery for fishing years (FY) 2020-2023.

The action is needed to manage the fishery and prevent overfishing, pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (MSA). In addition, this action is needed to align the specifications process with the revised 4-year assessment cycle recommended by the Northeast Region Coordinating Council (NRCC).

2.0 PURPOSE OF THE SUPPLEMENTAL INFORMATION REPORT

This Supplemental Information Report (SIR) is used to determine whether the proposed action will require the Council and the National Marine Fisheries Service (NMFS) to supplement the Environmental Assessment (EA) that was prepared for Amendment 3 to the Red Crab FMP in 2011 as required under the National Environmental Policy Act (NEPA).

In deciding the need for additional analysis under NEPA, NMFS has considered and has been guided by the Council on Environmental Quality (CEQ) NEPA regulations and applicable case law. The CEQ regulations state "[a]gencies shall prepare supplements to either draft or final environmental impact statements if: (i) the agency makes *substantial* changes in the proposed action that are relevant to environmental concerns; or (ii) there are *significant* new circumstances or information relevant to environmental concerns *and* bearing on the proposed action or its impacts." 40 C.F.R. § 1502.09(c) (emphasis added). In addition, NMFS has considered CEQ's "significance" criteria at 40 C.F.R. § 1508.27 to determine whether any new circumstances or information are "significant," thereby requiring supplementation of the Amendment 3 EA.

This document describes the proposed action and determines if it fits within the scope of the alternatives and analyses presented in the 2011 EA, considering whether there are any significant new circumstances or information that are relevant to environmental concerns and have a bearing on the proposed action or its impacts. For consideration of new circumstances and information, the Council's Atlantic Deep-Sea Red Crab Plan Development Team (PDT) has consulted with the Greater Atlantic Regional Fisheries Office's (GARFO) Protected Resources, Analysis and Program Support and Sustainable Fisheries divisions, GARFO's Environmental Analyses and NEPA Program, and Council habitat staff.

3.0 PROPOSED ACTION

The proposed action is to establish the ABC, annual catch limit (ACL) and total allowable landings (TAL) for the Atlantic deep-sea red crab fishery for FY 2020-2023 at 2,000 mt, which is a 12.7 % increase over the current TAL of 1,775 mt. This action also incorporates an administrative change in the specifications cycle from 3 years to 4 years.

Rationale: This proposed action would allow the fishery to capitalize on favorable market conditions. Recent landings, landings per unit of effort (LPUE), port samples, discard

information, and economic data suggest biological and economic stability in the size of the red crab stock since Amendment 3 was implemented in 2011. After reviewing this information presented by the PDT, the Council's Scientific and Statistical Committee (SSC) recommended setting the ABC slightly above the long-term (1974-2008) average landings of the directed red crab fishery (2,000 mt) for FY 2020-2023 (Table 1). The SSC noted that the fishery has routinely been operating under the current ABC/TAL. The SSC also commented on the steady performance of the fishery under the existing ABC with no negative signals (e.g. consistent pattern of distribution of egg bearing and non-egg bearing females). Maximum sustainable yield (MSY) and the overfishing limit (OFL) remain unknown.

The change in the specifications cycle from 3 years to 4 years resulted from a NOAA Fisheries request to the NRCC to evaluate the prioritization and scheduling of stock assessments in the Northeast. Since 2007, the Northeast Fisheries Science Center (NEFSC) has informed the other members of the NRCC that it did not have the resources for all the assessments the Councils and the Atlantic States Marine Fisheries Commission needed for the Councils to meet the reauthorized 2006 MSA requirements to set annual catch limits for all managed stock or stock complexes.

In response, the NRCC developed a stock assessment prioritization process to identify assessment needs and schedule stock assessments. In 2018, the NRCC unanimously approved a new assessment process that established a research track for assessments using new models and research findings, and a management track for assessments using previously approved methods with limited modifications.

The prioritization process, which considered 17 biological, economic/social, and scientific characteristics of each stock as well as scientific resource limitations and management needs for assessments. It also changed the frequency of the management track assessments for many stocks resulting in more frequent management track assessments for some, no changes for others, and less frequent assessments for a third group. Because of its low level of biological information, relatively low economic value, and lower biological vulnerability, and also because of constraints on scientific resources, the NRCC changed the Atlantic deep-sea red crab assessment from a 3-year to a 4-year assessment cycle. Consequently, the Council is proposing to change the management specifications to coincide with the new 4-year assessment cycle.

Table 1. Proposed red crab specifications for FY 2020-2023

	Proposed Action
Maximum Sustainable Yield (MSY)	Undetermined
Overfishing Limit (OFL)	Undetermined
Optimum Yield (OY)	Undetermined
Acceptable Biological Catch (ABC)	2,000 mt

Annual Catch Limit (ACL)	2,000 mt
Total Allowable Landings (TAL)	2,000 mt

4.0 BACKGROUND

Deep-sea red crab is a data poor stock. The Data Poor Stocks Working Group (DPSWG) last assessed red crab in 2009, and there have been no updates to the assessment or specifications methods. The ABC, Annual Catch Limit (ACL), and TAL limit from FY 2010-2019 were based on average long-term (1974-2008) landings of the directed red crab fishery.

4.1 Original Atlantic Deep-Sea Red Crab Fishery Management Plan and Modifications

The Deep-Sea Red Crab Fishery Management Plan (FMP) was implemented in 2002. The management unit specified in the Red Crab FMP includes red crab (*Chaceon quinquedens*) in U.S. waters of the Atlantic Ocean from 35˚ 15.3' N. lat. (the approximate latitude of Cape Hatteras Light, North Carolina) northward to the U.S./Canada border. It originally included a target total allowable catch (TAC) limit, limited access permits and trip limits based on historical participation, days-at-sea (DAS) allocations for the limited access fleet, a prohibition on retaining more than 100 lbs of female red crab, as well as gear requirements and other restrictions.

Framework Adjustment 1 to the Red Crab FMP modified the annual review process to allow specifications to be set for up to three years (August 31, 2005). Amendment 1 incorporated the Standardized Bycatch Reporting Methodology (SBRM) (February 27, 2008), and Amendment 2 is reserved for the Council's Essential Fish Habitat Omnibus Amendment 2 (OHA2) (April 9, 2018). Amendment 3 to the Red Crab FMP ensured consistency with the ACL and accountability measure (AM) requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), removed the trip limit restriction, and replaced the target TAC and DAS allocation with a TAL (September 29, 2011). Amendment 4 to the Red Crab FMP revised the SBRM (June 30, 2015). Amendment 5 is the Omnibus Industry-Funded Monitoring Amendment and Environmental Assessment (EA; ongoing). Amendment 6 is the Omnibus Deep-Sea Coral Amendment, which is expected to be finalized in late 2019/early 2020.

The TAL proposed in Amendment 3 was the same as the landings limit that was in place for the FY 2010 specifications (NEFMC, 2011).[1] The long-term average landings were determined to be sustainable by the DPSWG and were recommended as the ABC for red crab by the SSC. Amendment 3 also included measures to eliminate DAS, eliminate trip limits, and modify the trap limit regulatory language.

[1] The Council approved an in-season adjustment to the red crab TAL and DAS in September of 2013, which was the first year the TAL was set at 1,775 mt with corresponding 665 DAS (75 FR 49420, August 13, 2010). The previous TAL was 1,615 mt (75 FR 27219, May 14, 2010).

The specifications alternative in Amendment 3 to the Red Crab FMP (FY 2011-2013) had positive impacts on the red crab stock because the landings level would maintain a healthy red crab resource while preventing overfishing. This preferred alternative was determined to have negligible impacts on non-target species, protected resources, and the physical environment because the fishery has very little bycatch, a relatively minimal impact on habitat, and minimal known interactions with protected resources. The amendment had uncertain but likely positive impacts on human communities by maintaining a sustainable red crab resource and by making it possible for the red crab fleet to increase efficiency and safety by not being pressured to maximize the productivity of each DAS. Section 6.0 of this document provides details on the impacts of the proposed action on each of the Valued Ecosystem Components (VECs).

4.2 Assessment Process

The most recent peer-reviewed scientific advice applicable to the red crab fishery was produced by the DPSWG and the associated Peer Review Panel, which met in December 2008 and issued its report on January 20, 2009. The DPSWG was tasked with recommending Biological Reference Points (BRPs), measurable BRPs and MSY to consider when recommending catch limits.

The methods used by the DPSWG are explained in a working paper that is available at http://www.nefsc.noaa.gov/publications/crd/crd0902. The DPSWG produced estimates of sustainable yield that approximated recent and long-term average annual landings, leading the DPSWG to "recommend a catch limit that mimics both recent and long term mean annual landings." The Council's Red Crab PDT further analyzed the methods used by the DPSWG and determined that estimates of sustainable yield from the Depletion Corrected Average Catch (DCAC) model are likely to be less than MSY. The SSC, therefore, concluded "the information available for red crab is insufficient to estimate MSY or OFL." In lieu of an estimate of OFL, the SSC recommended an ABC based on the long-term average landings of male red crab. The SSC noted that the two survey estimates of abundance and their variance do not provide evidence of significant depletion of currently market-sized males from 1974 to 2003-2005.

Further, the SSC determined that there is insufficient data to determine the historic level of discards and discard mortality that accompanied the historic landings that were used to establish the ABC. However, the SSC concluded that the historical landings of male red crab and historical discarding practices appear to be sustainable, and that an interim ABC based on long-term average landings (1,775 mt) is safely below an undetermined overfishing threshold and adequately accounts for scientific uncertainty. Section 6.1.1.1 of Amendment 3 analyzes the overfishing/overfishing status, and determined that it is unknown whether red crab are overfished, but that overfishing is not occurring. The TAL for FY 2011-2013 was set at 1,775 mt in Amendment 3 (76 FR 60379; September 29, 2011). All specification values assume a male-only directed fishery; regulations prohibit possession of female crabs.

4.3 Fishing Years 2017-2019 Specifications

In 2016, the Red Crab PDT analyzed updated landings, LPUE, port samples, discard information, and economic data in the process of setting the specifications for FY 2017-2019. The PDT analysis determined there was no significant change in the size of the red crab stock

since Amendment 3 was implemented in 2011. Based on this analysis, the SSC recommended the status quo ABC for FY 2017-2019 of 1,775 mt for the directed fishery on August 10, 2016. The specifications were analyzed in a supplemental information report (NEFMC 2016b) and NMFS published the final rule in February (82 FR 11322; February 22, 2017).

5.0 NEW INFORMATION AND CIRCUMSTANCES

The proposed action analyzed in this document is a 12.7% (225 mt) increase in the TAL to 2,000 mt. The previous TAL (1,775 mt) had been place since halfway through FY 2010; the first half of FY 2010 had a TAL of 1,615 mt. This section considers sources of new information and circumstances directly related to the proposed action for the following Valued Ecosystem Components: target species (red crab), non-target species (bycatch), physical environment and Essential Fish Habitat (EFH), protected resources, and human communities.

5.1 Target Species (Red Crab)

5.1.1 Updated Red Crab Landings, LPUE, Port Samples, and Observer Data

Red crab landings have remained relatively stable from 2016-2018, with an increase in 2018, where landings were approximately 95% of the TAL (Figure 1). Incidental landings by vessels not targeting red crabs were nearly zero. Based on Vessel Trip Report (VTR)-reported statistical area fished, landings were assigned to one of three fishing regions: Georges Bank and southern New England (1), New York, New Jersey, Delaware and Maryland (2), and Virginia and North Carolina (3) (Figure 2). Annual landings by region is one measure of the spatial extent of the fishery. Since 2013, landings have started increasing from Region 2, compared with early years in the fishery when most of the landings were concentrated from Region 1 (Figure 3). Landings from Region 3 have stabilized since 2013 after being highly variable in previous years.

Figure 1. Red crab landings 2002-2018. The red dashed line represents the TAL of 1,775 metric tons (mt), the red solid line is red crab permitted vessel landings, and the blue line is incidental landings from other fisheries. Landings data come from VTR data accessed May, 2019. There is a negligible difference between dealer and VTR landings in recent years.

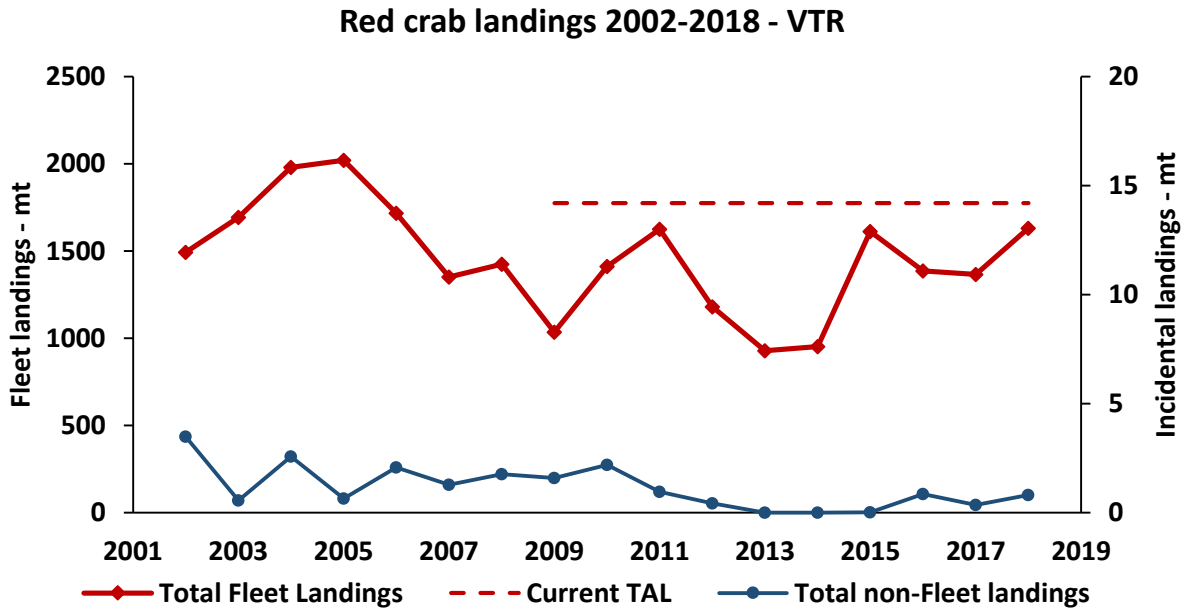


Figure 2. Statistical area groups used to determine the region where red crabs are caught. They roughly cover Georges Bank and southern New England (1), New York, New Jersey, Delaware and Maryland (2), and Virginia and North Carolina (3).

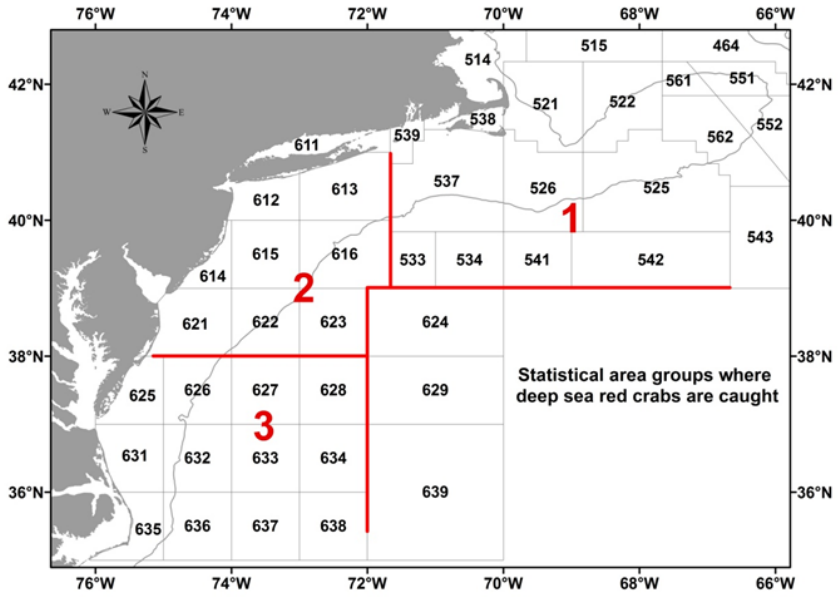
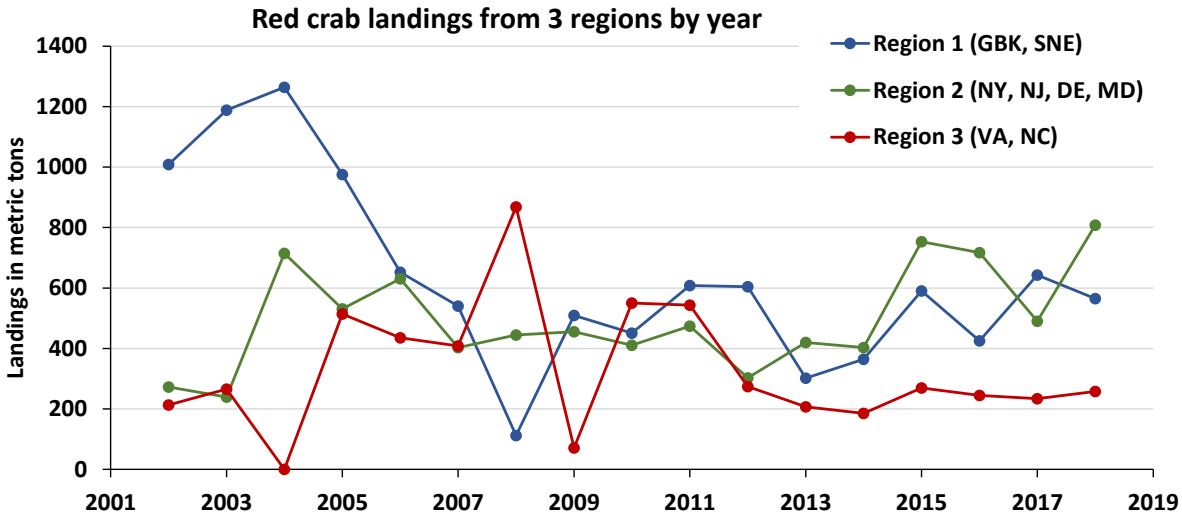


Figure 3. Red crab landings 2002-2018 from each of three regions. Landings data come from VTR data accessed May, 2019.



Average landings per unit effort (LPUE), estimated using VTR-reported haul and gear data, has fluctuated between 15 to 25 pounds per trap hauled since 2002. LPUE has been fairly consistent overall and across regions (for similar trips, when compared to each other, i.e., longer trips for the processing market and the shorter trips for the live market), though there has been a slight decrease since 2017 (Figure 4).

LPUE by region is similar for Regions 1 and 2 but more variable in Region 3, perhaps due to different market conditions, and therefore trip types, in that region (Figure 5). In addition to regular trips for crab to be processed, the fishery started taking shorter trips in 2016 to target crabs for the live market (orange columns in Figure 5). Section 5.5.5 has more information on the markets for these two products.

There are some caveats with LPUE estimates due to variability in reports; however, the method used to estimate LPUE has been consistent since 2006. Landings per day absent are also calculated and are very similar in trend to landings per trap. However, since landings per day absent have varying steam times to account for, they are not as true an indicator of resource condition as landings per trap.

LPUE is used for red crab instead of catch per unit effort (CPUE) because "catch" includes both kept and discarded crabs, and an accepted method of estimating total weight of discarded crabs (such as SBRM) has not been developed. For red crab, LPUE is a better indicator of the availability of market-sized animals. First, the way red crabs are distributed seasonally and by sex leads to variable discard amounts which are not necessarily linked to abundance. Second, there are reasons for discards, especially in a trap fishery, that are unrelated to the size or sex of the crabs such as crabs in traps being in warm surface water over a certain length of time. Culling patterns can also alter the discard amounts. However, the combination of discard weight and discard reason provides valuable information about the population.

Figure 4. Red crab LPUE in live pounds caught per trap hauled for all trips, 2002-2018. Estimated using VTR data. The orange columns represent a single vessel that makes short trips for the live market, which should not be compared to the longer trips that land red crabs for processing.

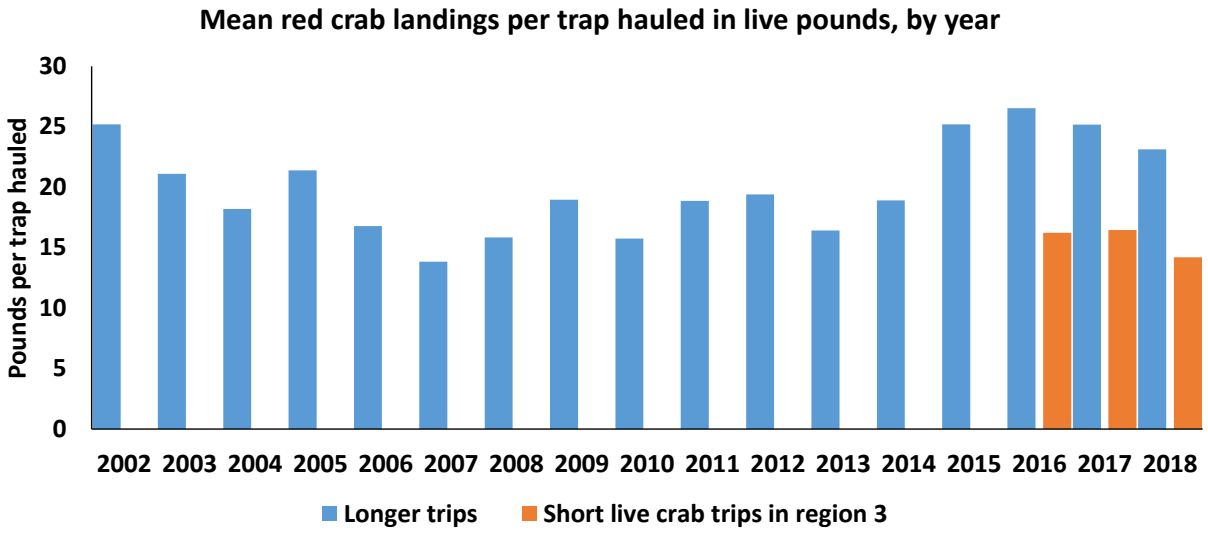
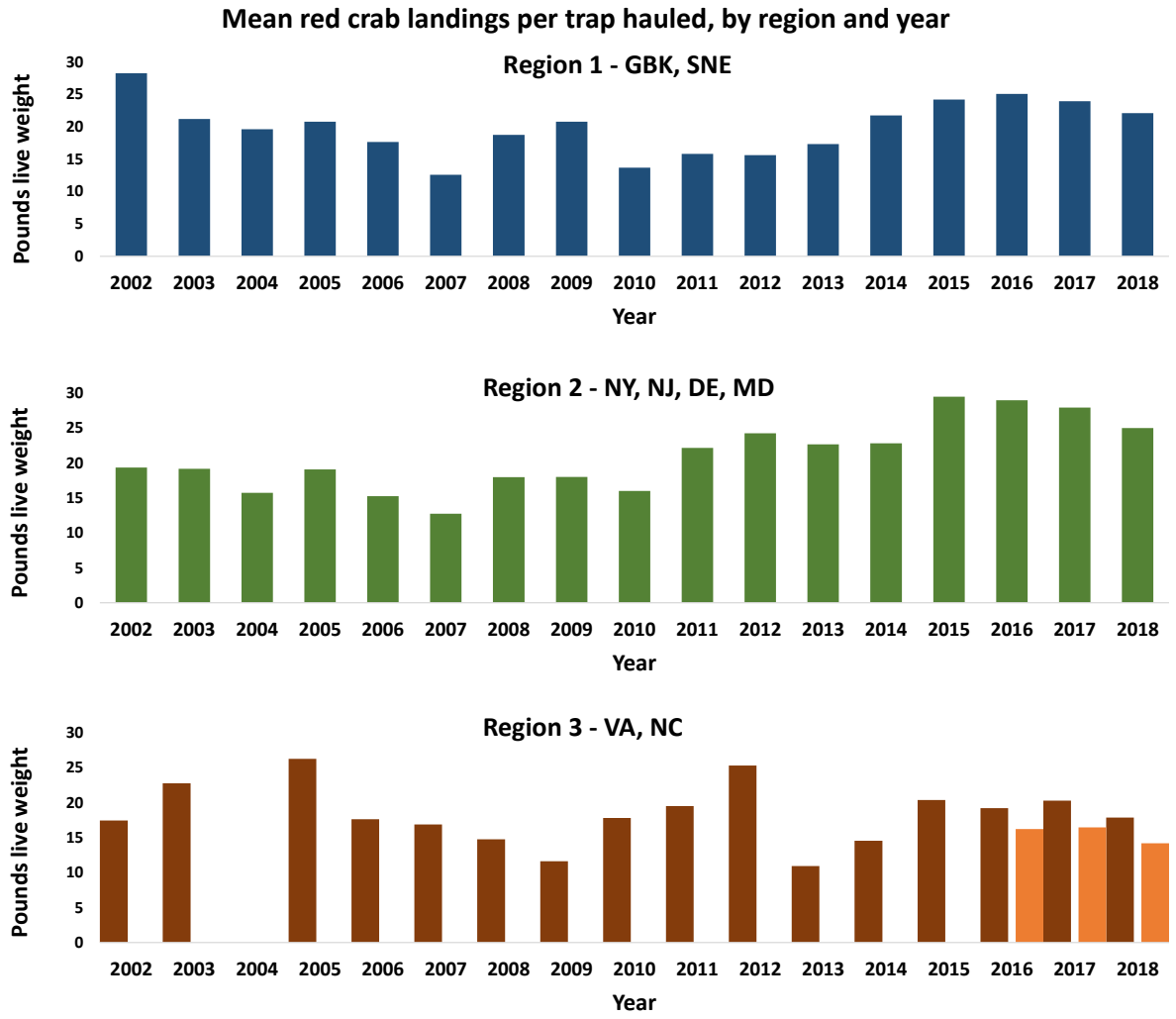


Figure 5. Red crab LPUE in live pounds caught per trap hauled for all trips by region, 2002-2018. Estimated using VTR data. The orange columns represent a single vessel that makes short trips for the live market.



Aggregated port sampling data indicate that the mean size of landed males has increased since 2013 (Figure 6). This may be due to market demand. When port sampled length frequencies are plotted by year and region, this trend of landing larger crabs is true across all regions, with the largest crabs landing from Region 3 (Figure 7).

The red crab fishery is market driven. When landings are low, it is often because the demand for red crabs has decreased and the fleet has targeted other more profitable species; however, there has been a strong market in recent years. See Section 5.5 for more market and economic information.

Based on the landings, LPUE, and port sampling information from recent fishing years, there is no evidence of a change in the overall red crab stock size. The fishery-dependent data available

do not allow for a measure of recruitment; however, observer coverage has recently increased on red crab vessels, and provides insight into recruitment (Section 5.1.4).

Figure 6. Mean red crab (males) carapace widths in millimeters (mm), 2001-2018. Port agents sample during the year and in all regions.

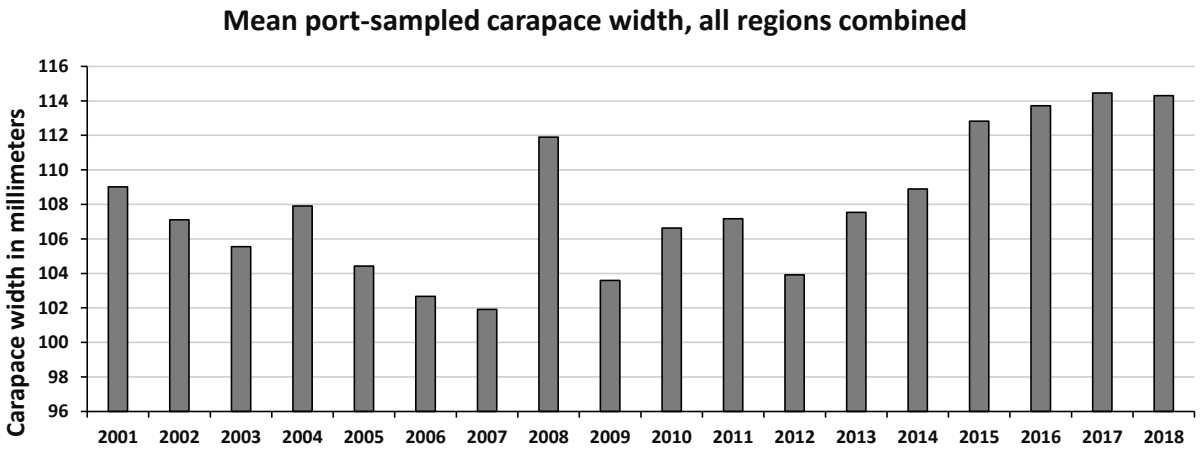
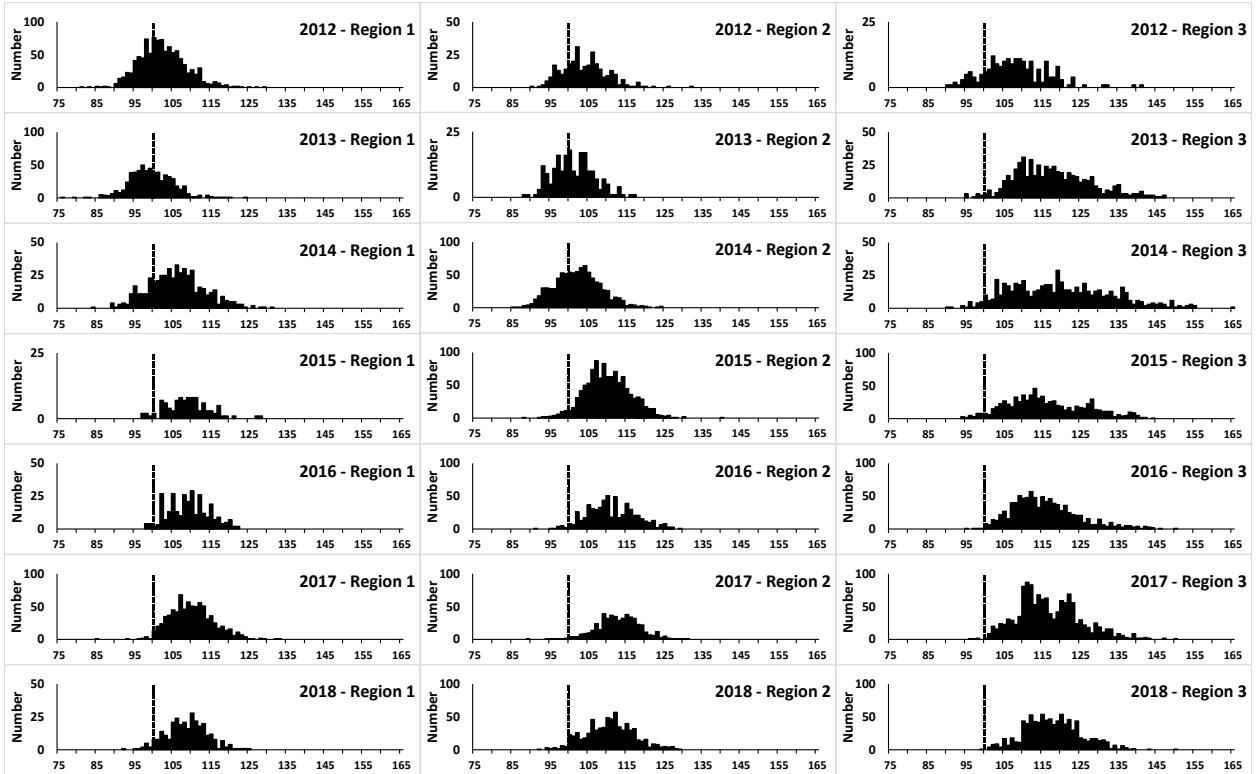


Figure 7. Carapace-width frequencies of port-sampled red crabs in 2002-2018, by region. Region 1 (GBK, SNE) in the left column, Region 2 (NY, NJ, DE) in the middle column, and Region 3 (MD, VA, NC) in the right column. The black line is at 100 millimeters, just to use for comparison. Numbers of crabs sampled does not relate to landings.



5.1.2 Red Crab Discards

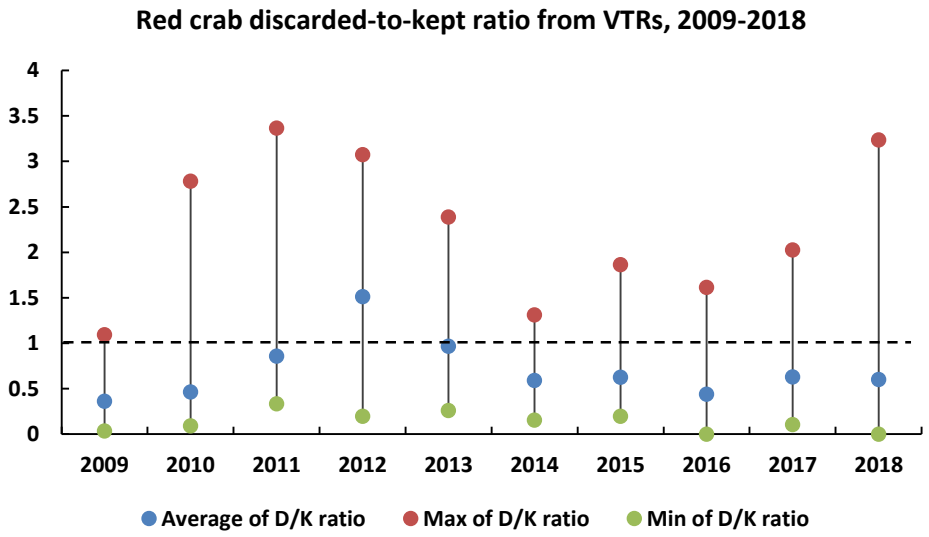
VTR data of red crab discards are highly variable and uncertain. Variability is caused by culling for preferred market sizes, the depth and location of the gear, the time of year, and amount of attention given to discard estimation as the traps are handled on deck. In 2013, the SSC concluded that the available monitoring data on discards and research on discard mortality were inadequate to reliably estimate dead discards. Since 2016, there has been an increase in observer coverage of red crab vessels, and observer data confirm discards remain highly variable. Thus, the best scientific information available for deriving ABC continues to be the time series of landings, since there have been no updates to calculating discard mortality rates or new research on discard mortality.

Over the last ten years, VTR reporting rate of discards has increased to 100% of red crab fleet trips reporting estimated red crab discard weights (Table 2), although discard rates remain highly variable. The annual mean estimated discarded-to-kept ratios from 2009-2018 vary from 0.36 to 1.51, with a mean of 0.71. Figure 8 shows the mean discard to kept ratio for 2009 through 2018, from a period when the number of trips reporting discards was over 50%. Discards likely vary between fishing regions and vessels.

Table 2. The number of directed red crab trips and the percentage where the VTR log included both red crab landings and an estimate of red crab discards (2002-2018).

	Number of red crab trips	Percentage of red crab trips reporting discards
2002	58	28
2003	58	28
2004	71	56
2005	63	44
2006	62	50
2007	53	34
2008	55	25
2009	43	56
2010	54	94
2011	55	89
2012	47	98
2013	44	89
2014	42	100
2015	57	100
2016	76	100
2017	75	100
2018	78	100

Figure 8. Mean annual discard rates of red crabs expressed as the ratio of VTR-reported discarded weight of red crab to VTR-reported landed weights of red crab (blue dots). The dashed line represents the one-to-one ratio, and the red and green dots represent maximum and minimum values.



5.1.3 Observer Data

Since 2016, the Northeast Fisheries Observer Program (NEFOP) has increased its allocation of observers to red crab trips. Observer data provide information not available from any other source, since there is no regular fishery-independent survey that includes red crab, and other fishery-dependent data are limited to data collected on VTRs and dealer reports. Observers estimate and record discarded red crabs, measure and sex all the crabs caught in a subset of traps, note females that are carrying eggs, and measure and record species caught other than red crab, among other things. Red crab Region 1 is considered the 'northern region' for observer data, and Regions 2 and 3 are considered the 'southern region' for this analysis (Figure 2).[2]

Analyses of NEFOP data presented in this section are considered preliminary due to the relatively small sample size but provide valuable insight on several aspects of the fishery. For example, observer data from 48 directed red crab trips from July 2016 through February 2019 indicate smaller males (discarded due to market constraints) are caught consistently in red crab traps, which suggests there is a supply of younger crabs to recruit to the fishery in the future (Figure 9).

Length frequency data from 2016-2019 suggest females (which are minimally impacted by the fishery and are more likely to retain their natural length distributions) in Regions 2 and 3 are larger than those in Region 1, which may be evidence for a latitudinal gradient in size (Figure

[2] The sample sizes were too small to divide into the traditional three regions. The line between the northern and southern regions is just north of Hudson Canyon.

10). Observer data from red crab trips can help to examine egg-bearing female length frequencies, estimate discards of undersized and female red crabs, and assess the level of bycatch of other species in the red crab fishery. Figure 11 shows the length frequencies of egg-bearing females in the northern and southern regions.

Figure 9. Carapace-width frequencies of discarded and kept crabs (males only), measured by observers in the northern region, by year.

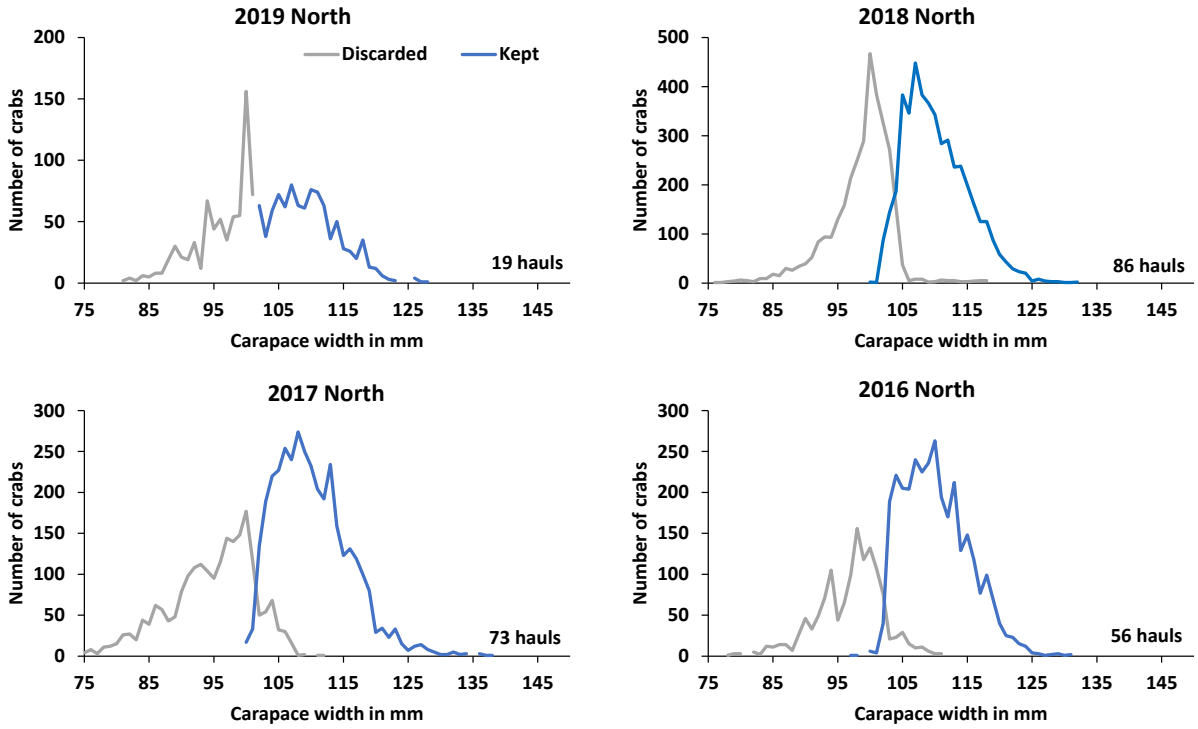


Figure 10. Carapace-width frequencies of female red crabs from the northern and southern regions. All females are discarded since it is a male-only fishery, measured by observers and plotted together by year.

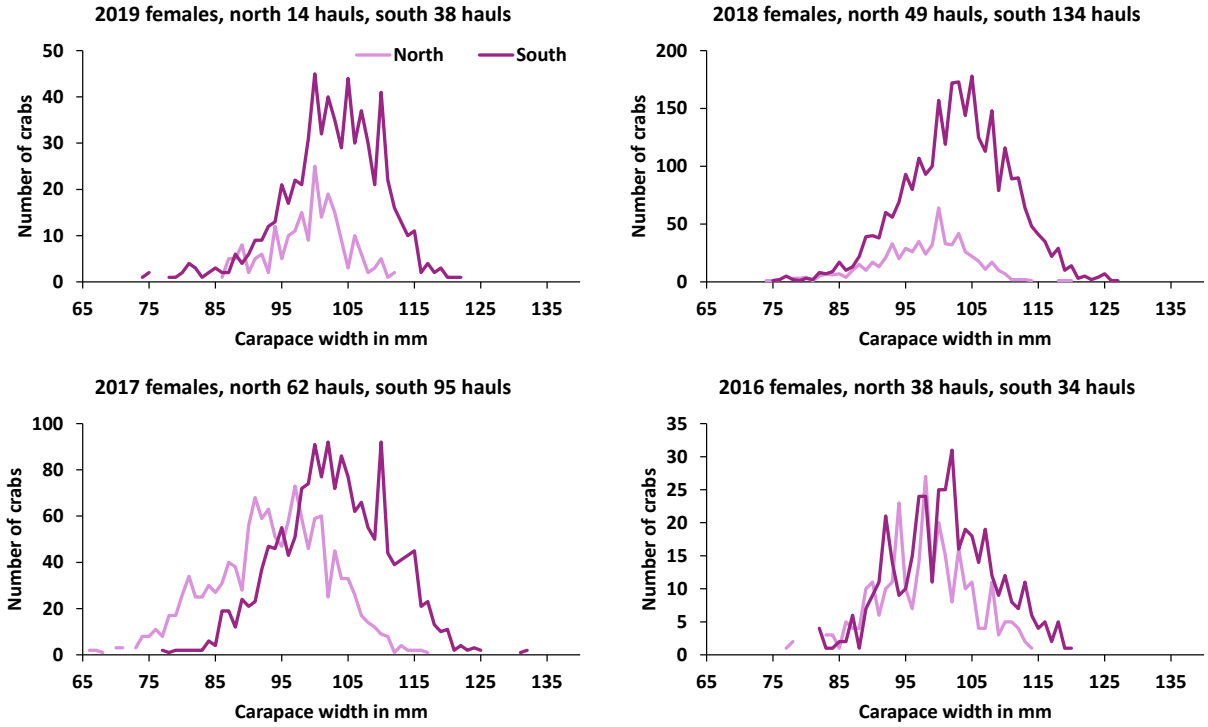
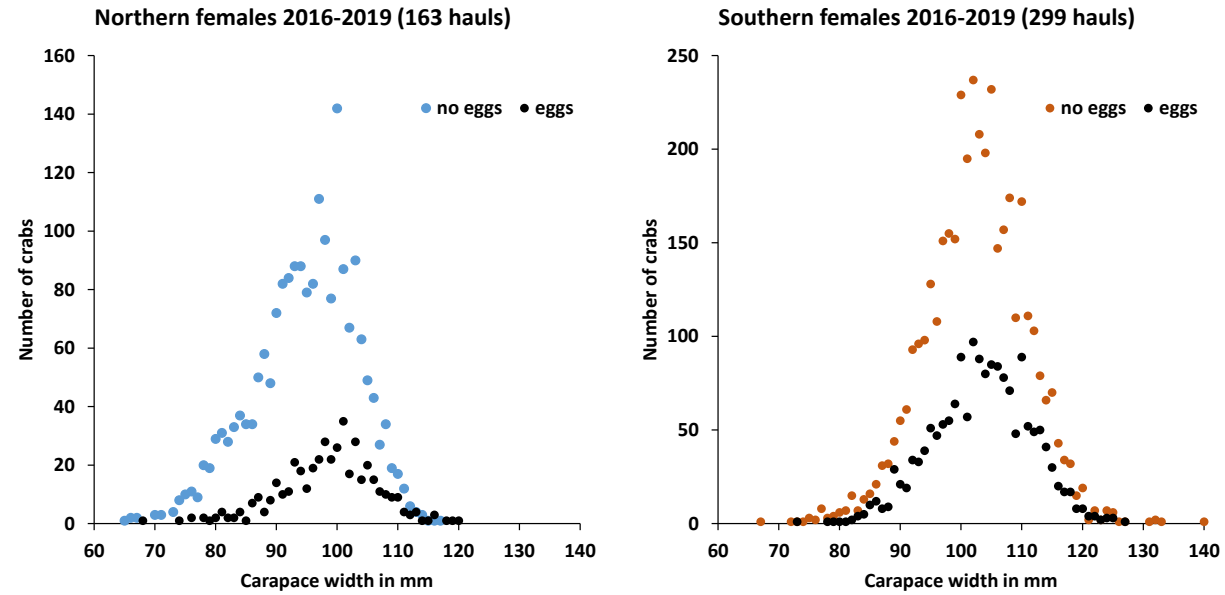


Figure 11. Carapace-width frequencies and presence of eggs of female crabs in the northern and southern regions. The colored dots represent the crabs without visible eggs and the black dots represent the crabs carrying eggs.



5.1.4 Incidental Landings and Discards of Red Crab in Other Fisheries

Adult red crabs inhabit water depths of 400-900 meters on the continental slope, and are found to 2,000 meters on the seamounts. This depth range is below where most fishing takes place, and therefore bycatch in other fisheries is not a major concern.

Prior to FY2010, incidental red crab landings were less than 1% of the TAL (Amendment 3, Section 6.1.2.1). Analysis of vessels with incidental landing permits in the six fishing years (FY 2010-2015) since the Amendment 3 analysis in 2011 showed consistent landings with the previous six years. The proposed TAL is not expected to change incidental landings, which are minimal (less than 100-lbs/trip) and mostly taken home for consumption by crew (Pers. Com. Jon Williams June 2019).

Discards of red crabs in other fisheries are estimated annually using the NEFSC Standardized Bycatch Reporting Methodology (SBRM), which is based on discard data gathered by at-sea observers from a variety of fleets. While variable, the results from July 2011 through June 2018 suggest trawl fleets are typically responsible for most red crab discards in both the New England and mid-Atlantic regions (Table 3), although there was a recent increase in discards from the lobster pot/trap fleet in 2017-2018 (Wigley and Tholke 2019).

The total number of red crab discards from *all* fisheries from July 2017-June 2018 were 152 mt, down from a high of 334 mt in July 2012 – June 2013 (Table 3). From July 2017-June 2018, most red crab discards (70%) were observed in crab pots and traps in the Northeast region, followed by other fleets (24%), and then lobster pots and traps in the Mid-Atlantic region (6%). Of the 'other fleets' discarding red crab, otter trawl fleets are responsible for the majority discards, followed by scallop dredge (Wigley and Tholke 2019). The proposed TAL is not expected to change bycatch or discarding of red crab in other fisheries.

Table 3. Estimated red crab discards by other fisheries by year, in metric tons.

Gear	July 2011 - June 2012	July 2012 - June 2013	July 2013 - June 2014	July 2014 - June 2015	July 2015 - June 2016	July 2016 - June 2017	July 2017 - June 2018
Mid-Atlantic small-mesh otter trawl	47	222	3	0.002	7	19	3
Mid-Atlantic large-mesh otter trawl		3	2	4	3	14	17
New England small-mesh otter trawl						1	
New England large-mesh otter trawl	94	107	37	25	35	108	7
Mid-Atlantic shrimp trawl				77	37	7	80
New England large-mesh gillnet	0.2	0.08	0.08	0.04			
Scallop dredge	0.05	0.7	0.01	0.9			
Lobster pots and traps		0.6	4		23	6	45
Total estimated discards by other fleets (mt)	141	334	46	108	104	154	152

5.2 Non-Target Species (bycatch)

Section 6.1.2.3 of Amendment 3 to the Red Crab FMP noted very little bycatch of other species in the red crab fishery, and in general, little interaction with non-target species. Recent observer data (2016-2019) indicate there is still minimal bycatch of non-target species in the red crab fishery, including, but not limited to: Jonah crabs, lobster, white hake, and monkfish. All bycatch since 2016 has been well under the incidental trip limits for managed species (e.g., aside from Jonah crab, discards of managed species have been under 16 pounds a year).

5.3 Physical Environment and Essential Fish Habitat

5.3.1 Essential Fish Habitat

The 2002 Red Crab FMP (Section 3.7.4) described Essential Fish Habitat (EFH) for red crab. The EFH designations for red crab eggs, larvae, juveniles, and adults were revised in 2018 through the Omnibus Essential Fish Habitat Amendment 2 (OHA2, Amendment 2 to the Red Crab FMP). The updated EFH designations (Table 4, see OHA2 Volume 2, Section 2.2.7) are based on a re-evaluation of published size and sex-specific data collected during a 1974 NMFS deep-water trawl survey and on observations of red crabs on two seamounts during remotely operated vehicle surveys (NEFMC 2016a). Bear Seamount was surveyed in 2000, 2002, and 2003 (Moore et al. 2003 and Moore et al. 2004). Retriever Seamount was surveyed in 2004 with the Hercules remotely operated vehicle (Pers. Com. Peter Auster 2005).

Table 4. Summary of red crab EFH designations as updated in OHA2

Lifestage	Text description	Notes
Eggs	Red crab eggs are brooded attached to the underside of female crabs until they hatch into larvae and are released into the water column. The EFH designation for red crab eggs is the same as the known distribution of egg-bearing females (320 – 640 meters) along the outer continental shelf and slope (see maps in OHA2 Vol.2).	Depth range where catches of female crabs were higher
Larvae	Near-surface water habitats on the outer continental shelf and slope and over Bear and Retriever seamounts across the entire depth range identified for the species (320 - 1300 meters on the slope and down to 2000 meters on the seamounts).	Depth range where the juveniles and adults were most commonly caught
Juveniles	Bottom habitats with unconsolidated and consolidated silt-clay sediments at depths of 320 - 1300 meters in submarine canyons and on the continental slope, and to a maximum depth of 2000 meters on Bear and Retriever seamounts.	Depth range where juveniles were most common
Adults	Bottom habitats with unconsolidated and consolidated silt-clay sediments at depths of 320 - 900 meters in submarine canyons and on the continental slope, and to a maximum depth of 2000 meters on Bear and Retriever seamounts. Red crabs generally spawn on the slope at depths of 320 – 640 meters.	Depth range where adults were most common

OHA2 includes a detailed assessment of fishing impacts to habitat by gear type. The vulnerability assessment in OHA2 (NEFMC 2011b) concluded that the impacts of trap gear on

seafloor habitats are generally minimal and temporary, especially as compared to mobile bottom-tending gears, and are likely similar to other fixed gears such as longlines and gillnets. It should be noted that the fixed gear impact assessments, although peer-reviewed, were relatively data poor and informed in large part by professional judgment. The assessment also estimated that federally-reported trap gear fishing is responsible for only 1% of the overall bottom contact associated with bottom tending gears region-wide. The red crab trap fishery accounts for less than 1% of VTR-reported trips and less than 2% of trap days absent during the period 2008-2015.

Deep-sea habitats, including those occupied by red crab, can be particularly vulnerable to the effects of fishing due to the presence of deep-sea or cold-water corals and other slow-growing organisms. These corals are a conservation target in their own right (see Section 5.3.2 below) but also provide essential habitats for target and non-target fishery species. Certain species of corals are highly susceptible to impacts from fishing gear, given their vertical relief off the seafloor and branching structure, and may take a long time to recover from damage given slow growth rates and low reproductive output. While more data are needed to fully evaluate the possible habitat impacts of the red crab fishery, based on currently available information, the fishery's impact on seafloor habitats, including on designated EFH, appears to be minimal.

5.3.2 Deep-Sea Corals, Canyons and Seamounts

As described above, the red crab fishery is prosecuted in relatively deep water along the entire northeast shelf edge, from eastern Georges Bank to Virginia. Within this region, the continental slope is incised by roughly forty named canyons, which are steeply sloped and have exposed hard substrates that provide suitable attachment sites for deep-sea corals. As noted above, many types of corals are vulnerable to anthropogenic impacts including fishing. Inter-canyon areas tend to be dominated by softer sediments and have different faunal associations (Quattrini et al. 2015). Red crabs are found in canyons as well as inter-canyon areas of the slope. Seamounts, which are extinct underwater volcanoes formed along previously active subduction zones, also harbor corals and other deep-sea fauna. Four seamounts in the New England seamount chain lie within the U.S. Exclusive Economic Zone (EEZ).

In recent years, substantial scientific and policy efforts have been focused on these deep-sea habitats. The 2007 reauthorization of the Magnuson-Stevens Act (MSA) grants fishery management councils discretionary authority to protect deep-sea coral habitats from the negative effects of fishing. In the northeast, the period from 2012-2015 saw significant advances in mapping and exploration of the canyons, slope, and seamounts, and deep-sea corals and various other fauna were documented using remotely operated vehicles, autonomous underwater vehicles, and towed camera systems in previously unexplored locations. This scientific work is ongoing and includes modeling studies to estimate locations of suitable deep-sea coral habitats. All three Atlantic coast fishery management councils, in addition to numerous environmental non-governmental organizations, have active coral conservation initiatives.

The NEFMC began work on management approaches to protect deep-sea coral in 2010, and the final regulations are expected to be implemented by early 2020.[3] The Deep-Sea Coral Amendment includes management areas in the canyons, on the seamounts, and along the slope, as well as in the Gulf of Maine. The New England amendment covers areas from Alvin Canyon offshore Rhode Island east to the EEZ (red crab Region 1). The proposed regulations include an indefinite exemption for the red crab fishery. Figure 12 shows the coral management zones for both New England and the Mid-Atlantic.

The Mid-Atlantic Fishery Management Council (MAFMC) coral management zones went into effect on January 13, 2017, and cover areas west of Alvin canyon to southern Virginia (red crab regions 2 and 3). The zones include a larger 'broad' area, the Frank R. Lautenberg Deep-Sea Coral Protection Area, and smaller discrete canyon zones nested within the broad zone. The red crab fishery has been exempted from fishing regulations in the management zones to date. However, the MAFMC may reconsider the red crab exemption from fishing regulations in discrete zones (canyons), but not the entire slope. Both the broad and discrete zones are listed at 50 CFR §648.372.

In addition to Council actions protecting deep-sea habitats in New England, President Obama designated the Northeast Canyons and Seamounts Marine National Monument on September 15, 2016 (Figure 13). This was the first National Monument in the Atlantic Ocean, which was designated using the President's authority under the Antiquities Act of 1906. The Monument includes two distinct areas, one encompassing canyons (Oceanographer, Gilbert, Lydonia, and other minor canyons) and the other covering four seamounts (Bear, Physalia, Retriever, and Mytilus). The Monument overlaps Region 1 of the red crab fishery. Under the designation, the red crab and American lobster fisheries can continue fishing within the Monument for up to seven years (through September 15, 2023), but all other commercial fisheries are prohibited.

Department of Fisheries and Oceans (DFO) Canada has implemented conservation measures to protect coral and sponge habitats in their waters. In September 2016, DFO designated coral management zones that include regulations for the Canadian red crab fishery. The Corsair and Georges Canyons Conservation Area is 9,106 square kilometers (km^2) (extending 300 m to the EEZ) and is adjacent to the NEFMC's proposed Georges Bank Deep-Sea Coral Protection Area (NEFMC 2019). Surveys in this Conservation Area have documented a variety of corals and other vulnerable deep-sea species. All bottom contact fishing is prohibited in this Conservation Area, except for two small 'limited fishing' zones located next to Georges Canyon which allow red crab fishing. The Jordan Basin Conservation Area is 49 km^2 in the eastern portion of Jordan Basin. It provides protection for two prominent bedrock ridges and contains high densities of soft corals (including the species *Primnoa resedaeformis*) and other sensitive filter feeding invertebrate communities, as well as providing habitat for other species of finfish and shellfish. This Conservation Area is closed to all bottom-contact fishing activity, including red crab fishing.[4] It has similar physical and biological features as the coral habitats under NEFMC's

[3] When the final rule is published, NEFMC's Georges Bank, Mt. Desert Rock, and Outer Schoodic Ridge Deep-Sea Coral Protection Areas will be available at 50 CFR §648.373.

[4] http://www.dfo-mpo.gc.ca/oceans/ceccsr-cerceef/measures-mesures-eng.html

jurisdiction in the western and central parts of Jordan Basin. Through the deep-sea coral amendment, NEFMC designated a coral research area in Jordan Basin but there are no fishing gear restrictions associated with the Jordan Basin Dedicated Habitat Research Area.

Figure 12. Coral Management Zones and Red Crab Fishing Areas in New England and the Mid-Atlantic

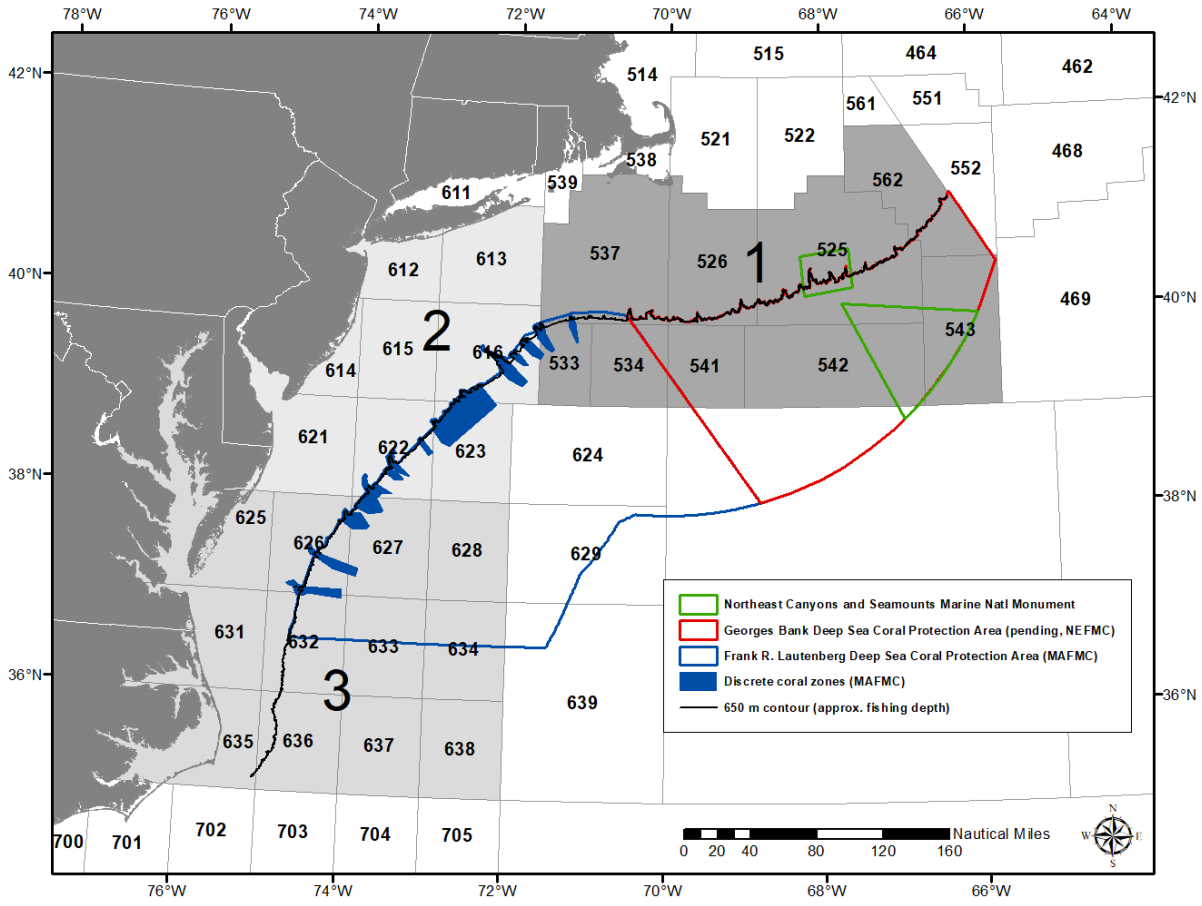
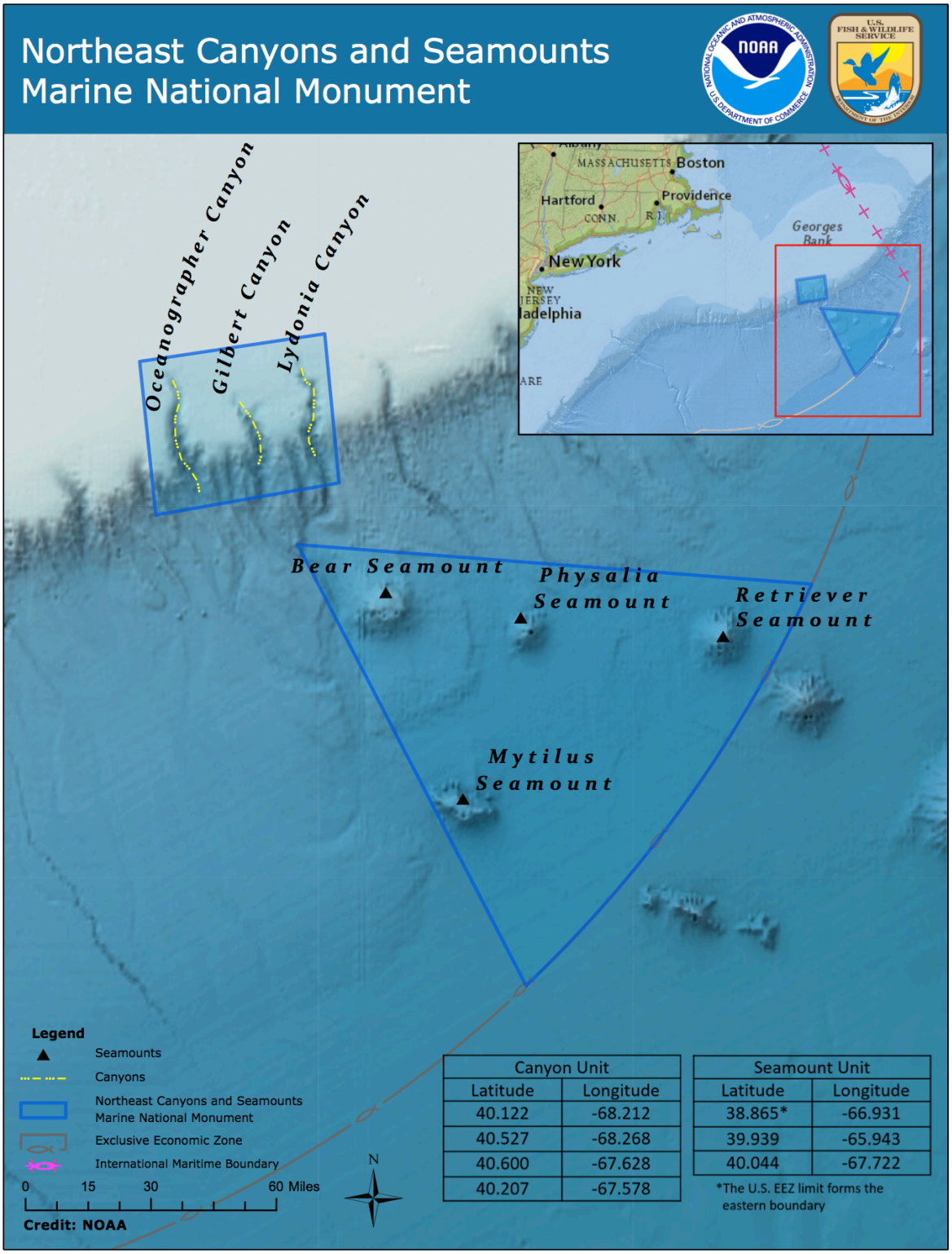


Figure 13. Northeast Canyons and Seamounts National Monument



5.4 Protected Resources

There are numerous species that inhabit the environment within the red crab management unit and are afforded protection under the Endangered Species Act (ESA) (i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act (MMPA); see Section 6.2.2 of the Amendment 3 EA (NEFMC 2011) and Section 8.2 of the Red Crab FMP (NMFS 2002) for a list of those species and additional information. Section 5.5 of the 2017-2019 red crab specifications (NEFMC 2016) provides new information and circumstances for ESA listings and critical habitat within the environment utilized by the red crab fishery since the Amendment 3 EA (NEFMC, 2011). This information is still current and thus incorporated by reference.

In 2002, NMFS issued a Biological Opinion (Opinion) on the Red Crab FMP (NMFS 2002). The 2002 Opinion, which considered the best available information on ESA listed species and observed or documented ESA listed species interactions with gear types used to prosecute the red crab fishery, concluded that the red crab fishery may adversely affect, but was not likely to jeopardize the continued existence of any ESA listed species or destroy or adversely modify critical habitat designated for North Atlantic right whales. Up until recently, the 2002 Opinion remained in effect; however, new information on North Atlantic right whales has been made available that may reveal effects of the red crab fishery that may not have been previously considered in the 2002 Opinion (Pace et al. 2017). Specifically, Pace et al. (2017) revealed a recent decline in North Atlantic right whale abundance. Given this, per an October 17, 2017, ESA 7(a)(2)/7(d) memo issued by NMFS, the 2002 Opinion has been reinitiated. However, the October 17, 2017 memo concludes that allowing this, and several other fisheries to continue during the reinitiation period will not increase the likelihood of interactions with ESA listed species above the amount that would otherwise occur if consultation had not been reinitiated, and therefore, the continuation of these fisheries during the reinitiation period would not be likely to jeopardize the continued existence of any ESA listed species. Until replaced, the Red Crab FMP is currently covered by the October 17, 2017 memo.

In response to the recent decline in the North Atlantic right whale population, NMFS, pursuant to the MMPA, is seeking modifications to the Atlantic Large Whale Take Reduction Plan (ALWTRP) to further reduce impacts of U.S. fixed gear fisheries on large whales and reduce mortality and serious injury to below the Potential Biological Removal Level for right whales (i.e., 0.9/year; Hayes et al. 2019). Under the MMPA, the Atlantic Large Whale Take Reduction Team (ALWTRT) met in April 2019 to recommend a suite of measures aiming at a 60 to 80% reduction in risk of serious injury and mortality to right whales. While this process has focused on lobster pot/trap gear to date, red crab pot/traps have been affected by regulations developed through the ALWTRT in the past. NMFS is working with states to develop specific measures, and the proposed rule is expected to be published in late 2019 or early 2020. The schedule of the 2017-2019 red crab specifications is slightly ahead of these actions; therefore, it is unlikely that the final measures will be known before the final red crab specifications are implemented.

5.5 Human Communities

This section updates the socioeconomic description of the fishery in Section 6.3 of Amendment 3 to the FMP, which was as of 2010.

5.5.1 Red Crab Permits and Vessels

As of FY2018, there are four active full time, limited access permits and vessels in the red crab fishery, with one inactive permit and one inactive vessel (one vessel has opted out of the fishery since 2004). There is also an open access permit category that allows incidental landings up to 500 lbs. of red crab per trip regardless of gear type. While there are about 1,300 open access permits issued annually, less than ten have been active annually in recent years.

5.5.2 Effort in the Red Crab Fishery

Fishery effort is described in Section 5.1.1.

5.5.3 Fishery Economics

The market in recent years has been strong, thus the fishery has been close to the Total Allowable Landings (TAL), and there are indications the market could bear more landings if the TAL were to increase. Red crab dealer landings have generally increased from FY2009-2018, with the three most recent years close to or above the ten-year landings average (Table 5, Figure 14). Dealer landings do not include landings for bait or home consumption. The inflation-adjusted price has decreased slightly from FY2009-FY2018, with the three most recent years below the ten-year average. In recent years, more landings have been occurring late in the fishing year, but it is unknown if this is flooding the market, causing a decline in price. The dealer price is the dealer price paid to the vessel. Dealer inflation adjusted revenues fluctuated through time but overall increased, with the three most recent years above the ten-year average.

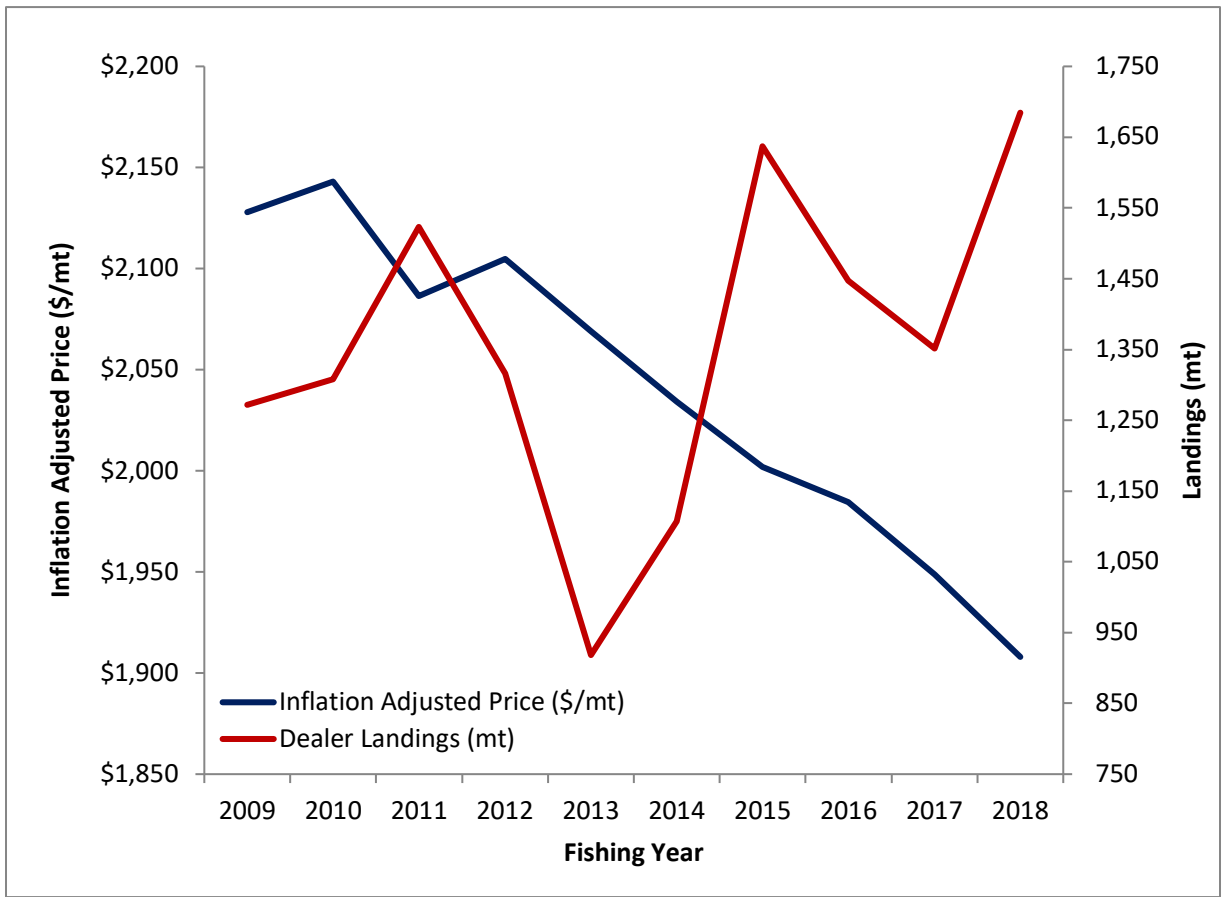
Table 5. Red crab dealer landings, 2010 CPI inflation adjusted price, and estimated dealer inflation adjusted revenue (FY 2009-2018).

Fishing Year	Dealer Landings (live mt)	2010 CPI* Inflation Adjusted Price ($/mt)	Dealer Revenue ($)
2009	1,272	$2,128	$2,685,393
2010	1,308	$2,143	$2,811,807
2011	1,523	$2,086	$3,262,627
2012	1,316	$2,105	$2,900,394
2013	918	$2,069	$2,024,420
2014	1,107	$2,034	$2,440,974
2015	1,637	$2,002	$3,586,613
2016	1,447	$1,985	$3,189,504
2017	1,351	$1,949	$2,978,797
2018	1,685	$1,908	$3,711,759
Annual Average	1,356	$2,041	$2,959,229

Data source: DMIS data (limited access vessels only), Greater Atlantic Regional Fisheries Office, June 24, 2019.

Note: The *Consumer Price Index (CPI) was used to convert nominal dollars to 2010 equivalent dollars is from the Bureau of Economic Analysis Table 1.1.0 (www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1).

Figure 14. Red Crab inflation adjusted price ($/mt) and dealer landings (mt) (FY 2009-2018). *Data source*: DMIS data (limited access vessels only), Greater Atlantic Regional Fisheries Office, June 24, 2019.



5.5.4 Dependence on Red Crab

About 40 full time employees work on the red crab fishing vessels while 60-70 employees work on the shoreside operations. Jonah crab and red crab are processed in the same processing facility, with Jonah crab accounting for ~65% of sales.[5] Red crab demand has increased over the past couple of years while demand for Jonah crab has fluctuated over time (Pers. Com. Jon Williams June 2019).

[5] Jonah crab is not landed by vessels with red crab permits. It is landed by other vessels and processed in the same facility as the red crab landings (Pers. Com. Jon Williams August 2019).

5.5.5 Processing, Market, and Substitute Goods

Red crab landed in New Bedford, MA is processed for human consumption and primarily sold domestically, with a small portion sent overseas for additional processing. The Virginia red crab landings are primarily live (i.e., no processing) and > 60% is trucked directly to Chinatown in New York City, also for human consumption, where a premium price is received. The remaining Virginia landings are kept locally but cannot compete with the local blue crab market when blue crab is available. Catch destined for the live market are typically from shorter trips of 2-4 days in duration, while catch destined for the processing plant vary between a 6-12 days, not including steam time (Pers. Com. Jon Williams June 2019).

Red crab competes in the market with other crab species. The red crab vessels and processors are also active in the Jonah crab fishery (Section 5.5.4). Canadian red crab processors recently started processing Jonah crab between the peak seasons of other fisheries. This is directly affecting the U.S. Jonah crab market, particularly the pricing for Jonah crab caught in the Northeast region of the U.S., because the market is now flooded with this species (Pers. Com. Jon Williams June 2019).

5.5.5.1 Canadian Red Crab Fishery

A recent market competitor is the Canadian red crab fishery, which was not active before 2011 (Amendment 3, Section 6.1.3). However, there has been a small fishery in recent years. The Canadian fishery was unlikely to reach its 300 mt TAC in 2018. The TAC remains at 300 mt in 2019 and is split between two licenses (80% or 240 mt held by K&N Fisheries Limited and 20% or 60 mt held by Blair Scott Goodwin); Pers. Com Tim Hayman June 2019). Landings data are not available at due to Canadian data confidentiality standards (there are less than five Canadian license holders).

5.5.6 Fishing Communities

Section 6.3 of Amendment 3 to the FMP contains a community profile of New Bedford, MA, where the majority of the red crab vessels are docked and red crabs are regularly landed and processed. Red crab is also landed by a smaller vessel in the Mid-Atlantic, with landings occurring in Newport News, Hampton, and Virginia Beach, VA. While the red crab revenue to New Bedford and the other ports is small relative to all fishing activity, the vessels engaged in the red crab fishery are highly dependent on this species.

6.0 NEPA COMPLIANCE AND SUPPORTING ANALYSES

The Council on Environmental Quality requirements indicate that a supplemental NEPA analysis must be prepared if a proposed action is substantially different from a previously completed related action. However, not every proposed action, including the presence of new information, necessitates the development of a new or supplemental NEPA analysis. NOAA Fisheries provided guidance to Councils on the use of “non-NEPA documents”. The guidance includes questions to address to help NOAA determine whether a new or supplemental NEPA document is necessary or if a non-NEPA document, a Supplemental Information Report (SIR), may be used to demonstrate that the original NEPA document sufficiently considered and analyzed the

proposed action and its effects. At this time, and for the reasons described below, it appears that a SIR would be appropriate based on the information in this section as well as the preliminary conclusion in Section 8.

No substantial changes were made to the proposed action, and the basis for the management measures analyzed in the Amendment 3 EA remain the same. The proposed action is a minor variation of the Amendment 3 alternative to establish a Total Allowable Landings (TAL) limit without days-at-sea (DAS). The proposed action would only increase the TAL by 12.7%.

There has not been any new information or change to the action that should have been known and/or included in the previous EA. While there has been some research since 2011 on the life history and reproductive biology of red crab, there were no findings that would have changed any of the previous analyses.

No data or analyses aside from the updated fishery-dependent data summarized in Sections 5 and 6 are required in order to characterize the impacts of the proposed action. These data include: VTR, dealer reports, observer data, and port samples.

There are no significant new circumstances or information relevant to environmental concerns. There have been no surveys conducted since 2003-2005, and the Depletion-Adjusted Average Catch (DCAC) model developed by the Data-Poor Stocks Working Group in 2008 remains the only estimate of long-term average landings, which was used in the Amendment 3 EA. The only new source of information is observer data resulting from an increase in coverage of red crab vessels since 2016. However, there is a relatively small sample size, and the time series is not long enough to use any of the data in a stock assessment. As such, there is no new information with bearing on the impacts of the proposed action.

Sections 6.1-6.5 evaluate if the new information and circumstances, presented in Section 5 above, have a bearing on the proposed action and its impacts, which have previously been described in Amendment 3. The impacts are grouped into the following five Valued Ecosystem Components (VECs): target species, non-target species, physical environment and EFH, protected resources, and human communities.

6.1 Impacts on Target Species

As described in Section 7 of the Amendment 3 EA, the impacts of management actions on the red crab resource and fishery have been likely positive by likely maintaining a stable red crab population through implementing a hard TAL and accountability measures (AMs). The EA attributes these positive impacts to providing assurance that landings would stay within reasonable limits, particularly in combination with the proactive and reactive AMs.

This proposed action has the potential to slightly increase red crab effort. While there has been a slight decrease in LPUE since 2016 (see Figure 4), the long-term trend has been increasing LPUE. Overall landings have remained consistent, fluctuating between 76% and 95% of the TAL between 2016-2018. The updated fishery information in Section 5.1 does not show any evidence of a change in the red crab stock size, and recent observer data indicate positive signs

of recruitment (see Section 5.1.3 and Figure 9). Based on this information, the SSC stated that the performance of the fishery has been steady under the existing ABC with no negative signals (e.g. consistent pattern of distribution of egg bearing and non-egg bearing females, see Figure 11), and proposed a modest increase in the ABC. Based on historical landings, it is unlikely the TAL would be exceeded; however, in the event of an overage, Amendment 3 established both proactive and reactive AMs to close the fishery if landings are projected to reach the TAL and to pay back any overage the next year.

As indicated in Section 5.1.1, red crab landings by vessels with *incidental* permits are very low, and consistent with levels analyzed in the Amendment 3 EA. Bycatch of red crab in other fisheries fluctuates and has been low in recent years (see Table 3). The proposed TAL is not expected to change bycatch or discarding of red crab in other fisheries from what has occurred since it was last analyzed in Amendment 3 (NEFMC 2011).

There have not been any significant new circumstances or information related to environmental concerns that have bearing on the impacts on target species. Additionally, this action does not change the Amendment 3 determination regarding the impacts on the red crab resource from implementing management measures (including a hard TAL and AMs), which were estimated to be positive. While the proposed 12.7% increase in the TAL is likely to increase landings, a review of recent fishery information and long-term trends point to a stable fishery, and the SSC concurs that there are no negative signals. Achieving the TAL has historically been related to market demand, and rarely within 5% of the TAL; from 2009-2018, the average dealer landings were 76% of the TAL (1,775 mt). Further, this is a small, cooperative fishery with four active vessels, overlapping ownership of permits, and has supported industry-funded research to improve data available for this fishery. If the fishery is projected to reach the TAL, the proactive AM would be applied by the Regional Administrator, closing the fishery and any overage would be accounted for the following year. Therefore, the Amendment 3 analyses remain valid for this action, which is expected to have negligible impacts on the red crab resource.

6.2 Impacts on Non-Target Species

The Red Crab FMP explained that industry members indicated that there has been very little, if any, bycatch of other species in the directed red crab fishery. According to the 2004 Stock Assessment and Fishery Evaluation (SAFE) report, the only other species reported to the VTR database as bycatch by the limited access red crab fleet are Jonah crab, and on rare occasion, lobster and blue crab. Tallack (2007) provides a more quantitative, if still limited, assessment of bycatch in the red crab fishery. Recent observer data reaffirms very low levels of bycatch of other species.

The proposed action is expected to have similar impacts on non-target species as described in Amendment 3. Section 7.1.1.2 of the Amendment 3 EA states that the TAL with no days at sea alternative is not expected to result in a different level of bycatch or non-target species caught compared to the no action alternative, and will have a negligible impact on bycatch and non-target species (NEFMC 2011).

The proposed action is a slight variation of this Amendment 3 preferred alternative (a 12.7% increase in TAL). Even if the fishery comes close to landing the proposed TAL (which has only happened in 2015 and 2018, where landings were 92% and 95% of the *current* TAL, respectively), bycatch is minimal, so a slight increase in effort will have negligible impacts on non-target species. In addition, the proposed TAL will not result in any gear changes or change in distribution of fishing effort. Therefore, the Amendment 3 determination of negligible impacts on non-target species remains valid.

6.3 Impacts on the Physical Environment and Essential Fish Habitat

6.3.1 Essential Fish Habitat

The Council updated the Essential Fish Habitat (EFH) designations for red crab, amongst other species, through Omnibus Essential Fish Habitat Amendment 2 (OHA2) (see Section 5.3.1 for details). Although the distribution of managed resources on the continental slope south of Georges Bank is somewhat uncertain given a lack of survey data, the following species occur on the slope, with the maximum depth of their updated OHA2 EFH designations as indicated in parentheses: Acadian redfish (600 m); halibut (700 m); offshore hake, red hake, barndoor skate (750 m); white hake, thorny skate, smooth skate (900 m); monkfish (1000 m); and witch flounder (1500 m). Most of these species are typically associated with mud and sand habitats, which are generally less vulnerable to the impacts of fishing gear than more highly structured habitat types.

Recent evaluations of fishing gear impacts completed for OHA2 (summarized in Section 5.3.1) support previous conclusions that the traps used in the red crab fishery have limited impacts on habitat. This assessment relates both to the type of gear used in the fishery, which has minimal impacts per unit area, and the overall magnitude of effort, which is low relative to other fleets. While effort in the fishery may continue to shift between Regions 1, 2, and 3 in response to market conditions and restricted access in Region 1 due to the National Monument (starting in September 2023), regional shifts in effort should have a net neutral impact on EFH. The 12.7% increase in the proposed TAL has the potential to increase the duration of the fishing year up to six months for one fishing vessel, though this is dependent on LPUE. This additional effort would be distributed throughout all three regions, and the amount of gear (i.e., number of traps or lines) would not change (Pers. Com. Jon Williams August 2019).

Considering the above factors, the Amendment 3 determination of negligible impacts of the red crab fishery on EFH remains valid. The Amendment 3 EA references the determinations from the Red Crab FMP (NEFMC 2002), which found there were no adverse impacts on EFH for the following reasons: 1) this fishery has a small number of limited access vessels (five or less), 2) the gear for the limited access fleet is restricted to pots (which do not have adverse effects on EFH), and 3) the number of pots per vessel is limited.

6.3.2 Deep Sea Corals, Canyons and Seamounts

As described in Section 5.3.2, both the MAFMC and NEFMC have finalized or are near to finalizing measures to protect deep-sea corals. Currently, both coral amendments include an exemption for the red crab fishery. While the MAFMC plans to reconsider this exemption in the

coming year, it is highly unlikely there will be final action before the red crab specifications are implemented.

Section 5.3.2 also describes the Northeast Canyons and Seamounts Marine National Monument. The Monument boundaries overlap with a portion of the red crab Region 1 (see Figure 12), and after seven years from implementation (September 15, 2023) the red crab fishery will be prohibited from fishing in this area. The specifications for this action are for FY 2020-2023, so red crab fishing would be prohibited from the Monument starting in September of 2023. The fishing year runs March through February; therefore, the red crab fishery would be affected by these regulations six months into fishing year 2023, starting in September. The Monument covers approximately 25-30% of Region 1, where the fishery would be displaced from. Thus effort may shift within the remainder of Region 1, along with regions 2 and 3. Since 2013, landings have generally been higher in Region 2 than Region 1 (opposite from the previous 10 years), so this trend may be amplified by loss of fishing grounds, potentially resulting in slightly negative economic impacts on the fishery if it is not able to land up to the TAC. The Deep-Sea Coral Amendment (NEFMC 2019) analyzed landings revenue in the Monument for the top ten species from 2010-2015. On average red crab revenue landed from the Monument prior to the designation (derived from VTR data) was in the range of $100,000-$200,000.

Regardless of any effort shifts, given the overall magnitude of effort in the fishery and the relatively small footprint of trap gears as compared to mobile gears used in other fisheries, the negligible impacts determination for habitat in Amendment 3 remains valid. In addition, if there are any changes or new actions that would affect the red crab fishery before the end of FY2023, those impacts would be analyzed in the relevant NEPA document(s).

6.4 Impacts on Protected Resources

Amendment 3 determined that the preferred alternative to implement a TAL with no days at sea had negligible impacts on protected resources. The new circumstances described above in Section 5.4 will not change the impacts of the proposed action as previously described in the 2011 EA; the following supports this determination.

The proposed action will result in a 12.7% increase in TAL from the current TAL. This increase would not substantially change the way the fishery currently operates, and is likely to result in little to no increase in fishing effort for red crab (the level of the increase is driven by market demand). The regulations implementing the Red Crab FMP (50 CFR § 648.264) set a maximum of 600 traps per vessel; therefore, unless vessels are currently fishing less than this maximum, increasing traps above this level is prohibited. If the duration of soak time or fishing season increases as a result of the proposed action, there is potential for a change to the temporal overlap with protected species. These changes; however, would occur at a small scale and only at times of the year when there is a high market demand and therefore, relative to current conditions, are not expected to introduce new or elevated interaction risks to protected species.

In addition, as provided in section 5.4, in 2002, NMFS issued a Biological Opinion (Opinion) on the operation of the red crab fishery, and its impact on ESA listed species. Due to updated information on North Atlantic right whale abundance, on October 17, 2017, NMFS issued a

7(a)(2)/7(d) memo reinitiating consultation on the 2002 Opinion. The October 17, 2017, memo concludes that allowing the red crab fishery to continue during the reinitiation period will not increase the likelihood of interactions with ESA listed species above the amount that would otherwise occur if consultation had not been reinitiated, and therefore, the continuation of these fisheries during the reinitiation period would not be likely to jeopardize the continued existence of any ESA listed species.

In regards to the Atlantic large whale take reduction plan (ALWTRP), adjustments to the plan occurred on June 27, 2014 (79 FR 36586), December 12, 2014 (79 FR 73848), March 19, 2015 (80 FR 14345), and May 28, 2015 (80 FR 30367). None of these adjustments introduced any new regulations to the red crab fishery that were not already part of the ALWTRP. As provided in section 5.4, in response to the recent decline in the North Atlantic right whale population, NMFS, pursuant to the MMPA, is seeking modifications to the ALWTRP to further reduce impacts of U.S. fixed gear fisheries on large whales and reduce mortality and serious injury to below the Potential Biological Removal Level for right whales. The proposed rule for the ALWTRP is expected to be published in late 2019 or early 2020. Until these new regulations are in place, the red crab fishery must comply with the existing ALWTRP regulations provided above.

Section 6.5 of the 2017-2019 red crab specifications also describes the impacts of the changes in ESA listings, species designation, and critical habitat that occur within the affected environment of the Red Crab FMP, and this information remains current (NEFMC 2016b). Thus, the protected resources determination made in the 2011 EA is still valid for these ESA actions.

Taking into consideration the above information, there is no new information or circumstances that indicate that the interaction risks between the red crab fishery and protected resources will change from those previously assessed in Amendment 3. Therefore, the Amendment 3 determination of negligible impacts on protected species remains valid.

6.5 Impacts on Human Communities

Impacts of specifications. The proposed TAL for FY 2020-2023 would increase slightly (12.7%) from the current TAL. The impacts on human communities are expected be positive in the short-term, maintaining the positive impacts described in Amendment 3 (NEFMC 2011). With a minor increase in the TAL, there would likely be a degree of constancy and predictability for fishing industry operations and an increased supply to the market (in addition to the stability provided by a 4-year specifications process). The size and demographic characteristics of the fishery-related workforce would likely be unchanged, as would the historical dependence on and participation in the fishery.

The proposed TAL is unlikely to predictably change the current supply of red crab to the market or the ex-vessel price of red crab and wholesale or retail prices. Consequently, the proposed TAL is unlikely to measurably or predictably change consumer surplus. The few boats with limited access red crab permits have overlapping ownership and operate as a voluntary cooperative. The

cooperative relationship fosters a strong incentive to harvest red crab in a way that maximizes profits for the whole fleet.

As a result, the vessels are unlikely to compete to harvest the largest possible amounts of red crab per vessel as quickly as possible before the TAL is reached. In addition, the current market conditions drive the catch of red crab more so than the TAL, so there is no incentive for boats to land close to the TAL without strong market conditions. A TAL of 2,000 mt may result in slight positive impacts on employment or on the income of crew members, pending strong market conditions. As described in the Amendment 3 EA, the short-term impacts of the current TAL are positive for human communities, and the new information provided in Section 5.5 does not change this determination. Amendment 3 references the preferred alternative provides flexibility, operational safety, and improved profitability, leading to improved economic well-being.

In the long term, impacts on human communities are likely to be low positive as harvesting within TAL constraints should provide for a sustainable red crab fishery. Given the uncertainties of the status of the red crab population (Section 4.0), long-term impacts of the increased TAL are less certain. Thus the Amendment 3 determinations for positive impacts on human communities remain valid.

Impacts of other actions. There are no social or economic impacts on human communities from the revised red crab EFH determination in OHA2 (Section 5.3.1). The red crab fishery is exempt from regulations pursuant to NEFMC's Deep-Sea Coral Omnibus Amendment (Section 5.3.2). The red crab fishery is currently exempt from the Mid-Atlantic Council's coral amendment, and while this exemption may be reassessed by the MAFMC, any impacts would be analyzed through a future action. As described in Section 6.3.2, the 7-year sunset of allowing the red crab fishery to operate in the Monument has the potential for slightly negative economic impacts if effort shifts constrain landings relative to recent levels that are close to or just below the TAL. However, provided that these regulations would change halfway through fishing year 2023, and are known well in advance, it is possible the fishery will adjust effort prior to this change, resulting in negligible impacts, like the Amendment 3 determination.

7.0 OPPORTUNITY FOR PUBLIC COMMENT

This proposed action was developed in 2019, and there were four public meetings related to this action (Table 6). Opportunities for public comment occurred at meetings of the PDT, SSC, and Council. There are generally more limited opportunities to comment at PDT meetings. Meeting discussion documents and summaries are available at www.nefmc.org.

Table 6. Public meetings related to this proposed action

Date	Meeting Type	Location
6/18/2019	PDT	webinar
8/26/2019	PDT	webinar
8/21/2019	SSC	Providence, RI
9/24/2019	NEFMC	Gloucester, MA

8.0 CONCLUSION

An environmental assessment (EA) was prepared for Amendment 3 to the Red Crab Fishery Management Plan. A Finding of No Significant Impact (FONSI) for that EA was signed on August 23, 2011. The proposed action increases the TAL to 2,000 mt (from 1,775 mt) and extends the specifications cycle to 4 years (from 3 years), and is a variation of the preferred alternatives in the Amendment 3 EA. A review of new information and circumstances (Section 5.0) and their changes on the Amendment 3 findings (Section 6.0) did not change the conclusions or impacts described in the Amendment 3 EA.

After reviewing the Council on Environmental Quality (CEQ) NEPA regulations and applicable case law, the Council considered whether the proposed action makes substantial changes from the Amendment 3 EA. Further, CEQ's significance criteria at 40 C.F.R. § 1508.27 was considered to determine whether any new circumstances or information are significant, thereby requiring supplementation of the Amendment 3 EA.

Using a Supplemental Information Report (SIR) to present and evaluate these considerations, the Council has preliminarily concluded that the proposed action and its impacts make no substantial changes relevant to environmental concerns than what was considered and analyzed in the Amendment 3 EA. Further, no new information or circumstances exist that are significantly different from when the EA/FONSI was signed. Therefore, the Council has preliminarily determined that the Amendment 3 EA remains valid to support the proposed action.

9.0 COMPLIANCE WITH APPLICABLE LAWS

9.1 Magnuson-Stevens Fishery Conservation and Management Act

9.1.1 Consistency with National Standards

Section 301 of the Magnuson-Stevens Act requires that regulations implementing any fishery management plan or amendment be consistent with the ten National Standards listed below.

9.1.1.1 National Standard 1
Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The proposed action is compliant with the Magnuson-Stevens Act National Standard 1 requirements for ABC and interim ABC control rule, ACL, and AMs. The proposed specifications for fishing years 2020-2023 are consistent with the interim ABC set though this process and will ensure that overfishing will not take place in the red crab fishery and the red crab resource will not become overfished.

9.1.1.2 National Standard 2
Conservation and management measures shall be based on the best scientific information available.

The measures in this action are based on the best and most recent scientific information available including the Red Crab stock assessment from the Northeast Regional Data Poor Stock Assessment Workshop in 2008, which includes an independent peer review, updated analyses from the red crab PDT, and recommendations from the Council's SSC for setting an interim red crab ABC.

9.1.1.3 National Standard 3

To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The red crab resource is managed as a single unit throughout its range in the U.S. EEZ.

9.1.1.4 National Standard 4

Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be: (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed measures are the same for all vessels in the red crab fishery regardless of the state of residence of the owner or operator of the vessels. Although any fishing mortality control (including possession limits and quotas) results in the allocation of fishery resources, the measures in the proposed action are reasonably expected to promote conservation by continuing to prevent overfishing and rebuild overfished stocks.

9.1.1.5 National Standard 5

Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The proposed action maintains the efficiency of vessel operations under the TAL. The TAL allows flexibility for business planning, operational safety and capability of the fleet to catch the ACL/TAL without exceeding it. None of the measures in this action directly allocates red crab and, therefore, none has economic allocation as its sole purpose.

9.1.1.6 National Standard 6

Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The proposed action, developed with input of red crab fishermen and processors, accounts for the market-driven nature of the fishery by maintaining the TAL and allowing flexibility to reach the TAL without exceeding it. Both proactive and reactive AMs are established to address variations that may occur within the FYs (2020-2023) covered by these specifications.

9.1.1.7 National Standard 7

Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The proposed action would simplify management regulations by maintaining the TAL value for FYs 2020-2023. The proposed action does not duplicate other fishing regulations or fishery management measures. The Red Crab FMP is the only management plan that sets harvest limits and fishing regulations for Atlantic deep-sea red crab.

9.1.1.8 National Standard 8

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse impacts on such communities.

The proposed action was developed with the input of red crab vessel owners and processors that supported the measures because the TAL would assist them economically by making harvesting operations efficient. The TAL allows for flexibility to make fewer, longer fishing trips, particularly because the fishing grounds for red crab are distant. This flexibility would keep the red crab fishery economically viable and sustainable. Due to the small size of the red crab fishery, there are a limited number of participants, and consequently a limited number of communities. This action is not expected to change the individuals or communities affected by this fishery.

9.1.1.9 National Standard 9

Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The proposed action is not expected to have any impact on bycatch of red crab or other species (Sections 6.1 and 6.2).

9.1.1.10 National Standard 10

Conservation and management measures shall, to the extent practicable, promote safety of human life at sea.

The proposed action allows flexibility for vessels to harvest when conditions are optimal, reducing exposure to safety hazards at sea. This management action does not change any of the measures designed to promote the safety of human life at sea, and no measure in the proposed action reduces the flexibility of vessel operators to respond to hazardous conditions at sea.

9.1.2 Magnuson-Stevens Act FMP Requirements

Section 303 (a) of Magnuson-Stevens Act contains 15 required provisions for FMPs that are listed below. The requirement applies to the FMP, and in some cases, the FMP as amended, and not the submission document for the proposed action.

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States;

Foreign fishing is not allowed under this management plan or this action, so specific measures are not included to specify and control allowable foreign catch.

(2) contain a description of the fishery;

An updated description of the fishery is included in Section 5.0 of this document.

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

The Council's SSC determined that "the information available for red crab is insufficient to estimate MSY and OY" (Sections 3.0 and 4.0).

(4) assess and specify – (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3); (B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing; and (C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

Due to the lack of scientific data, MSY and long-term OY have not been defined for the red crab fishery. However, U.S. fishing vessels are capable of, and expected to, harvest 100 percent of the ABC from this fishery, as specified in Section 4.0. U.S. processors are also expected to process or hold all landings from US fishing vessels. Therefore, there is no portion of the ABC from this fishery that can be made available to foreign fishing. Some of the bulk crab product is further processed overseas, and there is a developing live market to Asia, though both products undergo initial processing or holding in the U.S.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used;

Red Crab vessels currently must submit VTRs for each fishing trip. Dealers are also required to submit reports on the purchases of red crab from permitted vessels. Current reporting requirements are detailed in 50 CFR 648.7.

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise

prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery;

The proposed action does not contain any measures that would penalize vessels that were prevented from harvesting red crab because of weather of other ocean conditions. The proposed action will maintain vessels' flexibility to respond to adverse ocean conditions by enabling them to extend the length of their trips and fish fewer trips when they choose.

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305 (b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

EFH for red crab was defined in the Red Crab FMP, which was implemented in 2002. This action does not change the EFH designations. The Council recently updated EFH designations for all NEFMC-managed species, including red crab, in OHA2, which was implemented in 2018 (Section 5.3.1).

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

Scientific needs are continuously reviewed and revised by the Council's Research Steering Committee and the Northeast Stock Assessment Workshop, which consult with NMFS, the Council and its PDTs, SSC and species oversight committees about scientific data needs.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on – (A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

Impacts on fishing communities affected by this action can be found in Section 5.5, Human Communities, and Section 6.5, Impacts on Human Communities.

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

The Red Crab FMP and Amendment 3 (Sections 2.1.2, 2.1.3, and 6.1.1.1) established criteria to determine whether the red crab stock was either in an overfished condition, subject to overfishing, or both. The previously approved overfishing and overfished definitions are as follows:

Definition of Overfishing: Overfishing is defined as any rate of exploitation such that the ratio of current exploitation to an idealized exploitation under MSY conditions exceeds a value of 1.0. The actual measures of exploitation used will be determined by the availability of suitable data (CPUE data, landings, etc.).

Definitions of Overfished: The red crab stock will be considered to be in an overfished condition if one of the following three conditions is met:

Condition 1 – The current biomass of red crab is below ½ B_{MSY} in the New England Council's management area.

Condition 2 – The annual fleet average CPUE, measured as marketable crabs landed per trap haul, continues to decline below a baseline level (½ $CPUE_0$) for three or more consecutive years.

Condition 3 – The annual fleet average CPUE, measured as marketable crabs landed per trap haul, falls below a minimum threshold level (¼ $CPUE_0$) in any single year.

While the Amendment 3 definitions reference CPUE, Landings Per Unit of Effort (LPUE) has subsequently been utilized as a proxy for CPUE, as "catch" includes both kept and discarded crabs, and an accepted method of estimating total weight of discarded crabs has not been developed (see Section 5.1.1 of this document). As described in Section 3, there is insufficient information to determine Maximum Sustainable Yield (MSY) or an overfishing level (OFL). Accordingly, Section 6.1.1.1 of the Amendment 3 EA describes the use of proxies to evaluate the status of red crab, and determined that overfishing is not occurring, and the overfished status is unknown (NEFMC, 2011).

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority – (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided;

This action does not include changes to the current Standardized Bycatch Reporting Methodology implemented in 2015 under the revised Standardized Bycatch Reporting Methodology Omnibus Amendment (Amendment 4 to the Red Crab FMP). This methodology is expected to assess the amount and type of bycatch in the red crab fishery and help identify ways the fishery can minimize bycatch and mortality of bycatch, which cannot be avoided.

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

There is no recreational fishing for Atlantic deep-sea red crab.

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors;

Section 5.1 provides a description of the commercial red crab fishery. There is no recreational or charter fishing for Atlantic deep-sea red crab.

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery;

The proposed action does not reduce the overall harvest to fishery participants.

(15) establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability;

The proposed action maintains an ABC, ACL, TAL, and AMs that would prevent overfishing and ensure accountability.

9.2 National Environmental Policy Act (NEPA)

The Council has preliminarily determined that the Red Crab Amendment 3 EA remains valid for this action. Thus, there is no need to supplement the Amendment 3 EA and Finding of No Significant Impact (FONSI).

A review of new information and circumstances (Section 5.0) and their changes on the Amendment 3 findings (Section 6.0) did not change the conclusions or impacts described in the Amendment 3 EA. The proposed action is a minor variation of the preferred alternative from the previous action. While the slight increase in TAL is expected to increase landings (pending favorable market conditions), the proposed action does not substantially change circumstances, nor is there any significant new information to consider. Therefore, the conclusions reached in the Amendment 3 EA were determined to remain valid.

If NMFS concurs with the Council's determination, the specifications package will be submitted as a Supplemental Information Report (SIR). The SIR documents NMFS' rationale for determining if new information, changed circumstances, or changes to the action would require additional NEPA analysis.

If NMFS does not concur, the Council will prepare and submit a new NEPA document, which would include a more in-depth review of the proposed action and its impacts.

9.3 Marine Mammal Protection Act (MMPA)

None of the specifications proposed in this document are expected to alter fishing methods or activities aside from one vessel extending their fishing season (Section 6.4). Therefore, this action is not expected to affect marine mammals in any manner not considered in previous consultations on the fisheries. For further information on the potential impacts of the fishery and the proposed management action on marine mammals, see Sections 5.4 and 6.4 of this document.

9.4 Endangered Species Act (ESA)

Section 7 of the Endangered Species Act requires federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The Red Crab Biological Opinion completed on February 6, 2002, concluded that the action considered would not jeopardize the continued existence of any listed species. On October 17, 2017, NMFS reinitiated consultation on the Red Crab Biological Opinion due to updated information on the decline of North Atlantic right whale abundance.

Section 7(d) of the ESA prohibits Federal agencies from making any irreversible or irretrievable commitment of resources with respect to the agency action that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives during the consultation period. This prohibition is in force until the requirements of section 7(a)(2) have been satisfied. Section 7(d) does not prohibit all aspects of an agency action from proceeding during consultation; non-jeopardizing activities may proceed if their implementation would not violate section 7(d). Per the October 17, 2017 memo, it was concluded that allowing the red crab fishery to continue during the reinitiation period will not increase the likelihood of interactions with ESA listed species above the amount that would otherwise occur if consultation had not been reinitiated. Based on this, the memo concluded that the continuation of the red crab fishery during the reinitiation period would not be likely to jeopardize the continued existence of any ESA listed species. Taking this, as well as the analysis of the proposed action into consideration, NMFS does not expect the proposed action, in conjunction with other activities, to result in jeopardy to any ESA listed species.

This action does not represent any irreversible or irretrievable commitment of resources with respect to the FMP that would affect the development or implementation of reasonable and prudent measures during the consultation period. NMFS has discretion to amend its Magnuson-Stevens Act and ESA regulations and may do so at any time subject to the Administrative Procedure Act and other applicable laws. As a result, the Council has preliminarily determined that fishing activities conducted pursuant to this action will not affect endangered and threatened species or critical habitat in any manner beyond what has been considered in prior consultations on this fishery.

9.5 Coastal Zone Management Act (CZMA)

Section 307(c)(1) of the Coastal Zone Management Act (CZMA) of 1972, as amended, requires that all Federal activities that directly affect the coastal zone be consistent with approved state

coastal zone management programs to the maximum extent practicable. The CZMA provides measures for ensuring stability of productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. It is recognized that responsible management of both coastal zones and fish stocks must involve mutually supportive goals. The Council has developed this specification package and will submit it to NMFS; NMFS must determine whether this action is consistent to the maximum extent practicable with the CZM programs for each state (Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina). Letters documenting NMFS' determination will be sent to the coastal zone management program offices of each state.

9.6 Administrative Procedure Act (APA)

Section 551-553 of the Administrative Procedures Act (APA) establishes procedural requirements applicable to informal 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. Currently, the NEFMC is not requesting any abridgement of the rulemaking process for this action.

9.7 Information Quality Act (IQA)

Utility of Information Product

The information presented in this document is helpful to the intended users (the affected public) by clearly describing the purpose and need of the action, the measures proposed, and their impacts. A discussion of the reasons for selecting the proposed action is included so that intended users may fully understand of the proposed action and its implications. The intended users of this document include individuals involved in the red crab fishery (e.g., fishing vessels, processors, fishery managers) and others interested in the management of the red crab fishery. The information in this document will be helpful and beneficial to owners of vessels holding red crab permits, since it will notify them of the measures contained in this specification package. This information will enable these individuals to adjust their management practices and make appropriate business decisions. Until a proposed rule is prepared and published, this document is the principal means by which the information contained herein is publicly available. The information in this document is based on the most recent available information from the relevant data sources, including detailed and relatively recent information on the red crab resource and, therefore, represents an improvement over previously available information. This document will be subject to public comment through proposed rulemaking, as required under the APA and, therefore, may be improved based on comments received.

This document is available in several formats, including printed publication, and online through the NEFMC's web page (www.nefmc.org). The *Federal Register* notice that announces the proposed rule and the final rule and implementing regulations will be made available in printed publication, on the website for GARFO (www.greateratlantic.fisheries.noaa.gov/), and through the Regulations.gov website. The *Federal Register* documents will provide metric conversions for all measurements.

Integrity of Information Product
The information product meets the standards for integrity under the following types of documents:
Other/Discussion (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

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 U.S. Code (confidentiality of census, business, and financial information); the Confidentiality of Statistics provisions of the Magnuson-Stevens Act; and NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics.

Objectivity of Information Product
For purposes of the Pre-Dissemination Review, this document 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 Essential Fish Habitat Guidelines; the National Standard Guidelines; and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act. This information product uses information of known quality from sources acceptable to the relevant scientific and technical communities. Several sources of data were used in the development of the specification package. These data sources included, but were not limited to, historical and current landings data from CFDRS, VTR data, and fisheries independent data collected through the NMFS bottom trawl surveys. The analyses contained in this document were prepared using data from accepted sources. These analyses have been reviewed by members of the Red Crab PDT and by the SSC where appropriate.

Despite current data limitations, the conservation and management measures considered for this action were selected based upon the best scientific information available. The analyses important to this decision used information from the most recent complete calendar years, generally through 2018, and a portion of 2019. The data used in the analyses provide the best available information on the number of permits, both active and inactive, in the fishery, the catch (including landings and discards) by those vessels, the LPUE, and the revenue produced by the sale of those landings to dealers. Specialists (including professional members of PDTs, technical teams, committees, and Council staff) who worked with these data are familiar with the most current analytical techniques and with the available data and information relevant to the red crab fishery. The policy choice is clearly articulated in Sections 3.0 and 4.0 of this document that being the management alternative considered in this action. The supporting science and analyses, upon which the policy choice was based, are summarized and described in sections 5.0 and 6.0

of this document, and in the Amendment 3 EA. 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 used in preparation of this document involves the responsible Council, NEFSC, GARFO, and NOAA Fisheries Service Headquarters. NEFSC's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, population biology, and the social sciences. The Council review process involves public meetings at which affected stakeholders have opportunity to provide comments on the document. Review by staff at GARFO is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the action proposed in this document and clearance of any rules prepared to implement resulting regulations is conducted by staff at NOAA Fisheries Service Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

In preparing this action for the Red Crab FMP, NMFS must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Administrative Procedure Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Information Quality Act, and Executive Orders 12630 (Property Rights), 12866 (Regulatory Planning), 13132 (Federalism), and 13158 (Marine Protected Areas). The Council has determined that the proposed action is consistent with the National Standards of the Magnuson-Stevens Act and all other applicable laws and executive orders.

9.8 Paperwork Reduction Act (PRA)

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the Federal paperwork burden for individuals, small businesses, state and local governments, and other persons, as well as to maximize the usefulness of information collected by the Federal government. There are no changes to the existing reporting requirements previously approved under the Red Crab FMP for vessel permits, dealer reporting, or vessel logbooks. This action does not contain a collection-of-information requirement for purposes of PRA.

9.9 Regulatory Flexibility Act (RFA)

The objective of the Regulatory Flexibility Act (RFA) is to require consideration of the capacity of regulated small entities affected by regulations to bear the direct and indirect costs of regulation. If an action might have a significant impact on a substantial number of small entities, an Initial Regulatory Flexibility Analysis (IRFA) must be prepared. This would identify the need for action, alternatives, potential costs and benefits of the action, the distribution of these impacts, and a determination of whether the proposed action would have a significant economic impact on a substantial number of small entities. Depending on the nature of the proposed regulations, assessment of the economic impacts on small businesses, small organizations, and

small governmental jurisdictions may be required. If an action is determined to affect a substantial number of small entities, the analysis must include:

1) A description and estimate of the number of regulated small entities and total number of entities in a particular affected sector, and the total number of small entities affected; and
2) Analysis of the economic impact on regulated small entities, including the direct and indirect compliance costs of completing paperwork or recordkeeping requirements, effect on the competitive position of small entities, effect on the small entity's cash flow and liquidity, and ability of small entities to remain in the market.

If it is clear that an action would not have a significant economic impact on a substantial number of small regulated entities, the RFA allows Federal agencies to certify the proposed action to that effect to the Small Business Administration (SBA). The decision on whether or not to certify is generally made after the final decision on the preferred alternatives for the action and may be documented at either the proposed rule or the final rule stage.

9.9.1 Initial Regulatory Flexibility Analysis

An IRFA has been prepared, as required by Section 603 of the RFA. The purpose of the RFA is to reduce the impacts of burdensome regulations and record-keeping requirements on small businesses. The RFA requires government agencies to describe and analyze the effects of regulations and possible alternatives on small business entities. Based on this information, the IRFA determines whether the preferred alternative would have a "significant economic impact on a substantial number of small entities."

9.9.1 Statement of Objectives and Need

This action proposes the specifications for the Atlantic deep-sea red crab fishery for the 2020-2023 fishing years. A description of the action and why it is being considered, and the legal basis for this action, are contained in Section 4.5 (pg. 23) of Amendment 3 to the Red Crab FMP and are not repeated here.

NMFS issued a final rule establishing a small business size standard of $11 million in annual gross receipts for all businesses primarily engaged in the commercial fishing industry (NAICS 11411) for RFA compliance purposes and which became effective on July 1, 2016. As a result, a small business in the shellfish fishery is a firm that is independently owned and operated with receipts of less than $11 million annually. Individual vessels with permits to land red crab also may hold permits for several fisheries and harvest species of fish that are regulated by several different fishery management plans. Furthermore, multiple vessels and/or permits may be owned by entities affiliated by stock ownership, common management, identity of interest, contractual relationships, or economic dependency. For this analysis, "ownership entities" are defined as those entities with identical ownership as listed on the permit application.

Information about vessel ownership is available for all federal permit holders (since 2010), which allows for the identification of business entities that comprise multiple fishing vessels.

There are two business entities and four active vessels to which the proposed action applies. The vessel ownership data identifies all the individual people who own fishing vessels. With this information, vessels can be grouped together according to common owners, and the resulting groupings are treated as fishing businesses in this analysis. Revenues summed across all vessels in the group and the activities that generate those revenues were used to determine whether the entities are large or small businesses. As there are only two red crab-harvesting business entities and the data are confidential, the degree of ownership is not known.

For RFA purposes, the total revenue of the businesses, which, in this case, includes the value of other shellfish and some finfish is considered. The additional revenue obtained from other shellfish (lobsters and Jonah crab) and finfish is relatively minor. According to SBA's regulations (CFR 121.104(c)), gross revenue from the most recent three years should be used for classifying marine fishing activity. The total value of landings from all sources over the fishing years 2016-2018 averaged $3.47 million, so all business entities in the harvesting sector are categorized as small businesses.

The proposed action will affect the two business entities and the four vessels in the directed red crab fishery. If these vessels land the full 2,000 mt Total Allowable Landings (TAL) limit, it is expected to increase average revenues by approximately 12.7%, depending on market demand. This level is substantially higher than landings in recent years; fishing years 2016 – 2018 landings averaged 3.294 million lbs or 1,494.33 mt (Table 5). As a result, the proposed action would not constrain landings for red crab below 2018 levels. Since the annual revenues per business entity are confidential, Table 7 shows the average value per vessel over the most recent three years for all landings. Recent landings have increased, although market conditions have kept landings below the TAL limit.

Table 7. Average revenue per vessel from all species landed with Category B and C permits, FY 2016-2018

Number of Vessels	4
Average Revenue from All Species, FY 2016-2018	$3.47 million
Average Revenue/Vessel from All Species, FY 2016-2018	$866,833

Source: GARFO Data Matching and Imputation System (DMIS) database, which matches dealer, VTR, AMZ, and other data on a trip and species level, accessed June 2019.

9.9.2 Description of Projected Reporting, Recordkeeping, and other Compliance Requirements of the Proposed Rule

This action contains no new collection-of-information, reporting, or recordkeeping requirements. It does not duplicate, overlap, or conflict with any other federal law.

9.9.3 Federal Rules which may Duplicate, Overlap or Conflict with this Proposed Rule

The proposed regulations do not create overlapping regulations with any state regulations or other federal laws.

9.9.4 Summary of the Proposed Action and Significant Alternatives

The proposed specifications would increase the TAL by 12.7% from 1,775 mt to 2,000 mt for four full-time limited access vessels targeting Atlantic deep-sea red crab. Because the proposed action will not substantially change the TAL or constrain gross revenues per vessel, it is not necessary to analyze impacts according to the dependence of each vessel in the red crab fishery.

Because the proposed action increases the overall landings levels, there are no negative economic impacts associated with this action for both large and small entities. While this action would apply to all four active limited access red crab directed fishery vessels, no entity is expected to incur any negative economic impacts.

9.10 Regulatory Planning and Review/Executive Order (EO 12866)

In compliance with Executive Order (EO) 12866, NOAA's National Marine Fisheries Service (NMFS) requires the preparation of a Regulatory Impact Review (RIR) for all regulatory actions or for significant policy changes that are of public interest. EO 12866 was signed on September 30, 1993, and established guidelines for Federal agencies promulgating new regulations and reviewing existing regulations.

An RIR is a required component of the process of preparing and reviewing fishery management plans (FMPs) or amendments and provides a comprehensive review of the economic impacts associated with the proposed regulatory action. An RIR addresses many of the concerns posed by the regulatory philosophy and principles of EO 12866. An RIR also serves as the basis for assessing whether or not any proposed regulation is a "significant regulatory action" under criteria specified in E.O. 12866. According to the "Guidelines for Economic Analyses of Fishery Management Actions," published by NMFS in August 2000, an RIR must include the following elements: (1) A description of the management objectives of the regulatory action; (2) a description of the fishery affected by the regulatory action; (3) a statement of the problem the regulatory action is intended to address; (4) a description of each selected alternative, including the "no action" alternative; and (5) an economic analysis of the expected effects of each selected alternative relative to the baseline. All of these elements are addressed in the previous sections of the SIR; therefore, the following sections provide references to this information.

9.10.1 Statement of the Problem and Management Objectives of the Regulatory Action

Section 1.0, Introduction, describes the purpose and need of the action.

9.10.2 Description of the Affected Fishery

Section 4.0, Background, and Section 5.0, new information and circumstances, provide a historical description of the fishery, including management measures, and recent fishery-

dependent data from fishing years 2016-2018, as well as data and trends from the last 10 fishing years.

9.10.3 Description of the Management Measure Alternatives

Section 3.0, Proposed Action, describes the proposed management measures. The Council did not consider any alternatives to the proposed action.

9.10.4 Expected Economic Effects of the Proposed Action

Section 6.5, Impacts on Human Communities, describes the economic and social impacts of the proposed action. Section 9.9, Regulatory Flexibility Act, further describes the economic impacts on small business entities. Further, there are no material economic effects from an administrative change in the specifications setting process from 3- to 4-years.

9.10.5 Determination of Significance under EO 12866

EO 12866 requires that the Office of Management and Budget (OMB) review proposed regulatory programs that are considered to be significant. A "significant regulatory action" is one that is likely to: (1) 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, safety, or state, local, or tribal Governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

A regulatory program is "economically significant" if it is likely to result in the effects described above. The RIR is designed to provide information to determine whether the proposed regulation is likely to be "economically significant."

The Council has determined that, based on the information presented in the RIR, this action is expected to have no material economic effect. Because none of the factors defining "significant regulatory action" are triggered by this action, the action has been determined to be not significant for the purposes of EO 12866. See detailed discussion below (Section 9.10.6).

9.10.6 EO 12866 Criteria

1. 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, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.

The average revenue for all species landed with Category B and C red crab permits from 2016-2018 is $3.47 million. The 12.7% increase in TAL has the potential to increase landings and revenue up to 12.7% if there are favorable market conditions, which would potentially increase revenues up to $3.91 million, assuming red crab prices and operating costs remain stable. The administrative change from a 3-year to 4-year specifications cycle will not change the revenue.

Therefore, the proposed action would not have an annual effect on the economy of $100 million or would it adversely affect the economy or any other governmental or non-governmental entities or communities.

2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.

The proposed action does not create an inconsistency or otherwise interfere with an action taken or planned by another agency. The activity that would be allowed under this action involves commercial fishing for red crab in Federal waters of the exclusive economic zone (EEZ), for which NMFS is the sole agency responsible for regulation. Therefore, there is no interference with actions taken by another agency. Furthermore, this action would create no inconsistencies in the management and regulation of commercial fisheries in the waters off the coast of the northeast region.

3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.

This action will not materially alter the budgetary impacts of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients of these programs as management of the red crab fishery has no bearing on these programs.

4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

This action does not raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in EO 12866. All fishery management measures in the proposed action are commonly used in fishery management plans for federally-managed fisheries.

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