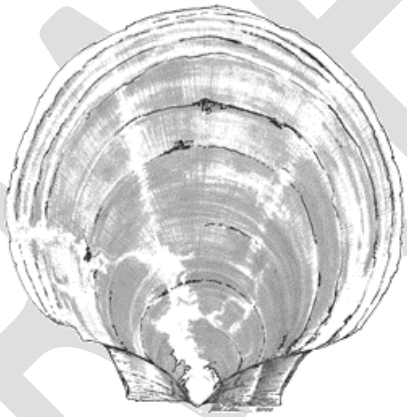
Atlantic Sea Scallop Fishery Management Plan

Amendment 21
DRAFT Affected Environment

Including an Environmental Assessment,
Regulatory Flexibility Analysis and
Stock Assessment and Fishery Evaluation



For Scallop AP and Committee Meetings

March 20, 2020

Prepared by the
New England Fishery Management Council
in consultation with the
National Marine Fisheries Service and the
Mid-Atlantic Fishery Management Council

New England
Fishery Management Council

1.0 EXECUTIVE SUMMARY

To be completed.

2.0 TABLE OF CONTENTS

2.1 TABLES

2.2 FIGURES

2.3 MAPS

2.4 ACRONYMS

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
AIM	An Index Method of Analysis
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
ANPR	Advanced Notice of Proposed Rulemaking
AP	Advisory Panel
APA	Administrative Procedures Act
APL	Annual Projected Landings
ASMFC	Atlantic States Marine Fisheries Commission
B_{MSY}	Biomass that would allow for catches equal to Maximum Sustainable Yield when fished at the overfishing threshold (FMSY)
BiOp, BO	Biological Opinion, a result of a review of potential effects of a fishery on Protected Resource species
CAI	Closed Area I
CAII	Closed Area II
CEQ	Council on Environmental Quality
CPUE	Catch per unit of effort
d/K	Discard to kept catch ratio
DAM	Dynamic Area Management
DAS	Day(s)-at-sea
DFO	Department of Fisheries and Oceans (Canada)
DMF	Division of Marine Fisheries (Massachusetts)
DMR	Department of Marine Resources (Maine)
DPWG	Data Poor Working Group
DSEIS	Draft Supplemental Environmental Impact Statement
EA	Environmental Assessment
EEZ	Exclusive economic zone
EFH	Essential fish habitat
EIS	Environmental Impact Statement

EO	Executive Order
ESA	Endangered Species Act
F	Fishing mortality rate
FEIS	Final Environmental Impact Statement
FMP	Fishery management plan
FW	Framework
FY	Fishing year
GARFO	Greater Atlantic Regional Fisheries Office
GARM	Groundfish Assessment Review Meeting
GB	Georges Bank
GIS	Geographic Information System
GOM	Gulf of Maine
GRT	Gross registered tons/tonnage
HAPC	Habitat area of particular concern
HPTRP	Harbor Porpoise Take Reduction Plan
IFM	Industry-funded monitoring
IFQ	Individual fishing quota
ITQ	Individual transferable quota
IVR	Interactive voice response reporting system
IWC	International Whaling Commission
LOA	Letter of authorization
MA	Mid-Atlantic
MAFAC	Marine Fisheries Advisory Committee
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MPA	Marine protected area
MRI	Moratorium Right Identifier
MRIP	Marine Recreational Information Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
NEAMAP	Northeast Area Monitoring and Assessment Program
NEFMC	New England Fishery Management Council
NEFOP	Northeast Fisheries Observer Program
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NLS-N	Nantucket Lightship North
NLS-S-deep	Nantucket Lightship South Deep
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OBDBS	Observer database system
OLE	Office for Law Enforcement (NMFS)
OY	Optimum yield
PBR	Potential Biological Removal
PDT	Plan Development Team
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RMA	Regulated Mesh Area
RPA	Reasonable and Prudent Alternatives
SA	Statistical Area
SAFE	Stock Assessment and Fishery Evaluation
SAP	Special Access Program

SARC	Stock Assessment Review Committee
SAS	Stock Assessment Subcommittee
SAW	Stock Assessment Workshop
SBNMS	Stellwagen Bank National Marine Sanctuary
SIA	Social Impact Assessment
SNE	Southern New England
SNE/MA	Southern New England-Mid-Atlantic
SSB	Spawning stock biomass
SSC	Scientific and Statistical Committee
TAL	Total allowable landings
TED	Turtle excluder device
TEWG	Technical Expert Working Group
TMS	Ten minute square
TRAC	Transboundary Resources Assessment Committee
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VMS	Vessel monitoring system
VEC	Valued ecosystem component
VPA	Virtual population analysis
VTR	Vessel trip report
WGOM	Western Gulf of Maine
YPR	Yield per recruit

3.0 BACKGROUND AND PURPOSE

3.1 BACKGROUND

To be completed.

3.2 PURPOSE AND NEED

To be completed.

3.3 GOALS/OBJECTIVES

See draft alternatives document.

4.0 ALTERNATIVES UNDER CONSIDERATION

See draft alternatives document.

5.0 AFFECTED ENVIRONMENT

5.1 INTRODUCTION

The Affected Environment is described in this action based on valued ecosystem components (VECs), including: target species, non-target species, predator species, physical environment and Essential Fish Habitat (EFH), protected resources, and human communities. VECs represent the resources, areas and human communities that may be affected by the alternatives under consideration in this amendment. VECs are the focus, since they are the "place" where the impacts of management actions occur.

5.2 TARGET SPECIES

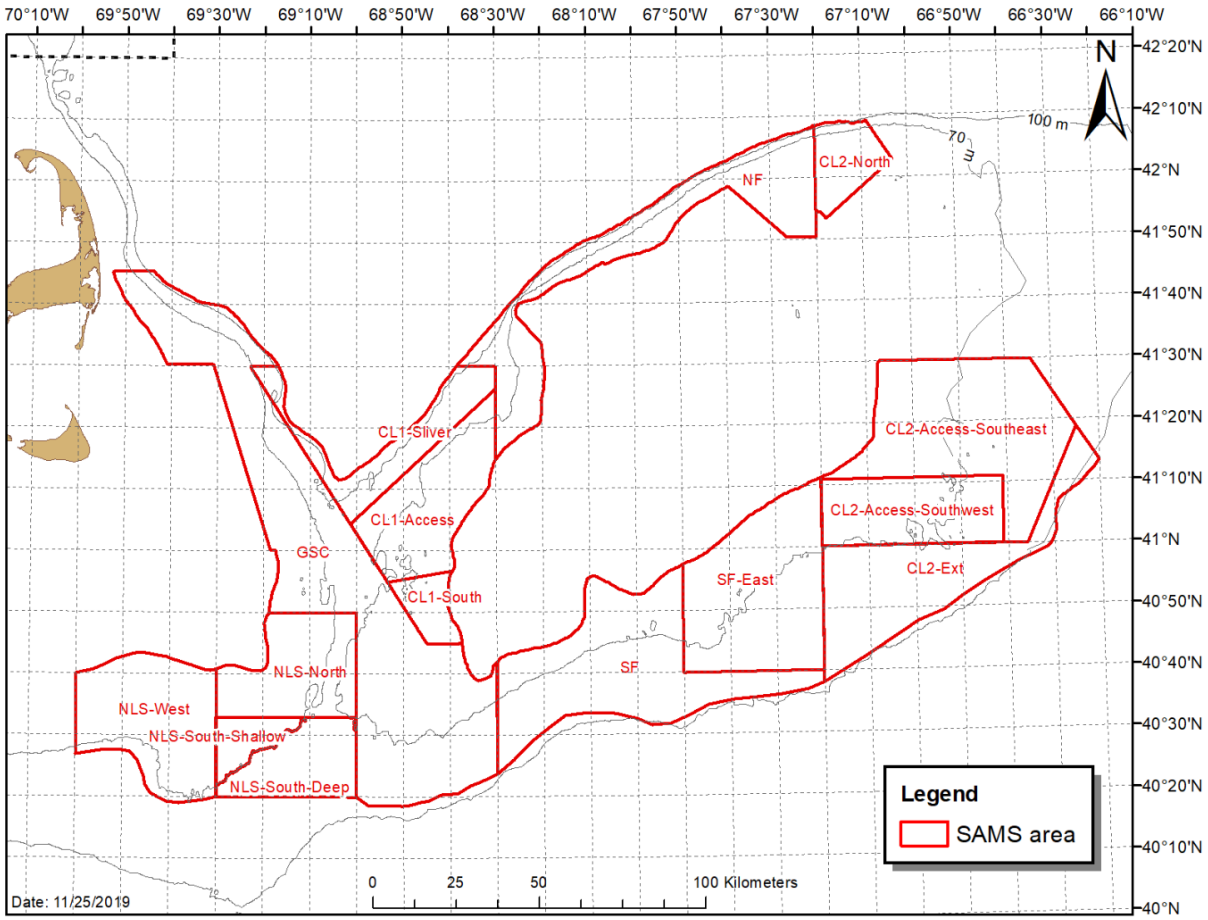
5.2.1 Atlantic Sea Scallops

The Atlantic sea scallop (*Placopecten magellanicus*) ranges Cape Hatteras to the Gulf of St. Lawrence. The Atlantic sea scallop fishery is primarily prosecuted in concentrated areas in and around Georges Bank and off the Mid-Atlantic coast, in waters extending from the near-coast out to the edge of the continental shelf. Atlantic sea scallops occur primarily in depths less than 110 meters on sand, gravel, shells, and cobble substrates (Hart & Chute 2004). While the majority of the Atlantic sea scallop resource is found on Georges Bank and in the Mid-Atlantic, sea scallops also occur in the Gulf of Maine (GOM) in both state and federal waters. The federal scallop resource in the GOM is managed by the New England Fishery Management Council and NOAA Fisheries.

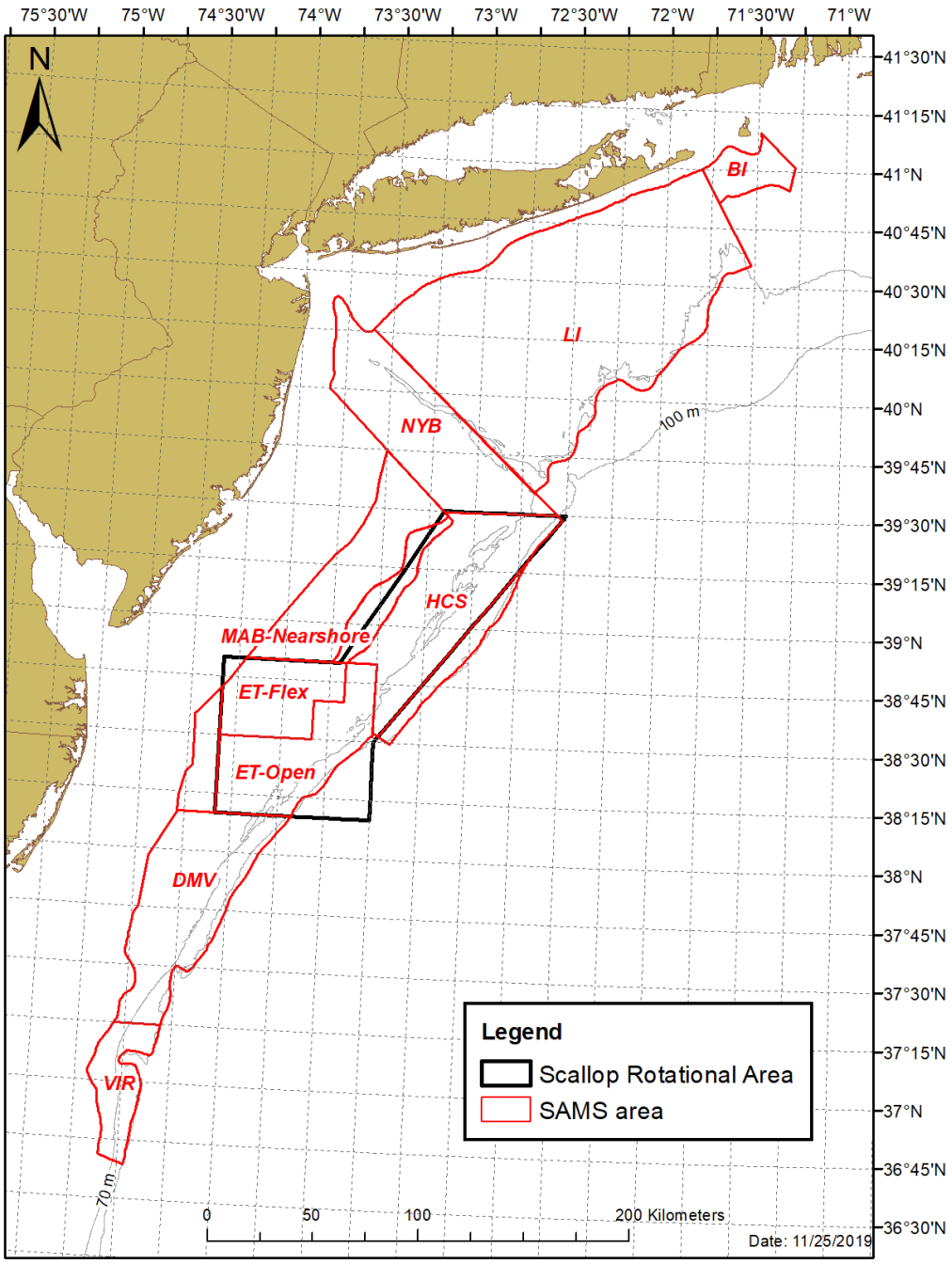
5.2.1.1 Scallop Area Management Simulator (SAMS) Areas

The SAMS (Scallop Area Management Simulator) model is used to project sea scallop abundance and landings as an aid to fishery managers since 1999 (SARC 65, Appendix 7). Forecasts are done using the SAMS model, which models the scallop fishery and population on a relatively fine scale, in order to help understand the effects of area management such as closing and reopening areas to fishing (NEFSC 2018). The SAMS model accounts for area specific scallop life history characteristics, such as growth, natural mortality recruitment, and shell height to meat weight relationships, and also accounts for mortality resulting from fishing operations (i.e. fishing mortality, incidental mortality, discard mortality). Area specific forecasts are estimated for sub-areas (i.e. SAMS areas) of Georges Bank and the Mid-Atlantic, the boundaries of which have changed over time to reflect changes in the scallop resource detected by annual surveys and(or) to account for changes in management boundaries. The spatial configuration of SAMS areas used in FW32 for FY2020 projections are shown in Map 1 for Georges Bank and Map 2 for the Mid-Atlantic region.

Map 1 – The Georges Bank SAMS areas used for FY2020 projections in FW32.



Map 2 – The 2019 Mid-Atlantic SAMS areas used for FY2020 projections in FW32.



5.2.2 Stock Status

The sea scallop resource had a benchmark assessment (SARC 65) in 2018 (NEFSC 2018). Therefore, all of the data and models used to assess the stock were reviewed. The summary of the benchmark assessment can be found at: https://www.nefsc.noaa.gov/publications/crd/crd1808/

Overfishing is occurring if F is above F_{MSY}, and the stock is considered overfished if biomass is less than ½ B_{MSY}. SARC 65 updated reference points and increased F_{MSY} to 0.64 and increased B_{MSY} to 116,766 mt (½ B_{MSY} = 58,383 mt). SARC 65 concluded that the scallop stock is neither overfished nor did it experience overfishing in 2017 (i.e. the terminal year of the assessment).

Figure 1 - Whole stock estimates of biomass by region from SARC 65. The biomass target B_{MSY} is the black dotted line, and the overfished biomass threshold $B_{MSY}/2$ is the red dashed line.

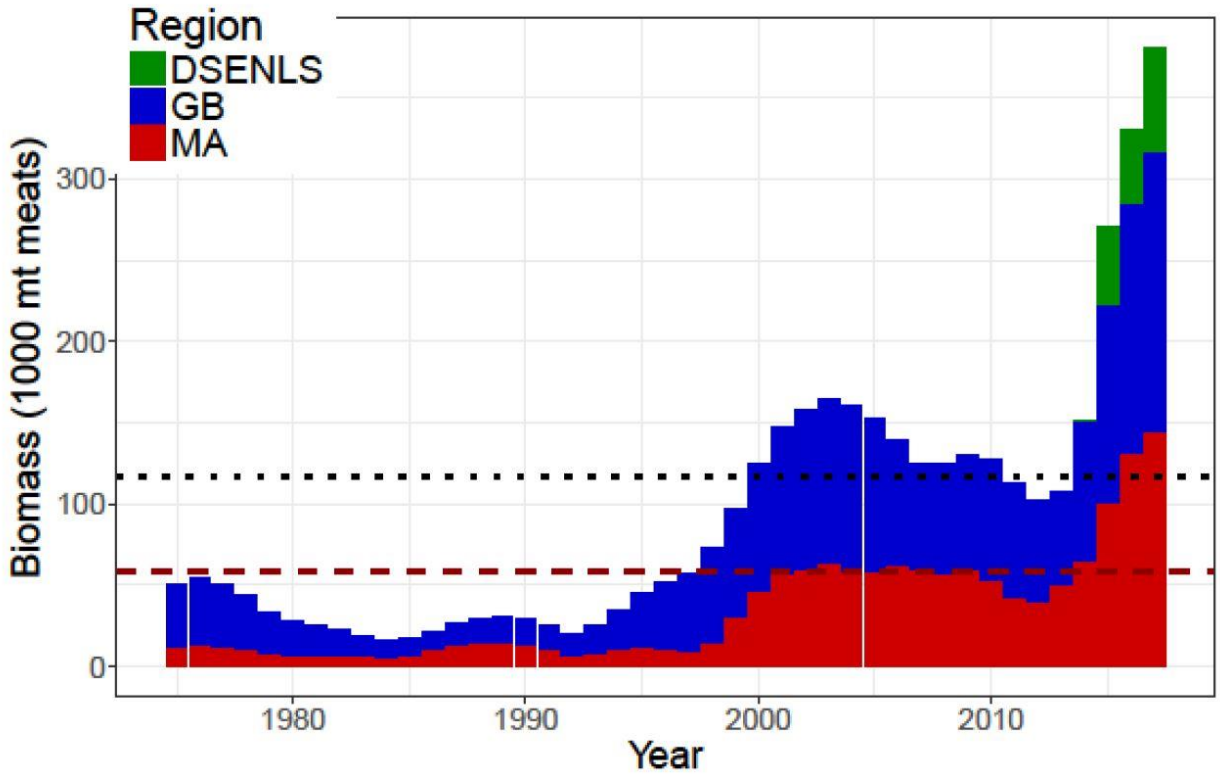
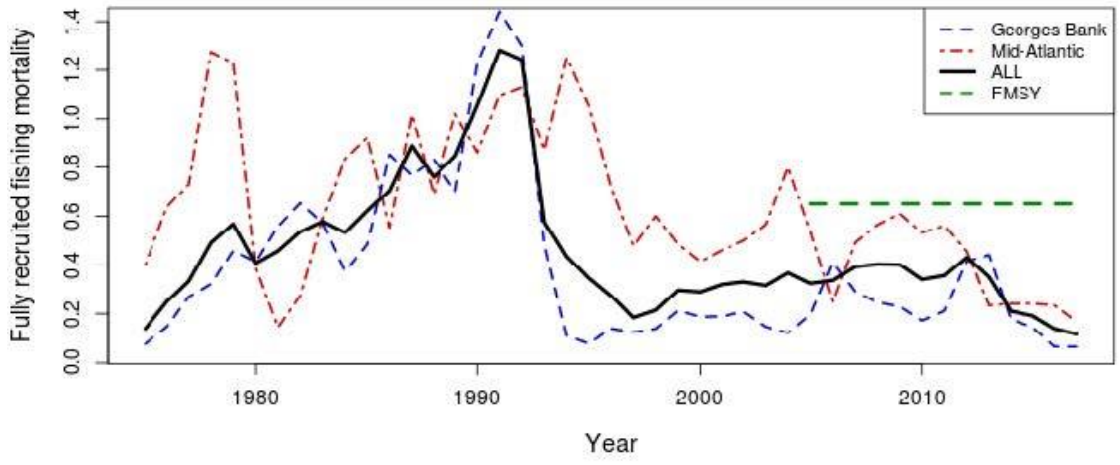


Figure 2 - Fully recruited annual fishing mortality rate for scallop from 1975 - 2017



Note that trends are different for partially recruited scallops because of changes in commercial size selectivity. SARC65 F_{MSY} (F=0.64) is shown with green dashed line for the most recent period; F_{MSY} would have been smaller in past years when selectivity was different.

Table 1 - 2017 Atlantic sea scallop stock status.

	Total 2017 Estimate	Stock Status Reference Points
Biomass (in 1000 mt)	317	½ B_{MSY} = 58,383
F	0.12 (SE of 0.01)	OFL = 0.64
In 2017, overfishing was not occurring, and the resource was not overfished.		

5.2.3 Northern Gulf of Maine

The most recent scallop stock assessment, SARC 65, included a term of reference directly related to the Gulf of Maine region (NEFSC 2018):

> *Summarize existing data, and characterize trends if possible, and define what data should be collected from the Gulf of Maine area to describe the condition of the resource. If possible, provide a basis for developing catch advice for this area.*

In addressing this term of reference, the stock assessment working group assembled an appendix that gave an overview of the scallop resource in the Gulf of Maine region, including findings from recent surveys conducted in this area, a description of scallop distribution based on historic trawl surveys, fishery effort data, and observer records. A complete summary of this information can be found in Appendix 3 of the final SARC 65 assessment report (pp. 197-236) (NEFSC 2018) .

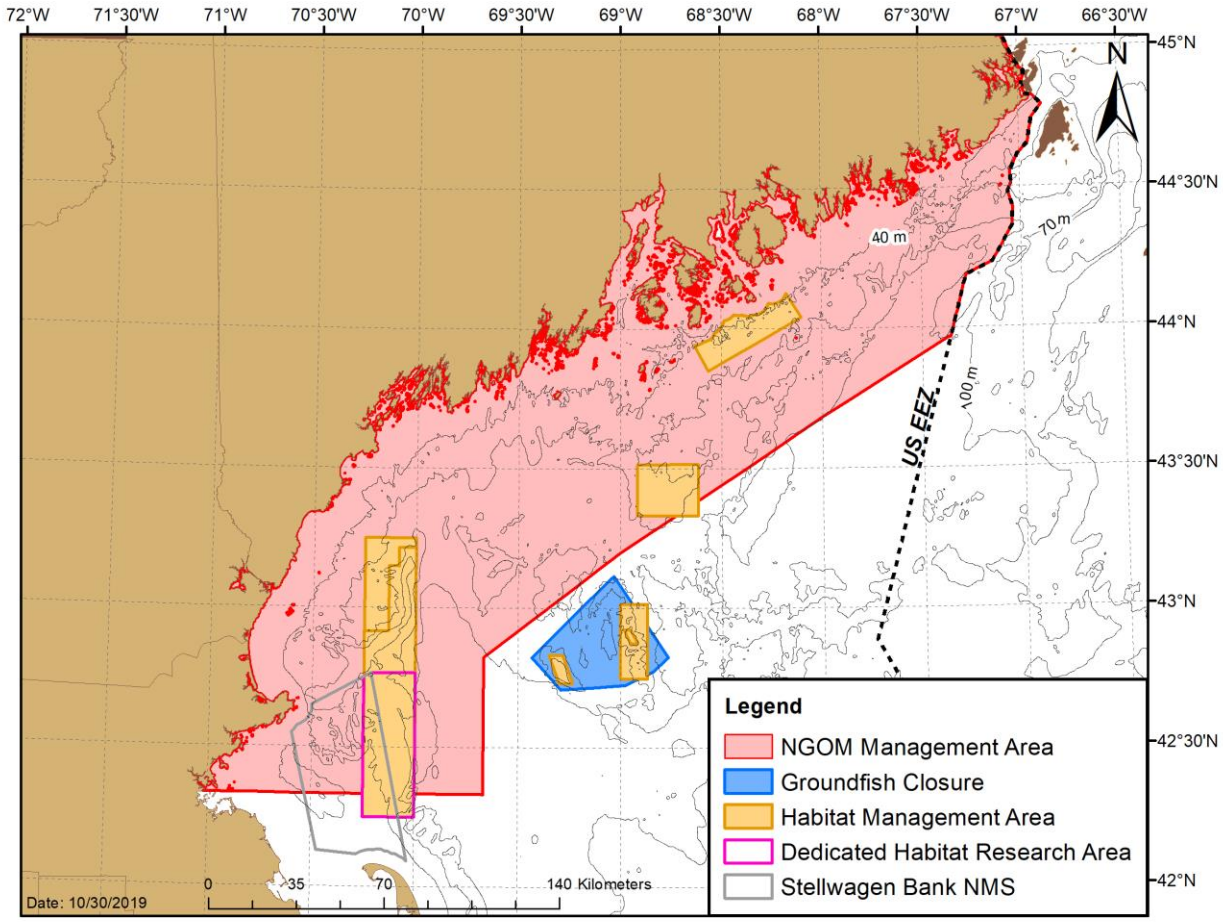
The Northern Gulf of Maine Management Area is located north of 42° 20’ N and delineated by the boundary of the Gulf of Maine Scallop Dredge Exemption Area (Map 3). Much like on Georges Bank and in the Mid-Atlantic, there are parts of the NGOM management area that support commercial densities of scallops; however, these areas are smaller (in terms of square mileage) than fishing grounds on Georges

Bank and in the Mid-Atlantic. Map 4 and Table 3 are provided below as an approximate size comparison of recently surveyed areas in the NGOM that have been recently fished or are expected to be fished in the near future relative to access areas of Georges Bank that are anticipated to be fished in FY2020.

Table 2 - Mean biomass estimates of individual areas of the Gulf of Maine from 2012, 2016, and 2019 ME DMR/UMaine surveys. Estimates (metric tons) are for animals greater the 75mm and assume a dredge efficiency of 0.4.

Area	2012	2016	2019
Platts Bank	51	101	8
Ipswich Bay	72 (area > '16 or '19)	119	127
Machias Seal Island	59	228	286
Northern Stellwagen Bank	92 (area > '16 or '19)	1,681	579
Southern Jeffreys	Part of IB, NSB	230	671
Southern Stellwagen Bank (Outside NGOM area)	Not surveyed	Not surveyed	434
NGOM with Southern Stellwagen (GOM)	Not surveyed	Not surveyed	2,106
Total NGOM	**274 mt (604,067 lbs)**	**2,360 (5,202,909 lbs)**	**1,672 (3,686,129 lbs)**

Map 3 – The Northern Gulf of Maine Management Area relative to groundfish closures, habitat management areas, and the Stellwagen Bank National Marine Sanctuary.



Map 4 – Approximate size comparison of recently surveyed scallop fishing areas of the NGOM relative to proposed access areas on Georges Bank for FY2020. Note that square mileage of GB access areas are measured based on SAMS area boundaries to more accurately reflect "scallop bottom".

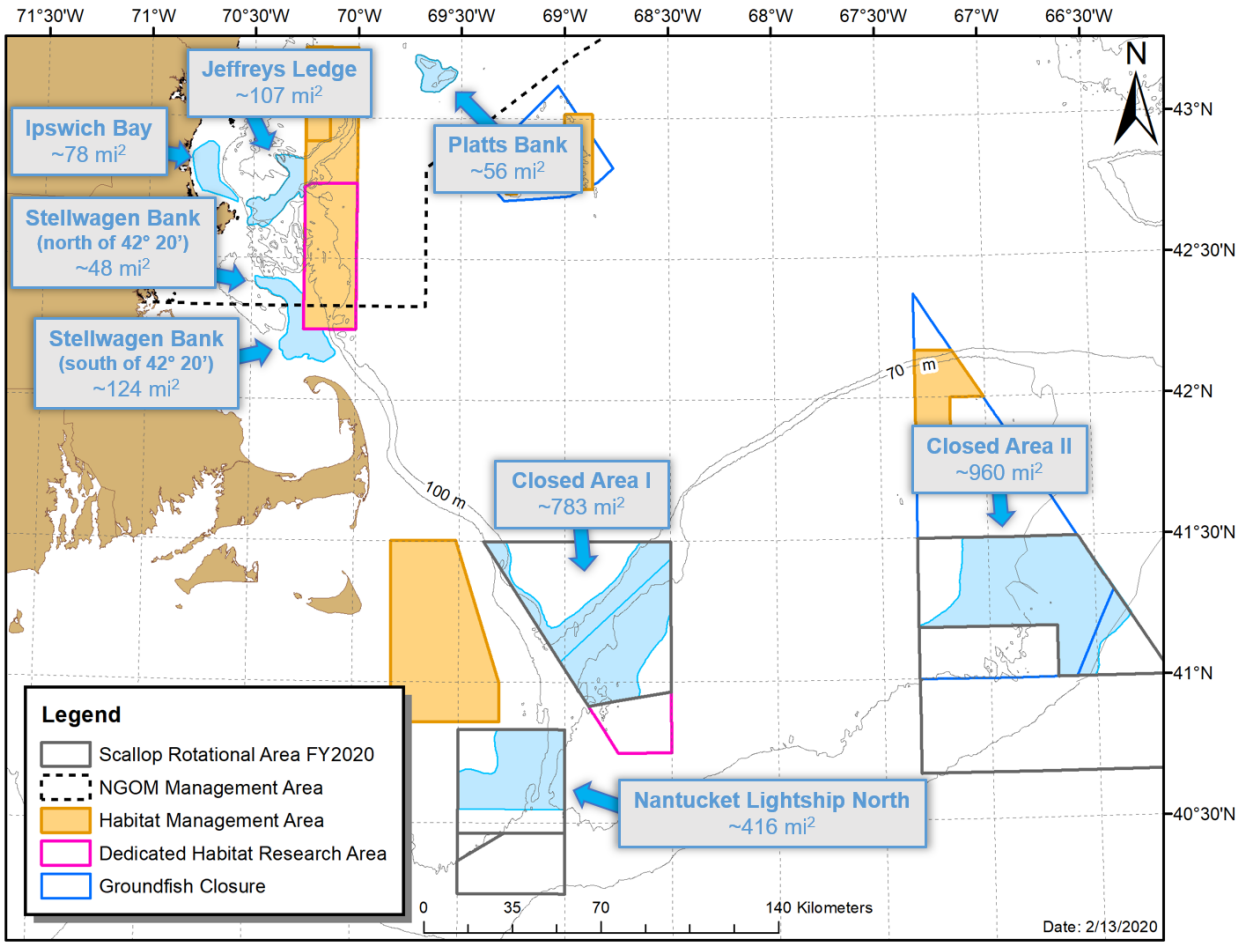
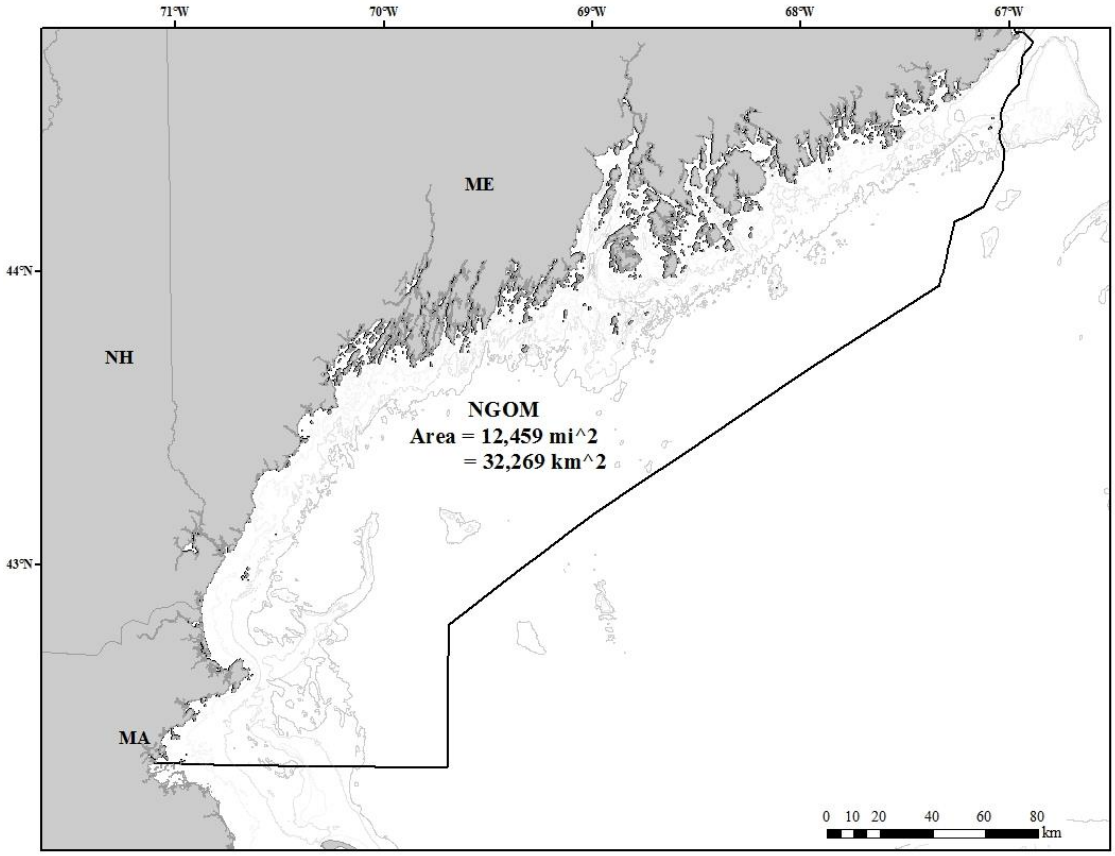


Table 3 – Approximate area (square miles) of parts of the NGOM that have recently been surveyed and have been or are likely to be fished relative to SAMS area boundaries of proposed FY2020 access areas on Georges Bank and in the Mid-Atlantic.

	area	mi^2
NGOM areas that have been or are likely to be fished	Stellwagen Bank (north of 42° 20)	48
	Stellwagen Bank (south of 42° 20)	124
	Ipswich Bay	78
	Jeffreys Ledge	107
	Platts Bank	56
FY2020 access area SAMS	NLS-North	416
	CL1-Sliver	313
	CL1-Access	471
	CL2-Access-Southeast	960
	NLS-South-Deep	282
	ET-Open	1,048
	ET-Flex	696
	HCS	1,518

Map 5 - Area of the Northern Gulf of Maine management unit in square miles and square kilometers.



5.3 PHYSICAL ENVIRONMENT AND ESSENTIAL FISH HABITAT

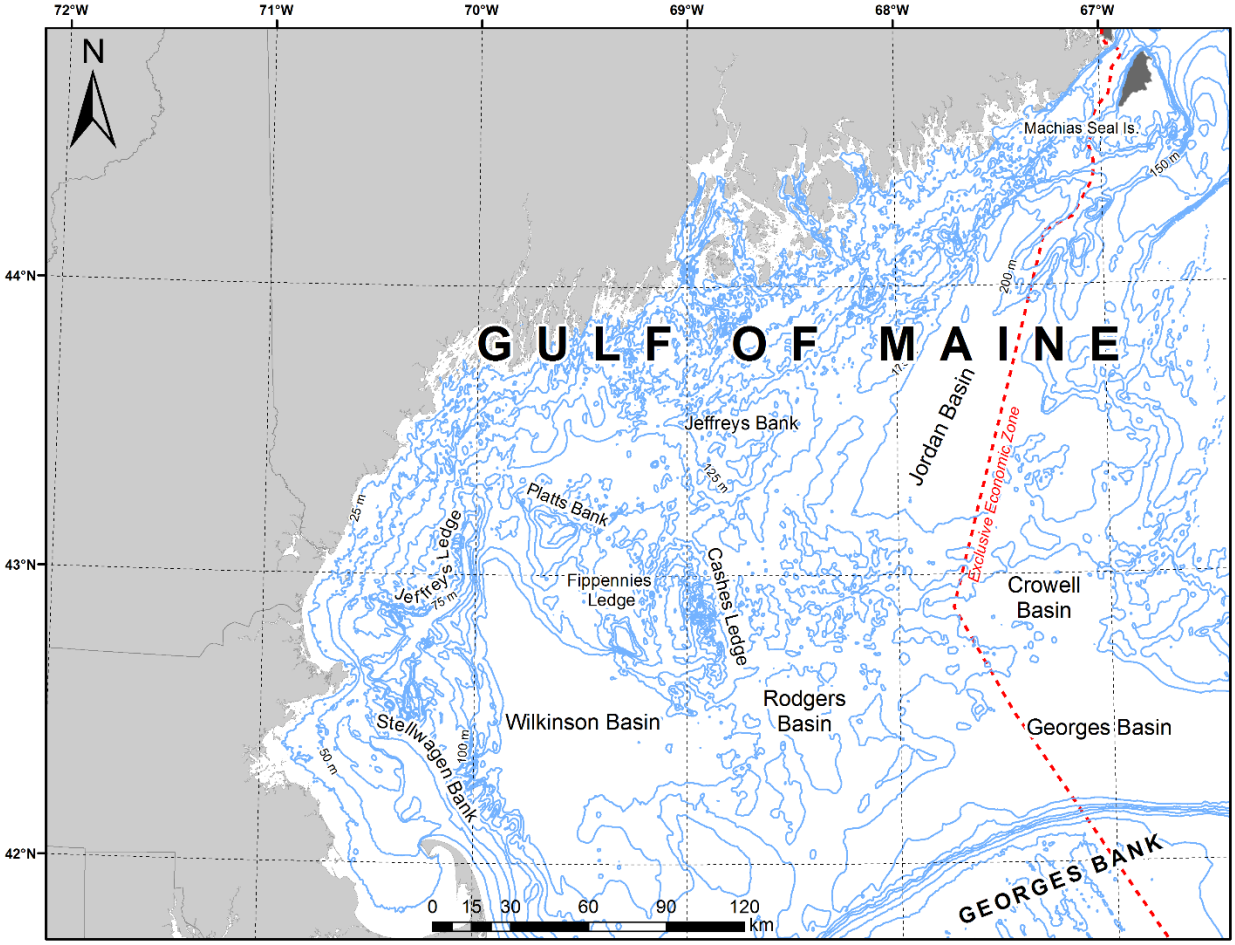
The Gulf of Maine is an enclosed coastal sea of 90,700 km^2, extending north of Cape Cod, east of Maine, and south and west of Nova Scotia. This region is topographically unique, as it was glacially derived and is comprised of a system of deep basins, moraines, and rocky pinnacles. The distinctive benthic terrain found here influences a complex web of oceanographic processes, which promote high productivity and support a rich, diverse biological assemblage.

The Gulf of Maine's geologic features, when coupled with vertical variations in water properties, result in a great diversity of habitat types. There are twenty-one distinct basins separated by ridges, banks, and swells. The three largest basins are Wilkinson, Georges, and Jordan. Depths in the basins exceed 250 m, with a maximum depth of 350 m in Georges Basin, just north of Georges Bank. The Northeast Channel between Georges Bank and Browns Bank leads into Georges Basin, and is one of the primary avenues for exchange of water between the Gulf of Maine and the North Atlantic Ocean.

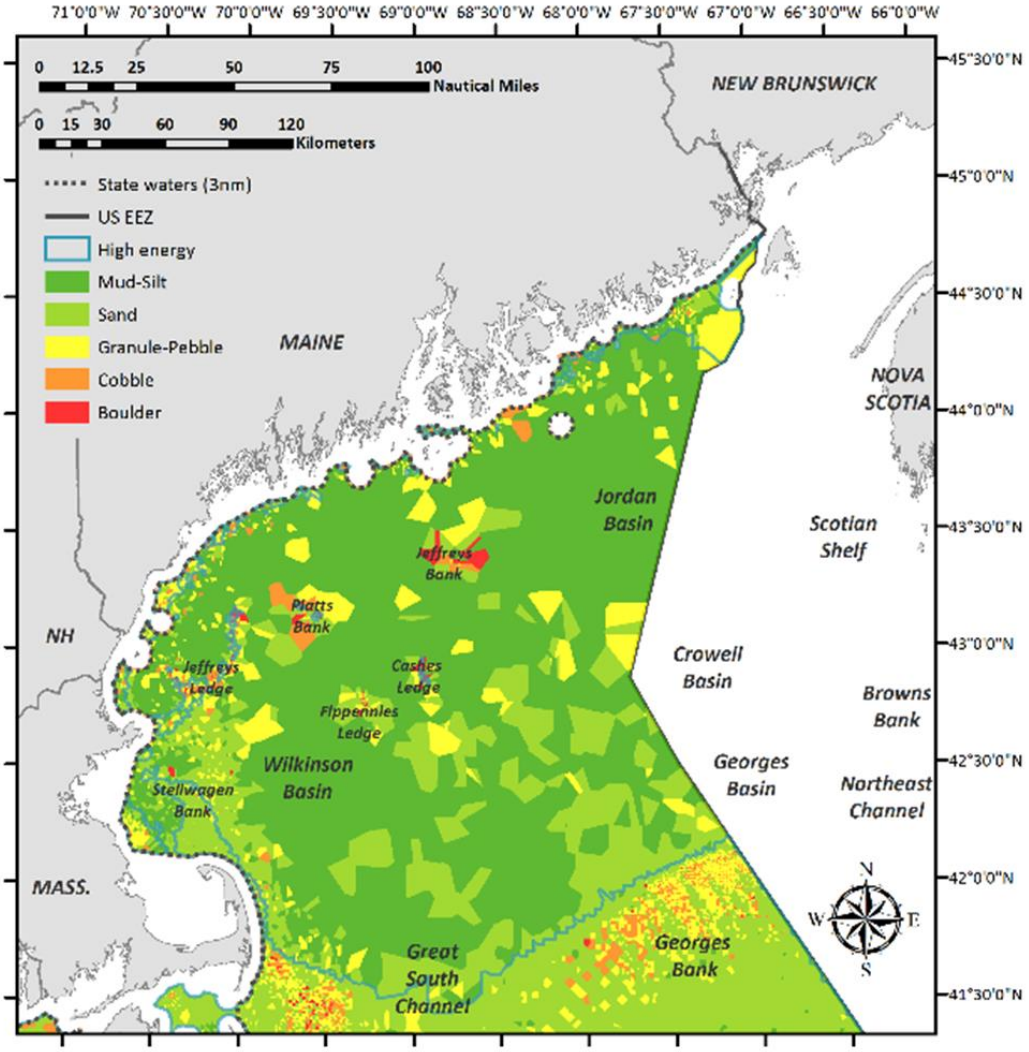
Intense seasonal cycles of winter cooling and turnover, springtime freshwater run off, and summer warming influences oceanographic and biologic processes in the Gulf of Maine. Numerous factors dictate water properties and circulation (i.e. stratification, tidal mixing, warm/cold core Gulf Stream rings, internal waves), which can vary significantly from year to year. This drastic variation in water properties will often shift habitat conditions, ultimately impacting productivity and success of resident marine species.

Map 7 depicts dominant sediment type mapped as an unstructured or Voronoi grid, where polygon size reflects data density (i.e. the smaller grid, the more data points there are in that location). This sediment map was developed for use in the Swept Area Seabed Impact model. The muddier basins as well as hard-substrate shallower areas are shown in dark green to red coloration. Higher versus lower energy habitats are delimited by the blue line, with higher energy habitats inshore and on the tops of features including Cashes Ledge, Platts Bank, Jeffreys Ledge, and Stellwagen Bank. In the Gulf of Maine, a depth cut-off of 60 m was used to distinguish high versus low energy habitats. In general, sediment data are fairly low resolution in many parts of the Gulf of Maine. However, one feature that has been mapped in detail is Stellwagen Bank (Map 8).

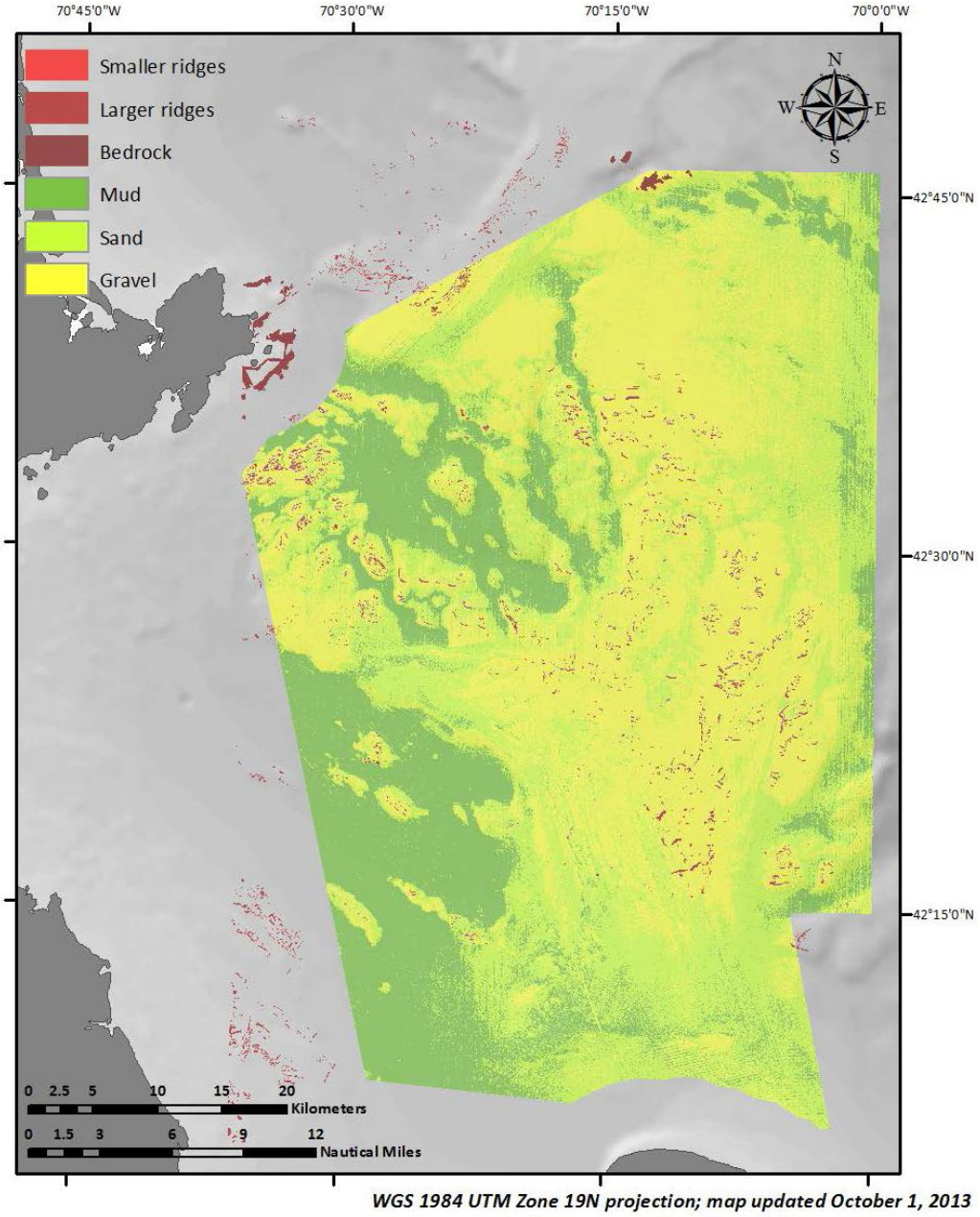
Map 6 – Major physiographic features of the Gulf of Maine relative to the territorial waters boundary of the US and Canada (EEZ, red dotted line).



Map 7 – Sedimentary features of the Gulf of Maine (NEFMC, 2016).



Map 8 – Sedimentary features of Stellwagen Bank. Source: U.S. Geological Survey (Map 22 from Omnibus Habitat Amendment 2).



5.4 HUMAN COMMUNITIES

5.4.1 Introduction

Amendment 21 evaluates the effect management alternatives may have on the economy, way of life, and traditions of human communities. These social and economic impacts may be driven by changes in fishery flexibility, opportunity, stability, certainty, safety, and/or other factors. While social and economic

impacts could be solely experienced by individuals, it is more likely that impacts would be experienced across communities, gear types, and/or vessel size classes.

Summarized here are the fisheries and human communities most likely to be impacted by the Alternatives under Consideration. Social, economic and fishery information herein helps describe the response of the fishery to past management actions and predicting how the Amendment 21 alternatives may affect human communities. Also, this section establishes a descriptive baseline to compare predicted and actual changes resulting from management.

MSFCMA Section 402(b), 16 U.S.C. 1881a(b) states that no information gathered in compliance with the Act can be disclosed, unless aggregated to a level that obfuscates the identity of individual submitters. The fishery data in this amendment are thus aggregated to at least three reporting units, to preserve confidentiality. Additional standards are applied to reporting the fishing activity of specific states or fishing communities. To report landings activity to a specific geographic location, the landings have been attributed to at least three fishing permit numbers and the landings must be sold to three dealer numbers. However, the dealers do not necessarily have to be in the same specific geographic location.

5.4.2 Specifications and Total Landings

OFL and ABC have generally increased since 2011 (Table 4), in part, due to the exceptional year classes of 2012 and 2013. During FY 2011-2018, scallop landings ranged from 32M to 58M pounds. Although total landings exceeded annual projected landings in three years since 2011, the fishery remained below the ABC/ACL.

Table 4. Scallop fishery OFL, ABC/ACL, APL and landings values (lbs).

FY	OFL (lbs)	ABC/ACL (lbs)	*Annual Projected Landings (lbs)	Total Landings (lbs)	Landings/APL (%)
2011	71,401,113	60,117,854	52,300,000	58,461,465	112%
2012	75,799,335	63,848,076	57,200,000	57,098,684	100%
2013	69,566,867	46,305,894	38,216,741	39,807,589	104%
2014	67,062,415	45,816,467	38,463,656	32,020,980	83%
2015	83,910,142	55,891,593	47,400,000	36,974,195	78%
2016	150,835,870	83,449,375	46,932,006	42,423,177	90%
2017	166,415,938	103,037,447	45,230,038	51,325,269	113%
2018	158,854,083	101,302,409	57,748,612**	58,100,342	100.6%
2019	161,865,597	125,670,103	59,985,576		
2020	130,482,794	110,120,732	49,318,135		

Source: year-end catch reports, updated July 2019.
** APL after set-asides are removed*
***includes CAI carryover. '*
Note – 2020 values are preliminary

5.4.3 Scallop Permits and Vessels

Scallop FMP was established in 1982. In 1994 (Amendment 4), a limited access program was created. Limited access vessels were assigned different DAS limits according to which permit category they qualified for: full-time, part-time or occasional. Amendment 4 also created the general category scallop permit for vessels that did not qualify for a limited access permit. Although originally created for an

incidental catch of scallops in other fisheries, and for small-scale directed fisheries, the general category fishery and fleet evolved after its creation in 1994.

The general category scallop fishery was established as an "open access" fishery, any vessel that wanted to apply for a permit could; there were no specific qualifications to receive a general category permit. The main control on mortality for this component of the scallop fishery was a daily possession limit. Amendment 11, implemented in 2008, transitioned the general category component from an open access fishery to limited access. Vessels with at least 1,000 lbs. of landings history during a qualifying year (2000 – 2004) were eligible for an IFQ permit and "contribution factor" (allocation), while general category vessels that did not qualify for an IFQ permit were eligible for a Northern Gulf of Maine (NGOM) scallop permit, or an incidental catch permit.

Since 2008, all federal scallop permits have been limited access. A vessel can hold LA permits only, LAGC permits only, or a combination of LA and LAGC permits. There are multiple permit categories within LA and LAGC (Table 5). For LAGC, there are three types: LAGC Category A permits which are IFQ permits; LAGC Category B permits which are restricted to fishing in the NGOM; and LAGC Category C permits which are incidental catch permits restricted to 40 pounds of scallop catch. Within the LAGC Category A permits there are two types: vessels that can transfer and lease quota and those that cannot (i.e., Limited Access scallop vessels that also qualified for a LAGC IFQ permit). Limited access scallop vessels can also qualify for the two other general category permits (NGOM and incidental catch).

The scallop fishery is primarily full-time, with a small number of part-time (PT) permits. There are no occasional (OC) permits left in the fishery since 2009, as these were converted to part-time small dredge (PT-SMD). IFQ vessels are allocated an overall 0.5% of the total projected annual scallop catch, and each permit has an individual contribution factor.

Table 5 - Scallop permit categories, description, and number of permits issues in 2016.

Permit Category	Description	Permits issued in 2016
LA 2	Full-Time	248
LA 3	Part-Time	2
LA 4	Occasional	0
LA 5	Full-Time Small Dredge	51
LA 6	Part-Time Small Dredge	30
LA 7	Full-Time - Authorized to use trawl net	11
LA 8	Part-Time - Authorized to use trawl net	0
LA 9	Occasional - Authorized to use trawl net	0
LAGC A	Individual Fishing Quota	258
LAGC B	Northern Gulf of Maine	99
LAGC C	Incidental Catch	242
Source: https://www.fisheries.noaa.gov/permit/atlantic-sea-scallop Accessed on 2/12/2020.		

Table 6. Scallop permit categories, qualifying criteria, harvest limits and allocation types.

Permit Type		Year Created	Action	Qualifying Criteria	Permit Category	Harvest Limits	Vessel level allocation?	Form of allocation
Limited Access[a]		1994	Amend. 4	One trip with over 400 pounds in either 1988 or 1989, extended for new vessels under construction	Based on number of days used in 1990, or average of 1985-1990 days	94.5% of APL, after set-asides and incidental catch removed	Yes	DAS and access area trips
LA General Category	**IFQ**	2008	Amend. 11	Possess Open Access GC permit	1,000 pounds landings in a year (FY2000-2004), individual allocation based on best year indexed by # of years active in the fishery	5.5% of APL, after set-asides and incidental catch removed	Yes	IFQ pounds; set # AA trips at fleet level
	NGOM	2008	Amend. 11	Possess Open Access GC permit	No landings history required	Up to TAC for management area, not linked to annual projected landings estimate	No	Harvest in area until LAGC fleet reaches TAC
	Incidental	2008	Amend. 11	Possess Open Access GC permit	No landings history required	Deducted from APL before allocating to LA and LAGC IFQ	No	Harvest allowed until limit is reached

Note: There are multiple categories of LA permits (full-time/part-time, dredge/trawl, small/large dredge).
Source: IFQ Review Tables 1 and 2.

5.4.3.1 Permit Movement Between LAGC Categories

Currently, LAGC B (NGOM) and LAGC C (Incidental) permit holders may move between these two permit categories annually, or mid-season when a permit is transferred to a new owner. LAGC A (IFQ) permit holders can make a one-time transition from IFQ to NGOM/Incidental.

As of May 21, 2019, there were a total of 425 NGOM/Incidental rights (LAGC Category B/C). At the end of the 2018 fishing year (March 31, 2019), there were 107 Category B (NGOM) and 237 Category C (Incidental) active permits (not in CPH). Summary of permit movement from 2009-2019 (11 years) is shown in Table 7.

- 17 permits converted from IFQ (A) to NGOM/Inc (B/C)
- 13 permits moved from Incidental to NGOM
- 4 moved from NGOM to incidental

The number of LAGC IFQ (A) permits that have zero allocation are shown in Table 8.

Table 7 – Summary of LAGC conversions and switches between FY 2008 and FY 2019.

Fishing Year	Conversion from A to B/C	From B to C Within a year	From C to B Within a year	From B to C Across Years	From C to B Across Years
2008	-	-	-	-	-
2009	0	0	0	0	3
2010	0	0	0	0	1
2011	1	0	0	0	0
2012	1	0	0	2	2
2013	2	0	0	0	0
2014	6	1	1	1	0
2015	0	0	2	0	0
2016	0	0	0	0	0
2017	3	0	0	0	1
2018	3	0	0	0	1
2019	1	0	1	0	1

Table 8 - Number of Scallop LAGC Cat. A (IFQ) MRIs with zero base allocation.

FY	MRI
2011	7
2012	5
2013	28
2014	46
2015	49
2016	66
2017	88
2018	87
2019	94

5.4.4 Trends in Northern Gulf of Maine Management Area

The following section includes information on trends in the Northern Gulf of Maine Management Area.

5.4.4.1 Trends in Fishing Activity

Activity in directed scallop fishing within the NGOM management area peaked in 2017, when over 100 vessels (LA and LAGC) were active in the area (Table 9).

Table 9 - Number of active LA and LAGC (Cat A & B) in Northern Gulf of Maine Management Area by scallop fishing year.

Fishing Year	Total Vessels	LA Vessels	LAGC Vessels
2011	10	0	10
2012	10	0	10
2013	18	0	18
2014	25	0	25
2015	29	0	29
2016	51	13	38
2017	105	67	38
2018	40	0	40
2019	41	0	41

Figure 3 - Number of active LAGC A (IFQ) and LAGC B (NGOM) in with declared trips Northern Gulf of Maine management area by fishing year. (Source: GARFO APSD)

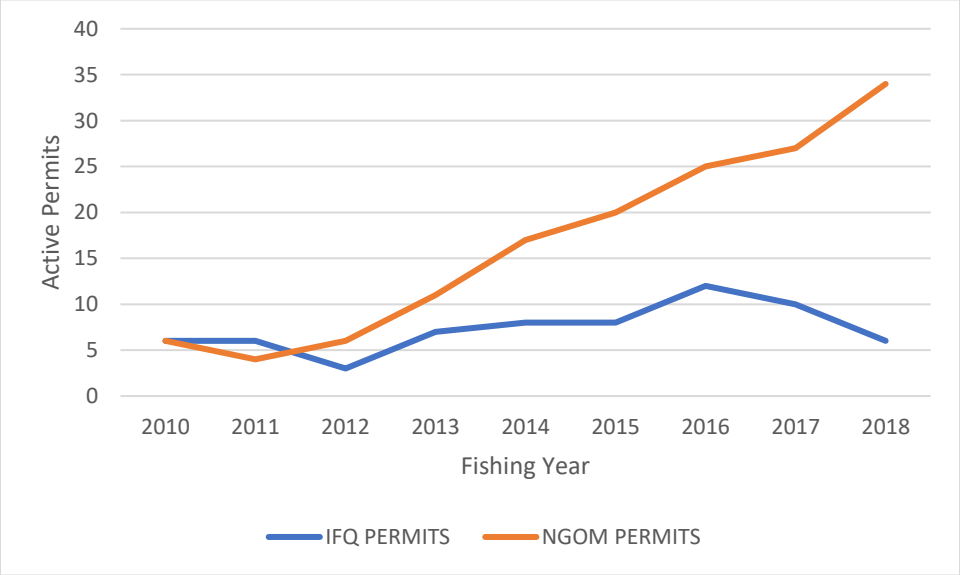


Table 10 - Number of unique LAGC permits/vessels that have participated in the NGOM.

	Unique Permits/Vessels
LAGC NGOM	62
LAGC IFQ	25
Total LAGC	84
Note: The total number of permits is greater than the sum of the unique IFQ and NGOM permits because IFQ permits can opt to permanently transfer to the NGOM category.	
Source: NOAA/GARFO/APSD January 17, 2020. Compiled using VMS declarations.	

Figure 4 - Total number of years active in the NGOM since 2010 by LAGC permit type (Cat A & Cat B).

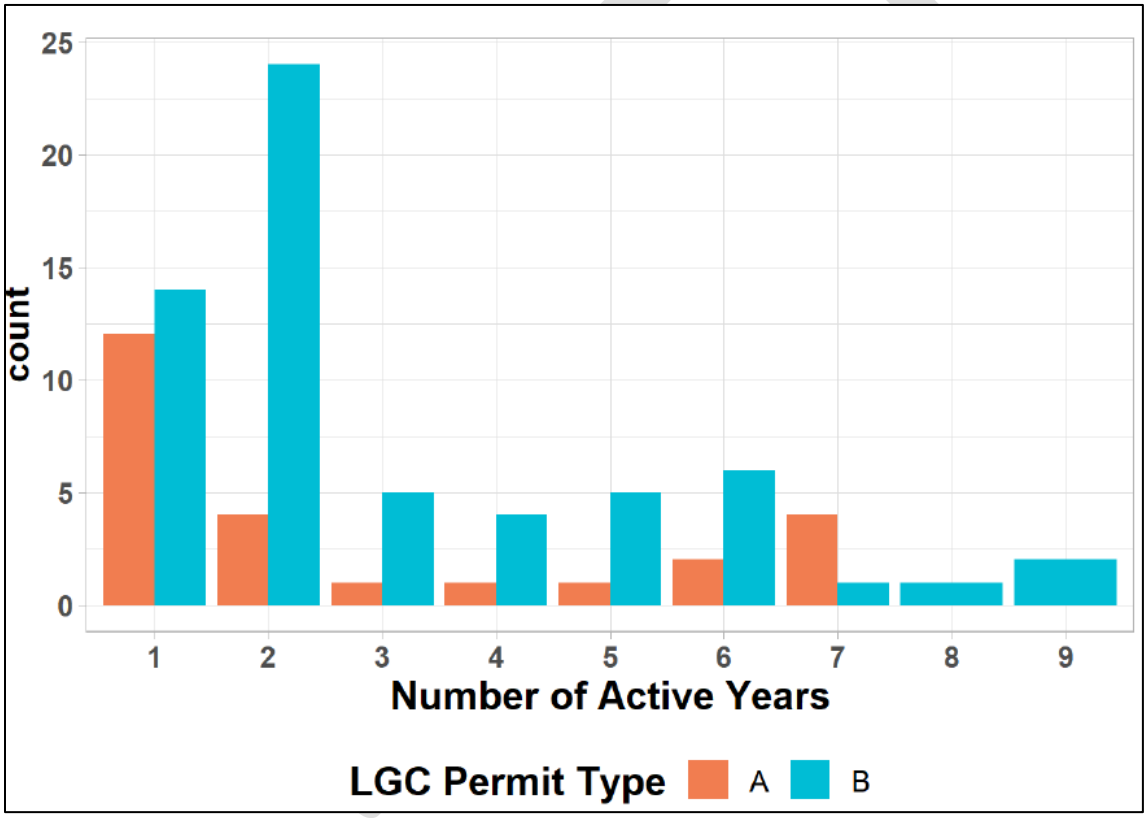


Table 11 - Trips per vessel, total trips, and average catch per trip for LAGC (Cat A & B) from 2010 - 2019.

Fishing year	Mean trips per vessel	Median trips	Max Trips per vessel	Active LAGC Vessels	Total Trips	Average Catch per trip (pounds)
2010	7	6	15	11	79	72
2011	10	4	37	10	95	62
2012	6	1	27	10	60	79
2013	26	22	101	18	477	102
2014	18	10	80	25	457	141
2015	23	16	87	29	668	118
2016	15	14	43	38	559	171
2017	7	7	18	38	278	197
2018	18	18	40	40	737	186
2019	16	16	24	41	650	191
Source: NOAA/GARFO/APSD July 23, 2019						

Figure 5 - Boxplot of total trip per active vessel in the NGOM by fishing year.

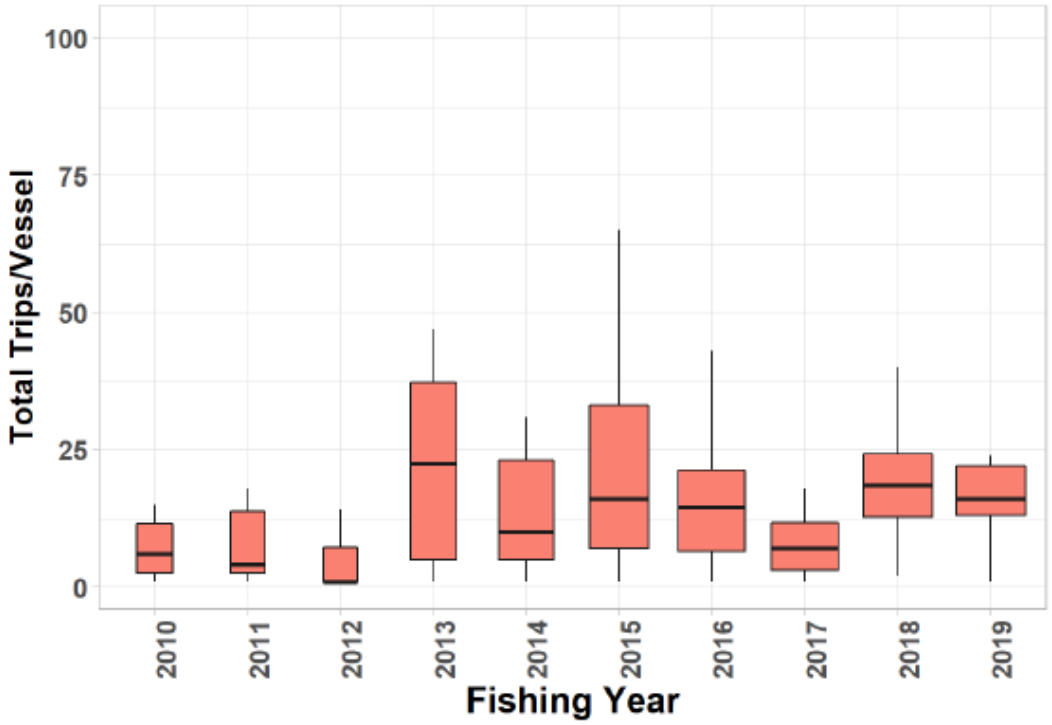


Figure 6 - Range of trips per week, per vessel for fishing years 2010-2019 in the Northern Gulf of Maine. Weeks included were only those when the Northern Gulf of Maine was open.

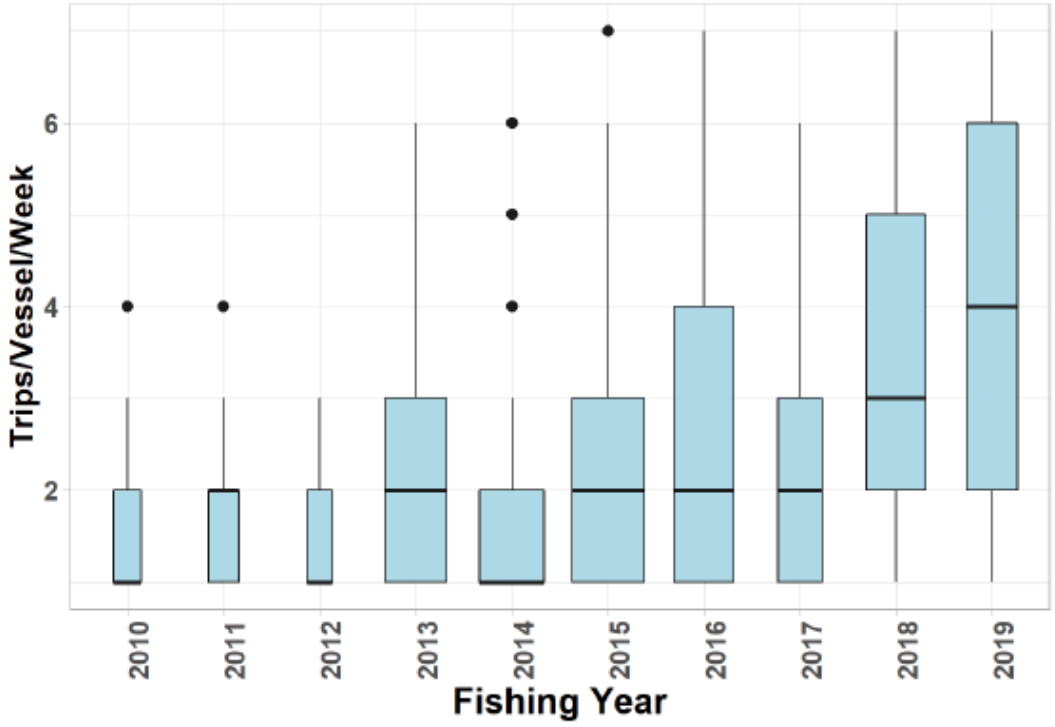


Table 12 – Number of LAGC vessels with multiple sailings per day in the NGOM Management Area, and the total number of times this occurred.

Fishing year	Vessels with more than 1 trip/day	Total number of occurrences
2010	0	0
2011	0	0
2012	0	0
2013	0	0
2014	3	3
2015	1	1
2016	2	2
2017	4	4
2018	7	9
2019	6	13
Source: NOAA/GARFO/APSD		

Table 13 - 2017 Participation in the NGOM fishery by permit type.

Permit Category	Description	Active in NGOM in FY2017
LA 2	Full-Time	49
LA 5	Full-Time Small Dredge	15
LA 6	Part-Time Small Dredge	3
LAGC A	Individual Fishing Quota	10
LAGC B	Northern Gulf of Maine	28
Source: NOAA GARFO APSD		

5.4.4.1.1 Trends in LAGC Fishing Activity in NGOM by Home Port State

The majority of LAGC activity in the NGOM management area is by vessels home ported in Maine, Massachusetts, and New Hampshire (Table 14). Participation by vessels home-ported in Maine in the NGOM fishery has increased substantially from 2011 through 2019 (<3 → 27). Participation by vessels home ported in New Hampshire has remained fairly constant (<3 – 6) over a 9 year period, while the number of vessels home ported in Massachusetts increased over this time from a low of 3 in 2012 to a high of 13 in 2019.

Table 14 - Unique LAGC permits by home port state and fishing year for the Northern Gulf of Maine.

Fishing Year	ME	NH	MA	NJ
2011	<3	4	4	
2012	4	<3	3	
2013	7	5	6	
2014	10	6	8	<3
2015	11	6	11	
2016	18	6	12	<3
2017	21	3	12	<3
2018	25	3	12	
2019	27	4	13	
Source: NOAA/GARFO/APSD January 17, 2020				

Table 15 - Number of LAGC trips by home port state and fishing year for the Northern Gulf of Maine.

Fishing Year	ME	NH	MA	NJ
2011	5	31	59	
2012	30	22	7	
2013	155	184	103	
2014	109	206	132	<3
2015	95	244	291	
2016	244	77	192	<3
2017	162	21	85	3
2018	527	28	179	
2019	495	60	171	
Source: NOAA/GARFO/APSD January 17, 2020				

5.4.4.2 Trends in Effort and Landings from NGOM Management Area

5.4.4.2.1 Initial Calculation of NGOM TAC in Amendment 11 and Framework 19

In Framework 19 the Council reviewed the NGOM alternative approved in Amendment 11. The intent of the NGOM TAC was that it be for fishing in federal waters only and landings by limited access vessels should not count toward the NGOM TAC during the fishing year. The Council approved a NGOM TAC of 70,000 pounds, which is equivalent to average landings from general category vessels from VTR reports in federal waters only.

The Council directed the PDT to develop an estimate for the hard-TAC based on the federal portion of the resource within the NGOM management area. VTR landings information is not very reliable for specific location information, but can provide a general idea of fishing location over a longer period of time and for a large number of vessels. The PDT reviewed total general category landings in the NGOM from VTR data for calendar year 2000-2006. Landings from state waters were removed, as well as landings from any EFH or Multispecies closed areas in the region, since those areas will not be available in the near future. In addition, all trips over 1,200 pounds per trip were eliminated from the database. General category vessels are restricted to 400 pounds per trip, but 1,200 pounds was used as a cut off for analysis in Amendment 11 to be more inclusive because issues were raised about the data (i.e. multiple trips reported together). Most trips were below 1,200 pounds, but a number of trips in 2001 and 2002 were above that amount. The average landings from within the NGOM for this time period were about 129,000 pounds. After landings from state waters and areas now closed to fishing are removed, the average landings are reduced to over 69,000 pounds (Table 87). This information is also displayed in Figure 34 by calendar year.

Table 16 - Summary of landings from within the NGOM area (VTR data from 2000-2006)

Calendar Year	VTR landings from within the NGOM area	VTR landings from within state waters in the NGOM	**VTR landings from within federal waters only in the NGOM area**
2000	70,006	39,878	**30,127**
2001	144,224	84,842	**59,382**
2002	273,790	133,613	**140,177**
2003	174,370	89,882	**84,488**
2004	47,403	22,832	**24,571**
2005	76,934	17,568	**59,366**
2006	116,995	29,788	**87,207**
AVG	***129,103***	***59,772***	***69,331***

Table 17 describes the estimated landings from directed scallop fishing in the Northern Gulf of Maine Management Area. This number is estimated because prior to FY 2018, LA vessels could fish inside and outside of the NGOM management unit on a DAS trip. Figure 9 provide a more detailed breakdown of landings by permit category, and includes the number of days the management area was open in each fishing year. Landings in the NGOM have generally increased since the area's inception, peaking in 2017 when both LA and LAGC vessels fished on an abundance of scallops on Stellwagen Bank.

Table 17 - Estimated Total Scallop Landings from the NGOM management area by LA and LAGC vessels from 2010 - 2019.

Fishing Year	Estimated Landings (lbs)
2010	8,639
2011	6,908
2012	7,440
2013	55,450
2014	57,842
2015	72,546
2016	381,600
2017	1,625,457
2018	133,882
2019	138,246

Table 18 - Comparison of LAGC landings vs. LAGC NGOM TAC, 2008 - 2019. Values in pounds.

FY	LAGC Landings	TAC	Percent of TAC used
2008	9,936	70,000	14%
2009	15,534	70,000	22%
2010	8,639	70,000	12%
2011	6,908	70,000	10%
2012	7,440	70,000	11%
2013	55,450	70,000	79%
2014	57,842	70,000	83%
2015	72,546	70,000	104%
2016	89,083	67,454	132%
2017	47,437	73,371	65%
2018	138,718	135,000	103%
2019	138,246*	137,500	101%
Source: Final Year End Landings Reports, Final Rules. *Subject to change with final year end 2019 landings report.			

Figure 7 - Sea Scallop landings in Maine from state and federal waters from 1950 - 2019. Accessed on 3/20/2020 at https://www.maine.gov/dmr/commercial-fishing/landings/documents/scallop.graph.pdf.

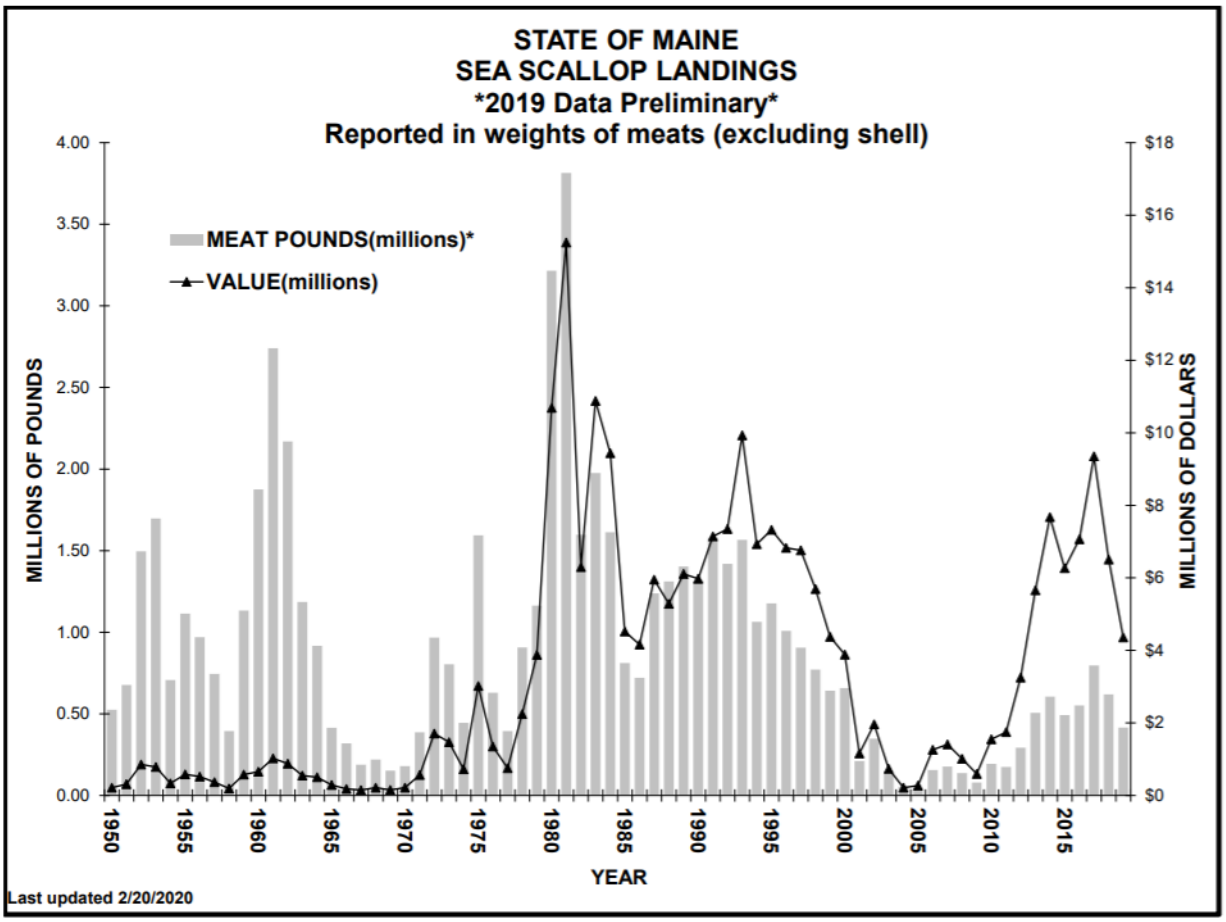


Table 19 - Total landings from NGOM management area as a proportion of total fishery landings.

Fishing Year	Total NGOM Landings	Total Fishery Landings	% of Total Landings
2011	6,908	58,461,465	0.01%
2012	7,440	57,098,684	0.01%
2013	55,450	39,807,589	0.14%
2014	57,842	32,020,980	0.18%
2015	72,546	36,974,195	0.20%
2016	381,600	42,423,177	0.90%
2017	1,625,457	51,325,269	3.17%
2018	133,882	58,100,342	0.23%
2019	138,246	TBD	TBD

Figure 8 - Comparison of landings from NGOM management area by LAGC A (IFQ) and LAGC B (NGOM) vessels.

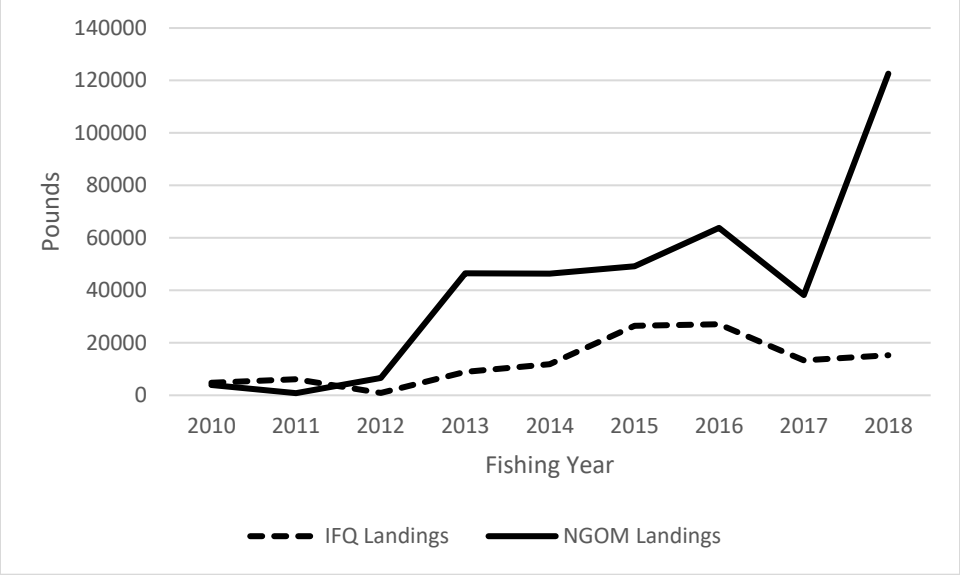
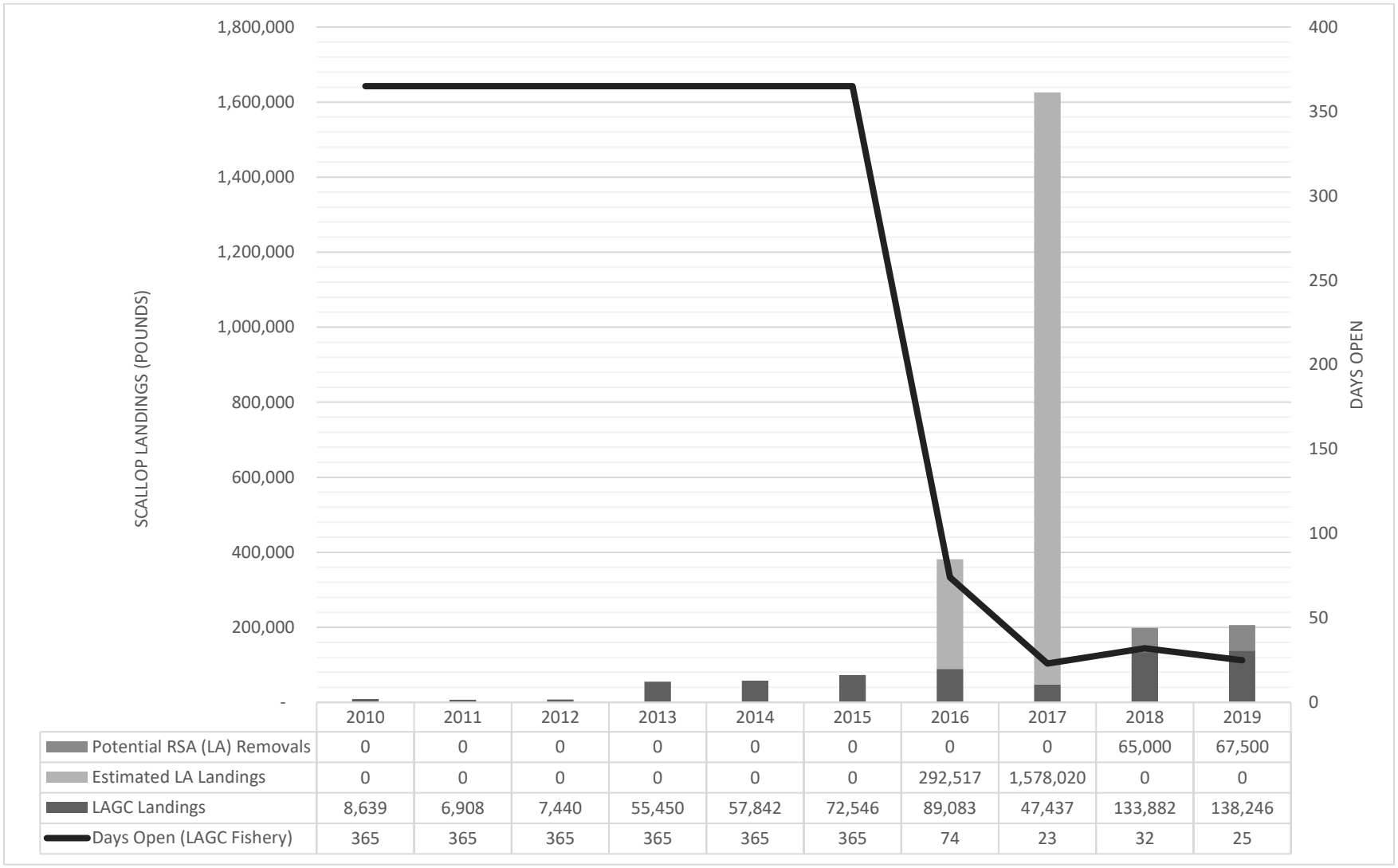


Figure 9 - Landings in NGOM Management area by LAGC and LA vessels from FY 2010 – FY 2019, including potential RSA removals in 2018 & 2019.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Potential RSA (LA) Removals	0	0	0	0	0	0	0	0	65,000	67,500
Estimated LA Landings	0	0	0	0	0	0	292,517	1,578,020	0	0
LAGC Landings	8,639	6,908	7,440	55,450	57,842	72,546	89,083	47,437	133,882	138,246
Days Open (LAGC Fishery)	365	365	365	365	365	365	74	23	32	25

5.4.4.2.2 Trends in NGOM Landings By State/Port

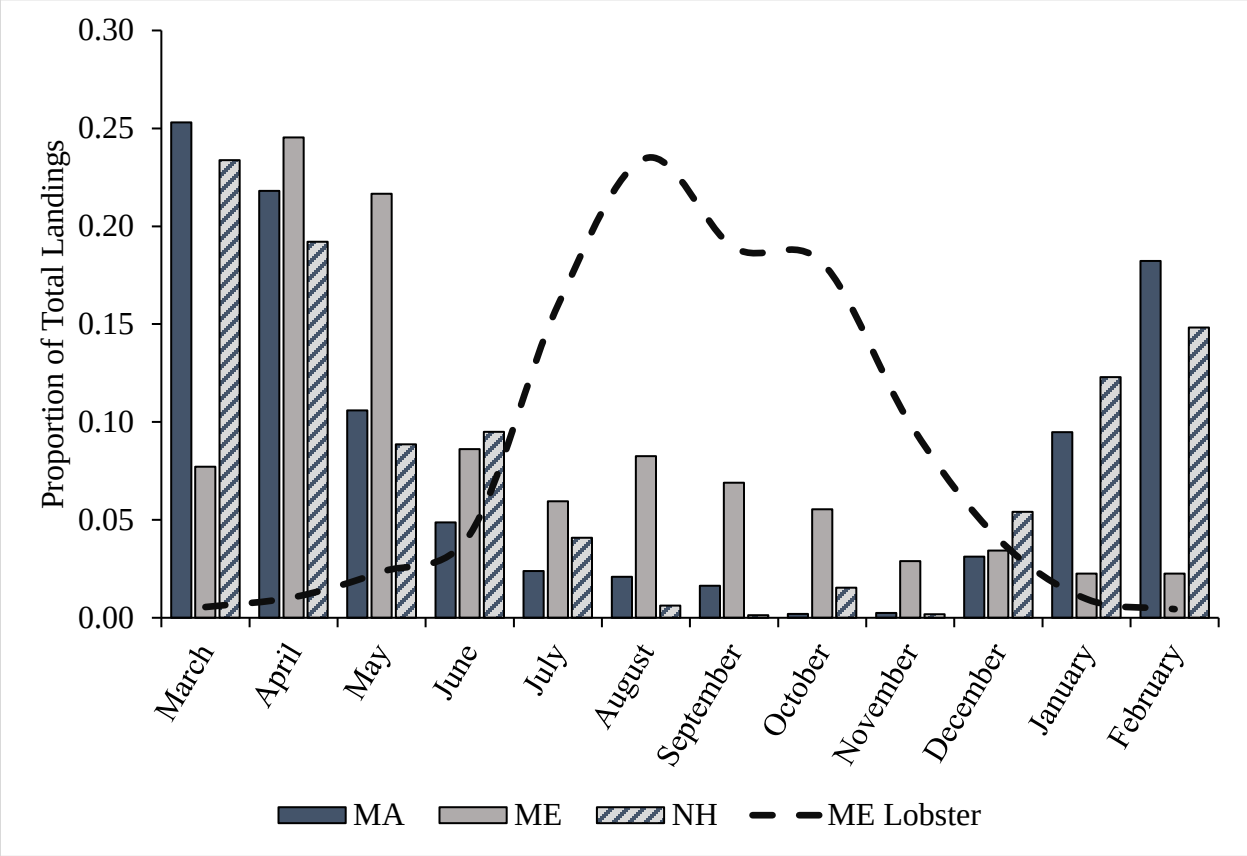
Table 20 - Total number of ports with landings from directed LAGC trip in the NGOM management area, by year. Source: VTR and VMS declaration records.

FY	Number of Landing Ports
2010	7
2011	7
2012	8
2013	12
2014	16
2015	18
2016	16
2017	19
2018	16
2019	15

Table 21 - List of landing ports from VTRs on NGOM declared trips by LAGC vessels from 2010 - 2019 in Maine, Massachusetts, and New Hampshire.

MA	ME	NH
BEVERLY	ADDISON	HAMPTON
BOSTON	BASS HARBOR	NEW CASTLE
EASTHAM	BUCKS HARBOR	PORTSMOUTH
GLOUCESTER	CUTLER	RYE
HYANNIS	FREEPORT	SEABROOK
MARSHFIELD	FRIENDSHIP	
NEW BEDFORD	HARPSWELL	
NEWBURY	JONESPORT	
NEWBURYPORT	KITTERY	
PROVINCETOWN	LUBEC	
ROCKPORT	PORT CLYDE	
SALISBURY	PORTLAND	
SANDWICH	ROCKLAND	
SCITUATE	SORRENTO	
	SOUTHWEST HARBOR	
	SPRUCEHEAD	
	TENANTS HARBOR	
	YARMOUTH	

Figure 10 - The monthly proportion of cumulative annual NGOM scallop landings (FY2010-FY2016) vs. monthly proportion of cumulative annual Maine lobster landings (FY2010-FY2015) (ME DMR). NGOM landings are ordered by homeported state of active vessels.



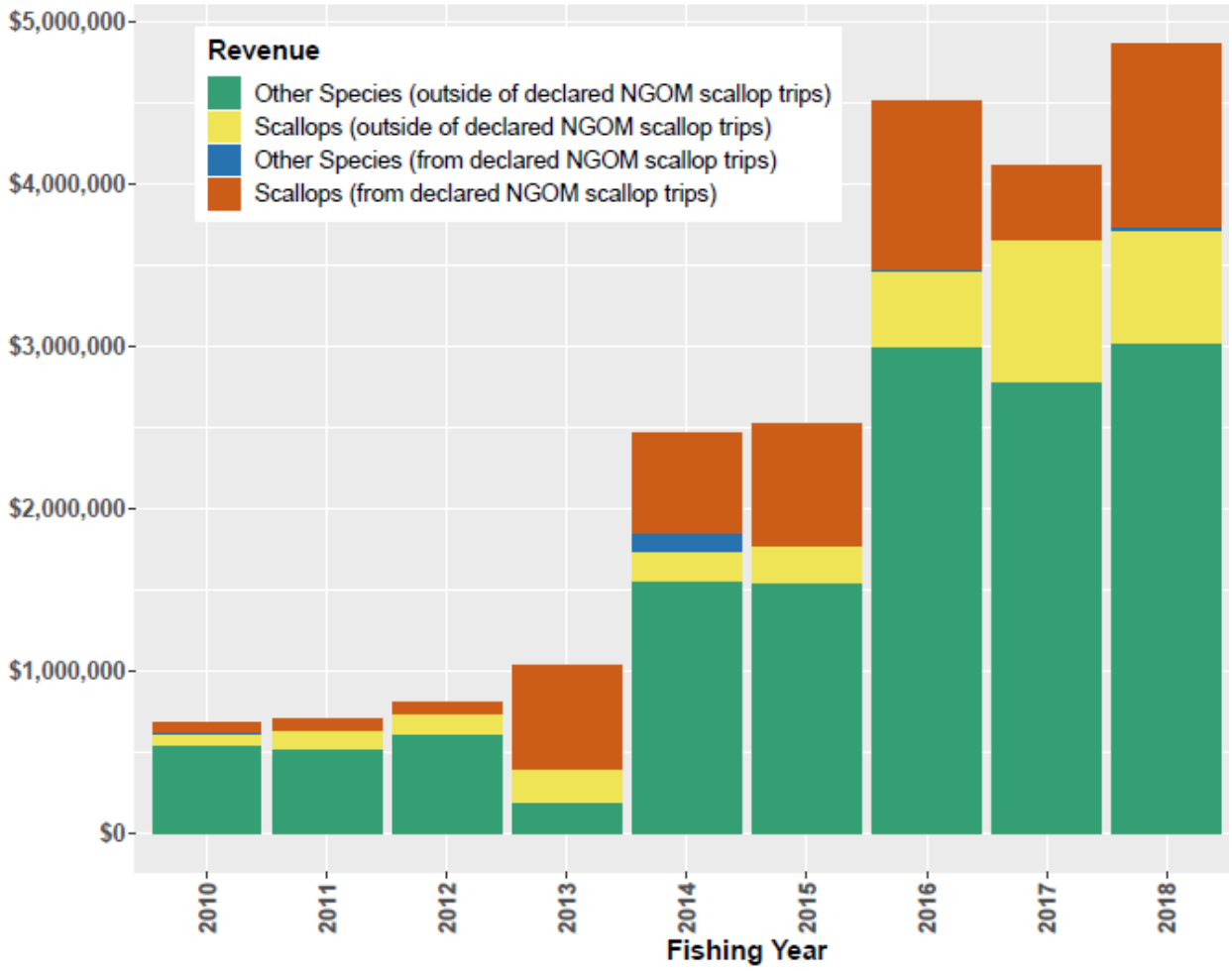
5.4.4.3 Trends in LAGC Category B Revenue from Northern Gulf of Maine

Scallop revenues for LAGC category B (NGOM) vessels have increased with landings over the last nine fishing years (Table 22). Over this time, the proportion of total revenue from active LAGC Category B vessels coming from the directed NGOM fishery increased from approximately 9% from 2010 – 2012 to around 25% from 2014 – 2018. In 2017, the NGOM season lasted 23 days, and the area was closed when NMFS predicted that the TAC was likely to be reached. The overall revenues from directed LAGC scallop fishing in the NGOM have increased due to full utilization of the LAGC TAC and larger allocations in the most recent fishing years. Another driver of higher revenues over this time is increased participation in the NGOM fishery. Since the revenues shown in Table 22 and Figure 11 include all vessels that were active in the NGOM in a given year, the total revenues will depend on the vessels and fisheries that the group of vessels participated in.

Table 22 - Scallop revenue from directed LAGC Cat. B trips in the NGOM, including percentage of total revenue from scallop fishing in NGOM from active LAGC B vessels.

	Scallop Revenue from NGOM scallop trips	Percentage of total revenue from NGOM scallops
2010	$63,541	9.30%
2011	$62,606	8.90%
2012	$69,945	8.60%
2013	$634,468	61.20%
2014	$620,269	25.10%
2015	$753,760	29.80%
2016	$1,030,948	22.90%
2017	$455,707	11.10%
2018	$1,126,612	23.10%
Source: NOAA/GARFO/APSD July 23, 2019.		

Figure 11 – Total revenue from directed NGOM scallop trips compared to other species and scallops landed outside of federal waters in NGOM. Vessels included fished at least one NGOM trip. (Source: NOAA/GARFO/APSD July 23, 2019)



5.4.5 Trends in LAGC IFQ Fishery

5.4.5.1 Annual Landings, Permit Activity, Landings Per Trip, Access Area Fishing

Though the allocation to the LAGC IFQ fleet has been variable since FY2012, fleetwide landings have generally followed the same pattern as allocations (Table 23). Landings by LAGC vessels have ranged from 86-99% of what was allocated between FY2012 and FY2016. As shown in Figure 12, pounds landed per LAGC trip have also remained relatively consistent over time period and consistent with the timing of management measures which changed the possession limit. For example, the transition of the possession limit from 400 lbs to 600 lbs was evident in the shift in mostly 400 lb. trips in FY2010 to mostly 600 lbs in FY2012. In recent years (i.e. FY2012 and on) the majority of LAGC trips reported landings in the 600 lb. range. While the majority of trips have been in the 600 lb. range recently, the LAGC fishery has landed an array of trips at each level throughout the time series.

Table 23 – Annual LAGC IFQ allocation, landings, and the percent of allocated pounds that were landed from FY2012-FY2017.

FY	LAGC sub-ACL	LAGC landings	% of allocation landed
2012	3,095,450	2,755,566	89%
2013	2,227,142	2,212,446	99%
2014	2,202,859	2,039,714	93%
2015	2,700,663	2,324,577	86%
2016	4,067,529	3,518,787	87%
*2017	2,261,943	**2,574,968	114%
2018	2,805,500	N/A	N/A

*includes data reported through 24-Jan-2018

** does not include roughly 400,000 pounds of carryover from FY2016.

Figure 12 – The number of LAGC IFQ trips binned by pounds landed (bin size = 100 lbs) from FY2010-FY2018. NGOM and research trips are not included.

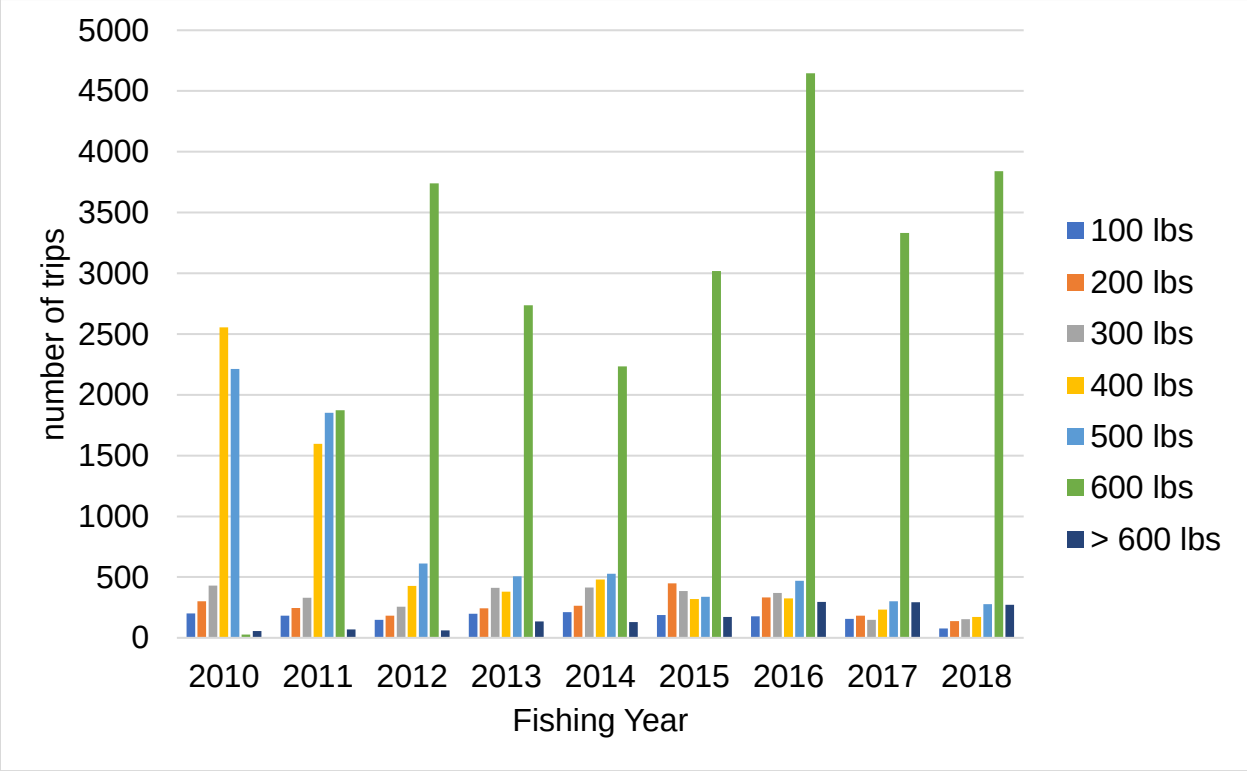


Figure 13 displays the proportion of trips landed per state by pounds landed (in 100 lb. increments); fishery data included were from FY2012 to FY2018 to be representative of the current possession limit.

Pounds landed per trip appears to vary by state. For example, the two states with the most overall trips (i.e. NJ and MA) have mostly seen 600 lb. trips. States with fewer active vessels and trips landed have maintained a range of trip sizes, such as RI, where the majority of trips have landed between 100 and 300 lbs. Overall, Figure 13 further suggests that LAGC vessels maintain a range of landings per trip, and that trends in trip sizes vary by state.

Figure 13 – The proportion of trips landed per state by trip size from FY2012-FY2018. Trips are binned by 100 lb. increments and do not include NGOM or research trips. States are listed in descending order from left (most trips landed) to right (least trips landed).

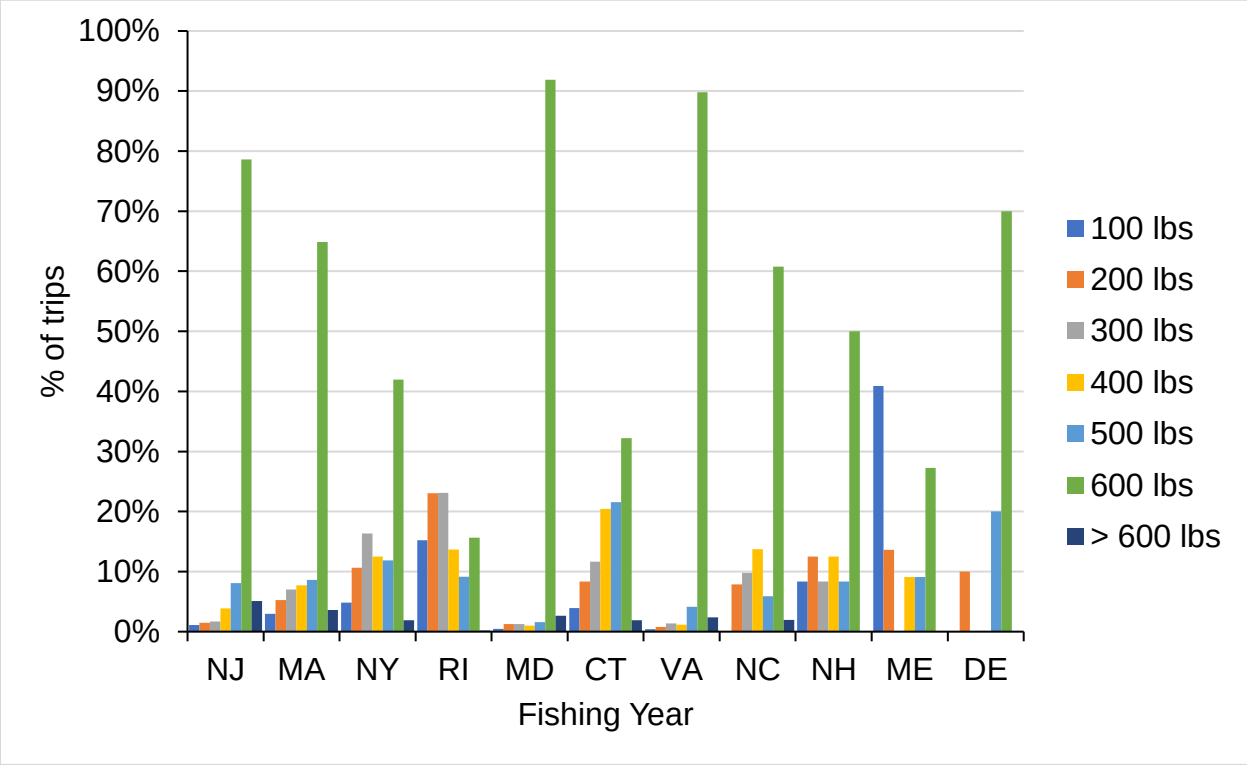


Table 24 summarizes the number of active LAGC IFQ-only permits and the total number of LAGC IFQ permits (excluding LA with IFQ vessels) from FY2010 to FY2018. The number of active vessels generally declined between FY2010 and FY2013, then increased at a similar rate from FY2014 to FY2016, then declined over FY2017 and FY2018.

Figure 14 is a histogram of the number LAGC vessels binned by the total number of trips taken in a year from FY2010 to FY2017. In terms of the number of trips per year, the level of participation by active LAGC vessels appears to vary in concert with the level of allocation (i.e. years with more pounds allocated generally see an increase in trips per vessel and vice versa). The majority of active vessels have generally taken ≤ 50 trips per year over the time series; however, participants appear to have become more active in in FY2015 and FY2016 compared to previous years.

Table 24 – The number of active LAGC IFQ-only permits and the total number of LAGC IFQ-only permits from FY2010 to FY2018.

FY	Active LAGC IFQ-only	Total LAGC IFQ-only
2010	150	330
2011	138	330
2012	123	318
2013	118	316
2014	131	316
2015	128	313
2016	141	314
2017	138	315
2018	132	314

Figure 14 – The number of LAGC vessels binned by number of trips taken from FY2010 to FY2017 (bin size = 10 trips; FY2017 data reported through May 30, 2017). Note that the y-axis starts at 4.

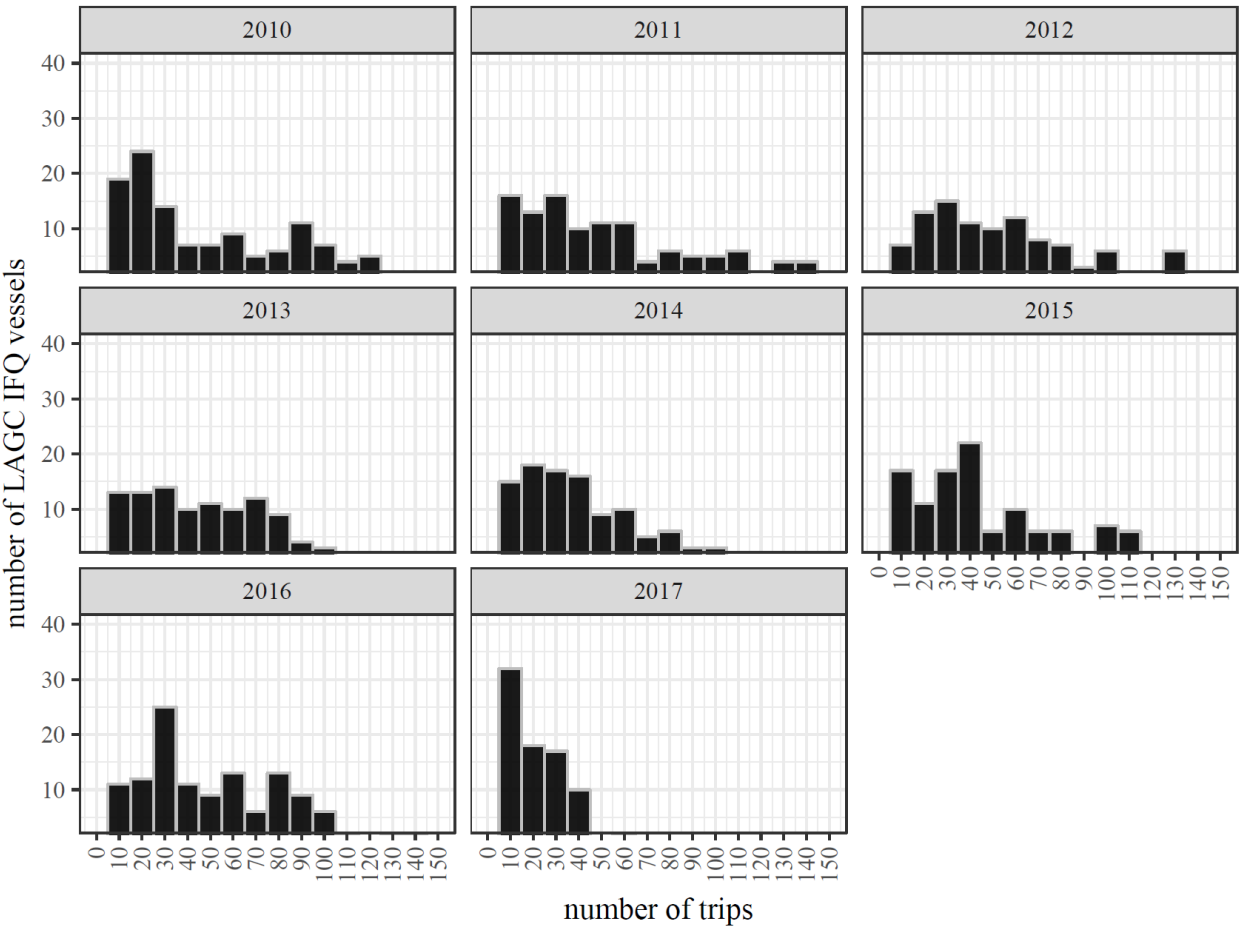


Figure 15 displays the average reported trip length (in days) for open and access area trips from FY2010 to FY2016. Table 27 shows the average hours spent fishing vs. transiting on observed open and access area trips during the same time period. Unsurprisingly, access area trips have generally been longer than open trips because access area fishing requires vessels to transit farther than when fishing open trips. In years that the quality of fishing in access areas was better than in open areas, the tradeoff of longer transit times to reach improved fishing conditions was worthwhile. For example, in FY2016, despite the NLS and MAAA being farther from port than available open bottom, vessels elected to fish there because the quality of fishing was much greater than in open bottom. Also, though average trip times were similar for open, NLS, and MAAA trips (Figure 15), the ratio of time spent fishing was notably less than the time spent transiting during trips to the NLS and MAAA compared to open trips, meaning vessels were willing to travel farther to fish in areas with high LPUE.

The data also shows examples of when this tradeoff of distance and time vs. quality of fishing was not worth it, such as the Nantucket Lightship in FY2014, where average trip times were the longest of all trip types and vessels spent over 3.5 times more time fishing than transiting. Increased overall trip times and more time spent fishing as a result of low LPUE removed the incentive to fish the NLS in FY2014 and left roughly 99% of allocated NLS trips unfished that year (Table 25).

These annual trends broadly suggest the LAGC fishery adapts to changing resource conditions, and that vessels will elect to fish in areas with favorable fishing conditions regardless of distance from port.

Table 25 – The proportion of LAGC IFQ trips taken each year by trip type from FY2010 to FY2016. The percent of access area (AA) trips shown are only for years where trips were allocated to that area.

FY	**CAI AA** Trips Taken	**NLS AA** Trips Taken	**DMV AA** Trips Taken	**ET AA** Trips Taken	**HC AA** Trips Taken	**MA AA** Trips Taken	**Open** Trips Taken
2010		7.5%	10.5%	0.9%			81.1%
2011	0.7%		1.0%	0.2%	9.0%		89.1%
2012		0.6%	0.1%		2.1%		97.2%
2013		1.2%			0.2%		98.6%
2014		0.1%	8.4%		0.0%		91.5%
2015						38.3%	61.7%
2016		6.5%				28.0%	65.5%

Table 26 – The percent of allocated access area trips taken by LAGC IFQ vessels from FY2010 to FY2016. Data used in the table also includes RSA compensation trips.

FY	**CAI AA** Trips Taken	**NLS AA** Trips Taken	**DMV AA** Trips Taken	**ET AA** Trips Taken	**HC AA** Trips Taken	**MA AA** Trips Taken
2010		69.5%	96.6%	4.3%		
2011	5.5%		11.8%	0.8%	103.9%	
2012		12.8%	1.7%		14.2%	
2013		31.1%			2.8%	
2014		1.2%	79.3%			
2015						101.5%
2016		100.0%				100.2%

Figure 15. The average trip length (days) of LAGC IFQ vessels fishing open trips and trips in Nantucket Lightship AA, Delmarva AA, Elephant Trunk AA, Hudson Canyon AA, Mid-Atlantic AA, and Closed Area I AA from FY2010 to FY2016. The dashed red line shows the annual combined average trip length.

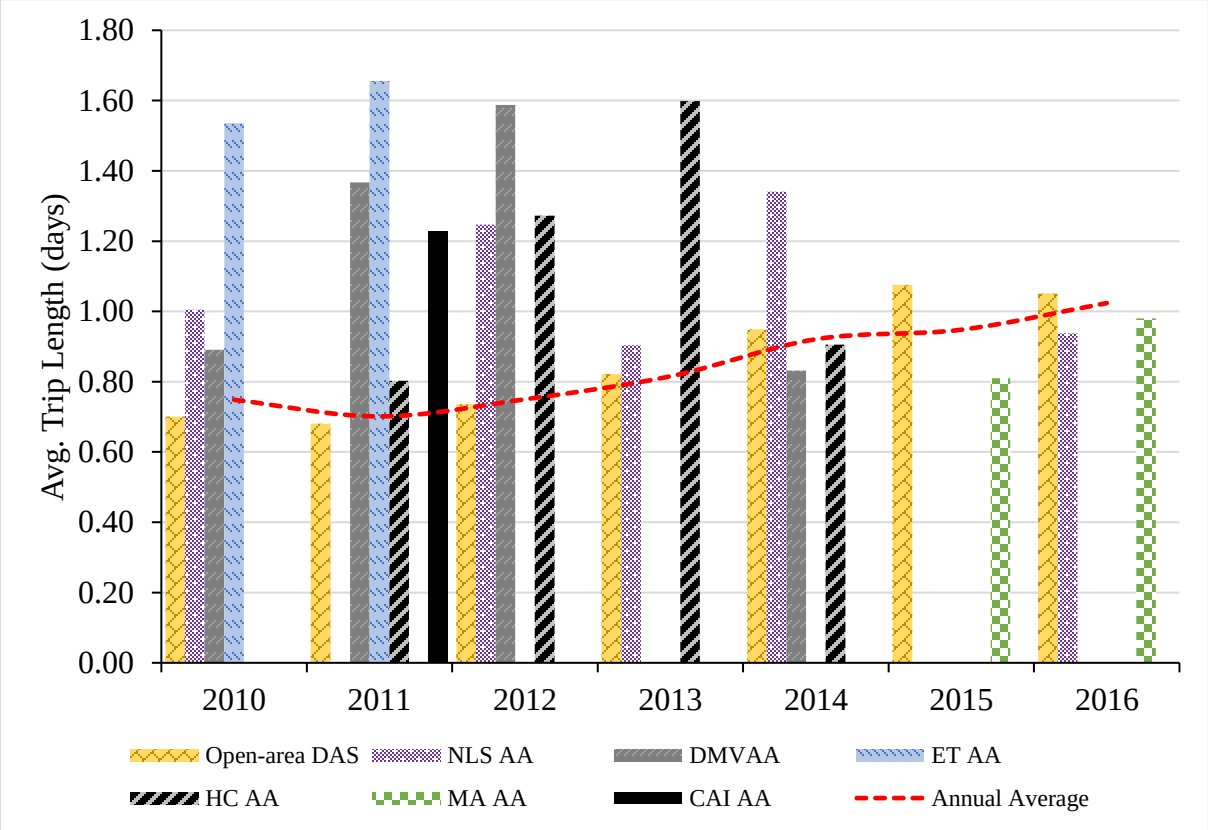


Table 27. Average hours spent fishing ('haul') and average hours of steam time to fishing grounds ('steam') on observed LAGC IFQ trips from FY2010 to FY2017. Averages are shown by trip type (open trips and access area trips). FY2017 data is reported through December 30, 2017.

	CAI		DMV		HC		MAAA		NL		Open	
FY	haul	steam	haul	steam	haul	steam	haul	steam	haul	steam	haul	steam
2010			5.6	7.2					6.5	10.0	6.9	3.0
2011	2.7	9.7	7.5	14.1	7.7	8.6					6.8	3.2
2012					7.2	5.2			4.4	12.6	8.0	3.2
2013									5.0	8.9	13.1	4.0
2014			7.7	6.3					29.8	8.3	15.6	3.9
2015							7.2	6.7			18.1	4.2
2016							10.5	7.6	3.0	9.5	15.9	5.1
2017							12.2	7.8	5.3	9.8	16.1	5.0

5.4.5.2 Seasonal Activity in LAGC IFQ Fishery

The number of active LAGC vessels has varied by month from FY2010 to FY2018, with the most vessels being active in the summer months (Figure 16). The number of vessels active per month but appears to be consistent from year to year (Figure 16). LAGC vessels fish year round, although the majority of trips seem to be taken during the summer months (Figure 17). The trend in landings per month (Figure 18) is consistent with the seasonality of permit activity and trips per month; for example, scallop landings by LAGC IFQ vessels peak during the late spring and early summer months.

Figure 16. The number of active LAGC IFQ vessels by month in FY2010 to FY2018.

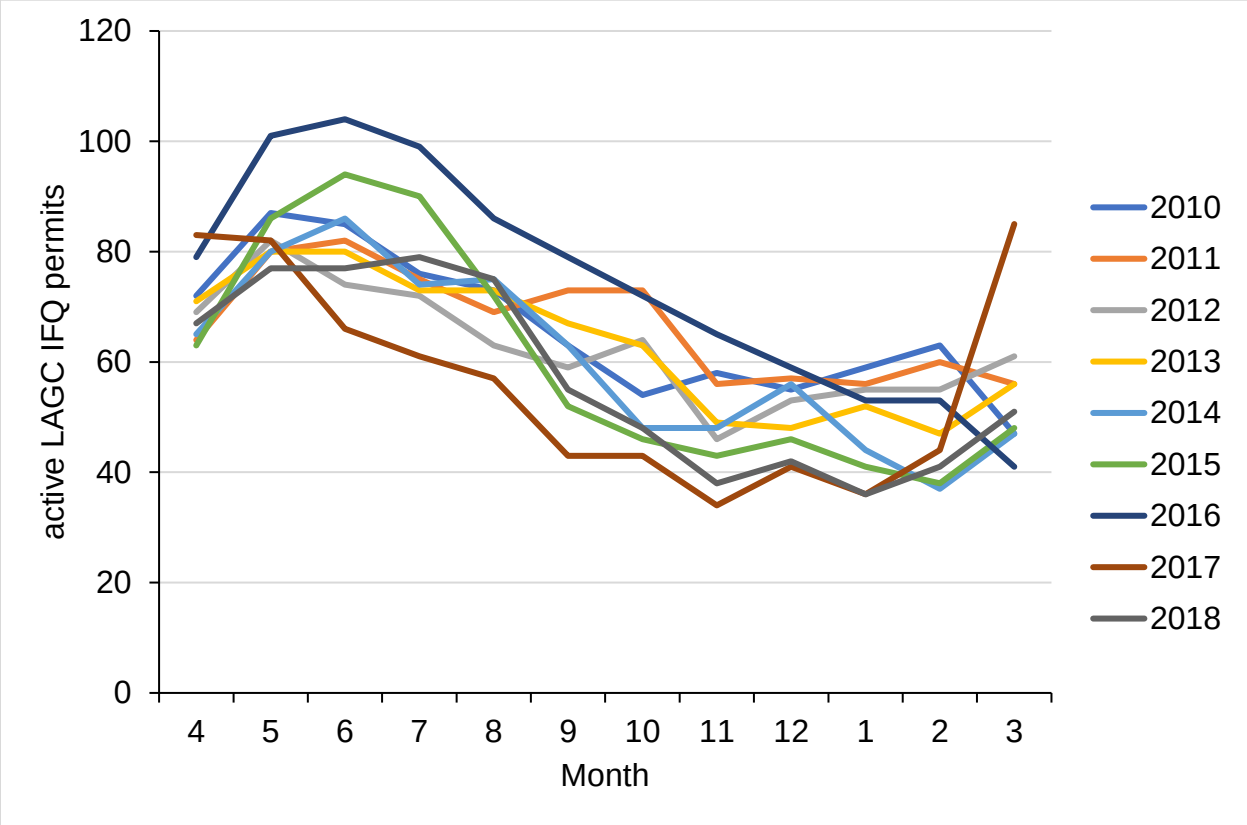


Figure 17. The number of LAGC IFQ trips taken by month from FY2010 to FY2018.

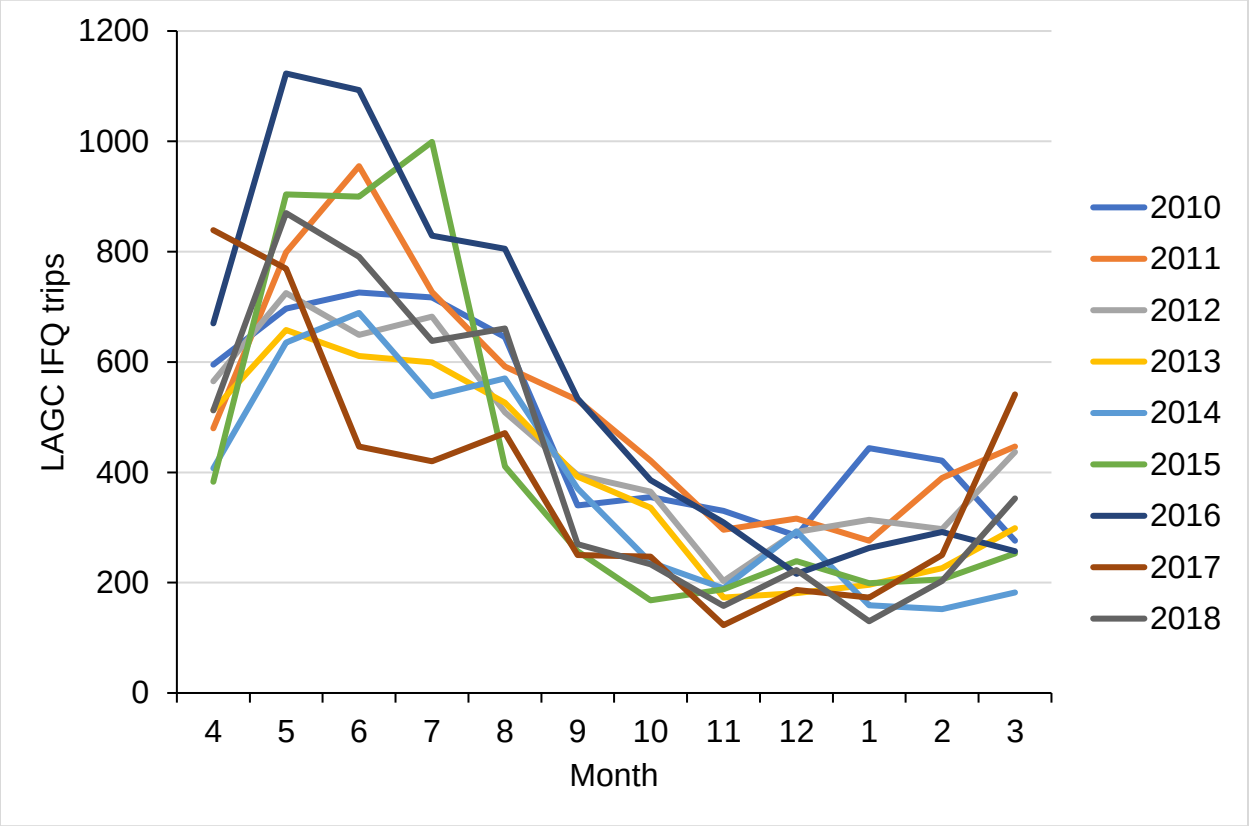
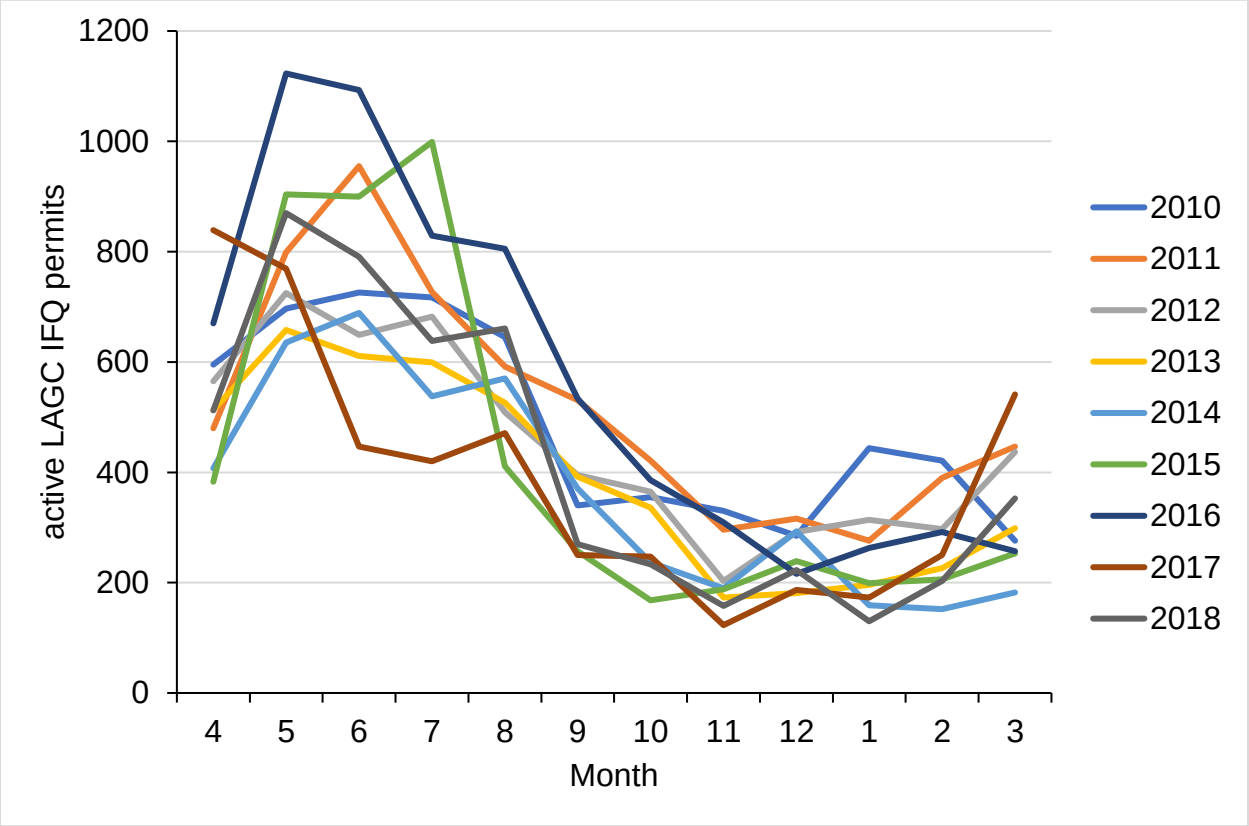


Figure 18 – LAGC IFQ scallop landings by month from FY2010 to FY2018.



5.4.5.3 LAGC IFQ Landings and Revenue From Other Fisheries

To better understand the reliance of LAGC IFQ vessels on the scallop fishery compared to other fisheries, annual landings and revenue of active vessels from FY2010 to FY2016 were categorized as follows:

1. Scallop landings/revenue from scallop trips
2. Non-scallop landings/revenue from non-scallop trips
3. Scallop landings/revenue from non-scallop trips
4. Non-scallop landings/revenue from scallop trips

Figure 19 shows categorized landings of active LAGC IFQ vessels from FY2010 to FY2018. The considerable difference in scallop landings from scallop trips and non-scallop landings from non-scallop trips is in part due to the difference in how scallops are landed compared to other species (i.e. shucked scallops are landed while many fish species are landed whole). Regardless, of this caveat, Figure 19 suggests that landings outside of the scallop fishery make up a substantial portion of total pounds landed by LAGC IFQ vessels in a given year. This figure also suggests that landings from other fisheries decreased over the FY2010 to FY2016 period but have shown an uptick in FY2017 and FY2018.

In FY2010, the value of the directed scallop fishery and value of other fisheries that LAGC IFQ vessels participate in were roughly the same (Figure 20). From FY2011 on, revenue from the scallop fishery generally increased, peaking in FY2016, while the revenue generated in other fisheries varied annually but remained relatively stable. In FY2016, revenue generated from the scallop fishery was almost three times greater than revenue from other fisheries that LAGC IFQ vessels participate in. Revenue from

scallops landed on non-scallop trips has ranked third in value over the time series. Despite the substantially lower scallop landings compared to landings from other fisheries, Figure 20 suggests that revenue generated from the directed scallop fishery and from scallops landed in other fisheries makes up a much greater portion of overall revenue compared to other fisheries.

Figure 19. Categorized landings by active LAGC IFQ vessels from FY2010 to FY2018.

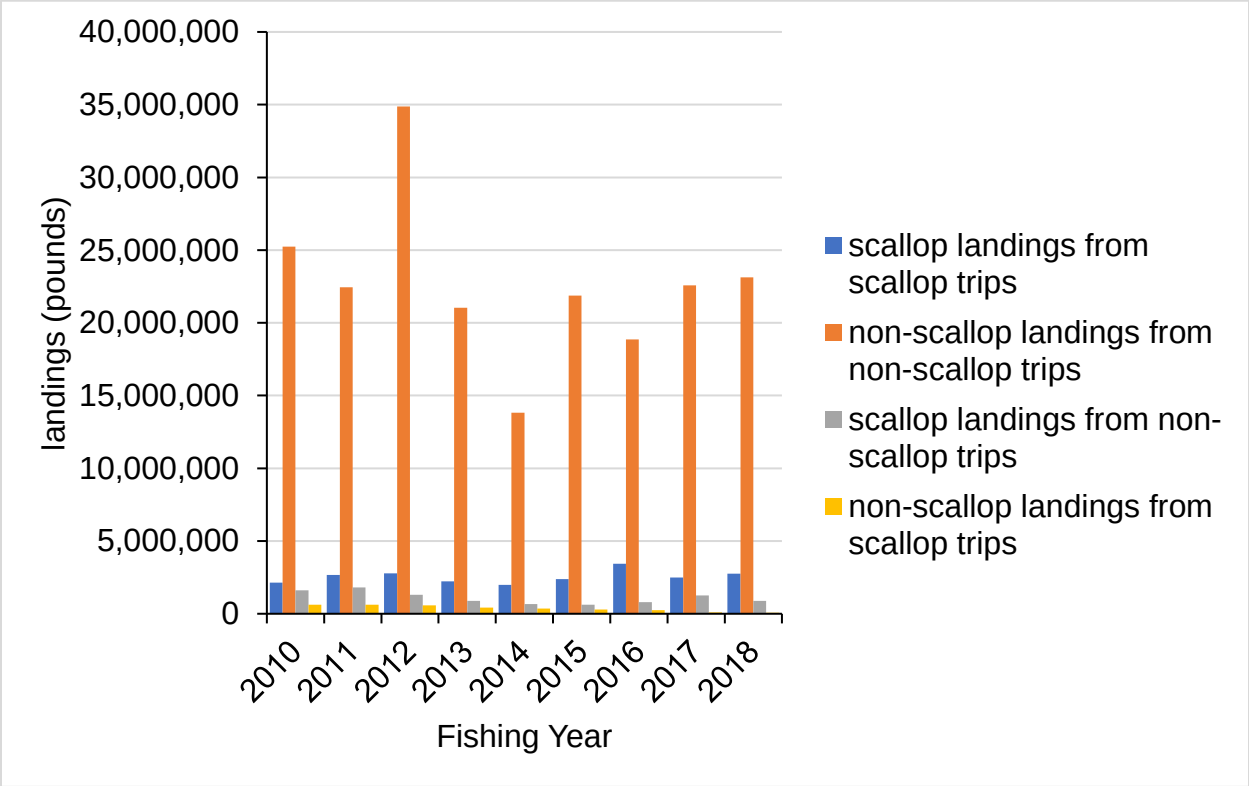
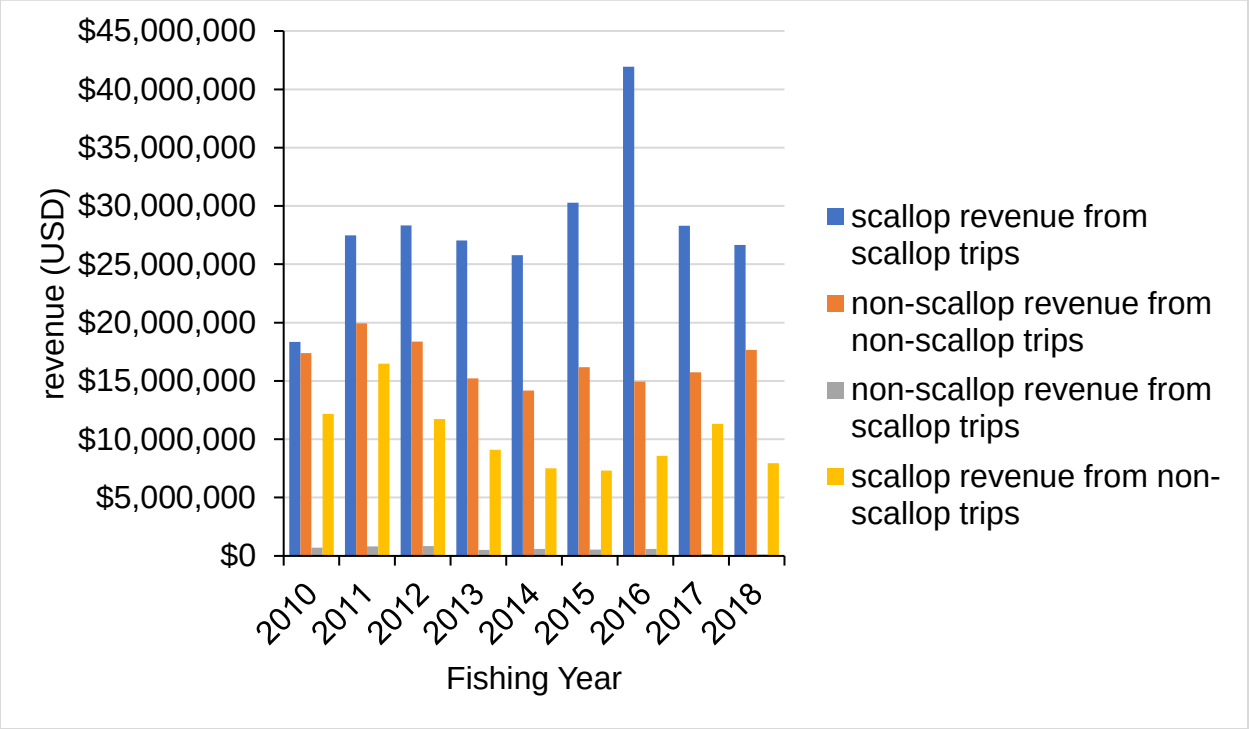


Figure 20. Categorized revenue by active LAGC IFQ vessels from FY2010 to FY2018.



5.4.5.4 LAGC IFQ Vessel Characteristics in Comparison to the LA Fleet

Overall, active LAGC IFQ vessels were smaller compared to limited access vessels (Table 28, **Error! Reference source not found.**). Along with the number of active vessels in the fleet, the average HP, GRT, and vessel length of active LAGC IFQ vessels fluctuated annually from FY2010 to FY2016 (Table 28

Table 28. Average GRT, HP, and length for active LAGC IFQ vessels from FY2010 to FY2016.

FY	GRT	HP	Length
2010	64	435	58
2011	62	437	56
2012	59	445	55
2013	57	437	55
2014	57	441	54
2015	54	436	53
2016	55	435	55

5.4.5.5 Distribution of Active Vessels, Landings, Quota Allocation by Vessel Size

One of the Council's goals in establishing the LAGC IFQ program in Amendment 11 was to preserve the ability for vessels to participate in the fishery at different levels with the vision of a fleet "made up of relatively small vessels…". In light of this goal, and to better understand trends in participation at

different levels, the distribution of landings, quota, and revenues by active LAGC IFQ vessels is described in terms of vessel size groups (< 50 ft., 50 ft. to 74 ft., ≥ 75 ft.)

Figure 21 describes the number of active LAGC IFQ vessels by size group from FY2010 to FY2018. Over this time period, the number of active LAGC IFQ vessels < 50 ft. increased from 59 vessels in FY2020 to a high of 68 vessels in FY2016, then decreased in FY2016 and FY2017, being roughly equivalent to FY2010 numbers. The number of active vessels 50 ft. to 74 ft. decreased roughly over the time period considered, from 56 vessels in FY2010 to 42 vessels in FY2018 (25% decrease). The number of active vessels ≥ 75 ft. made up a relatively small portion of LAGC IFQ vessels through the time series, and numbers decreased roughly 45% from FY2010 to FY2018, from 16 vessels in FY2010 to 9 vessels in FY2018. The trend of increasing numbers of smaller vessels and decreasing numbers of larger vessels is consistent with the nature of the LAGC IFQ program, as possession limits on LAGC IFQ trips may incentivize participants to reduce trip costs (i.e. fuel) by operating a smaller vessel, with the goal of increasing net revenue.

The distribution of annual scallop landings by length group from FY2010 to FY2018 is shown in Figure 22. The distribution of landings by vessel size group were relatively consistent from FY2010 to FY2014; vessels < 50 ft. landed the majority of scallops (47-50%), vessels 50 ft. to 74 ft. landed the second most scallops (39-43%), and vessels ≥ 75 ft. landed the least (8-12%). The most pronounced shift in landings by vessel size group occurred between FY2014 and FY2015, where landings from vessels < 50 ft. decreased by 8% From FY2015 to FY2017, vessels 50 ft. to 74 ft. landed the majority of scallops (47-50%) while vessels < 50 ft landed between 41-42%. In FY2018, landings were roughly equivalent for vessels <50 ft and 50-74 ft (~46%) while larger vessels of 75 ft or greater landed an 8% minority.

Figure 21. The number of active LAGC IFQ vessels by length group.

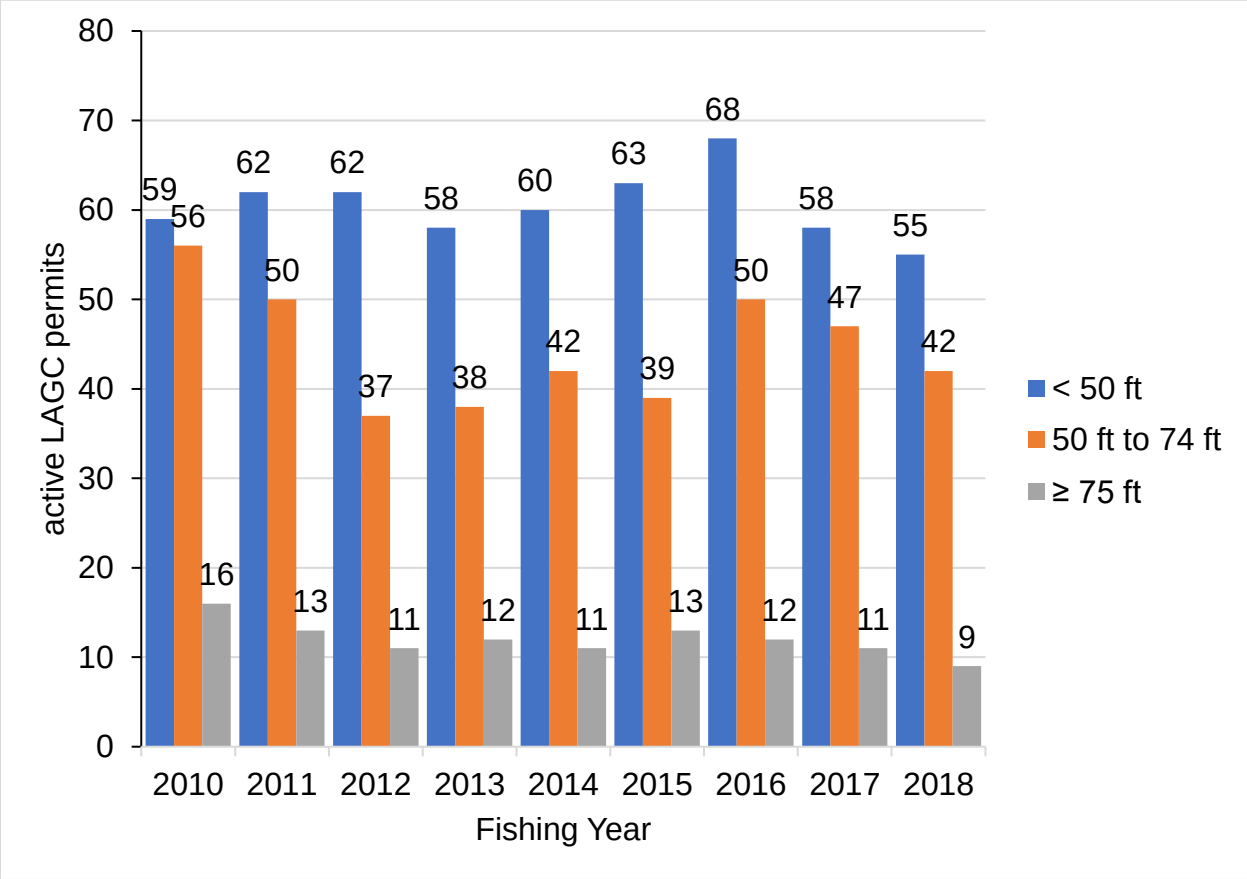
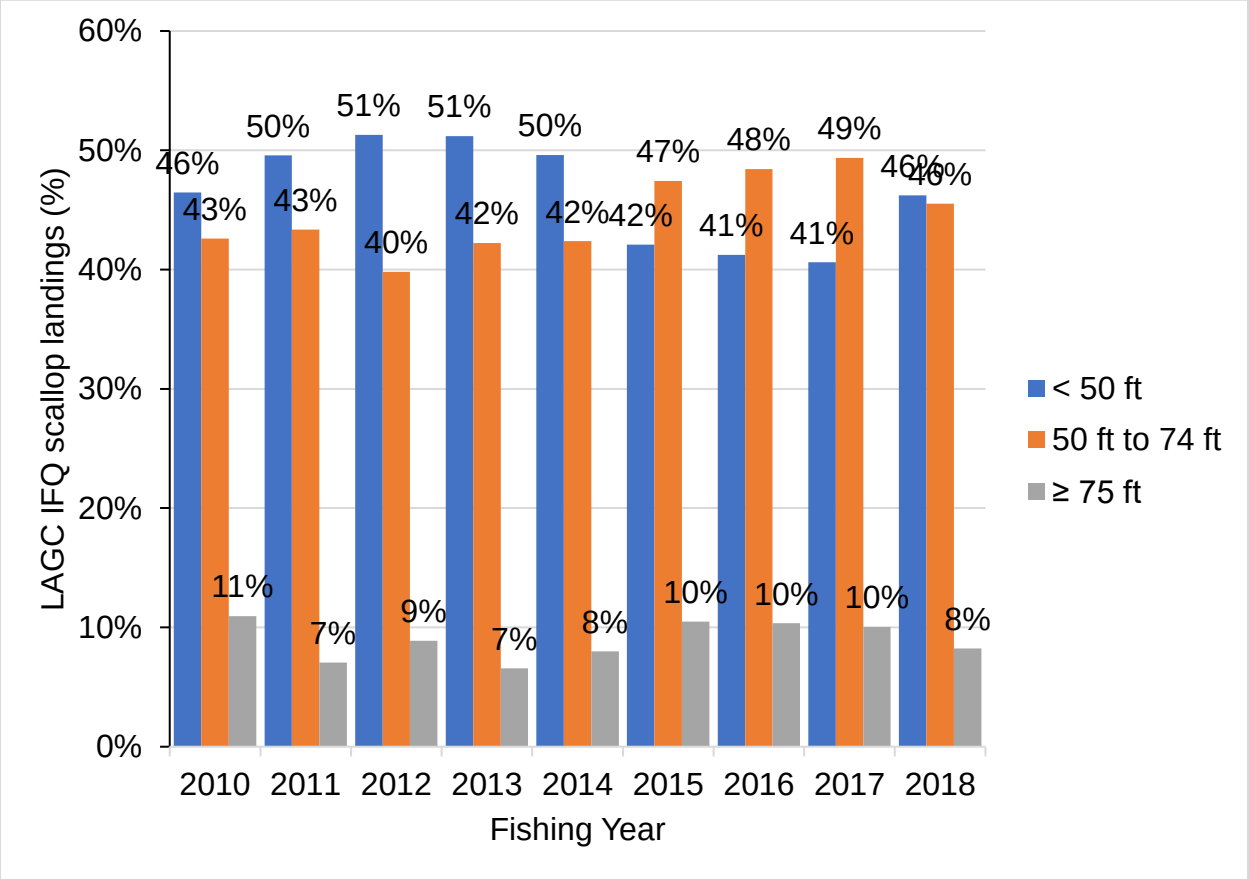
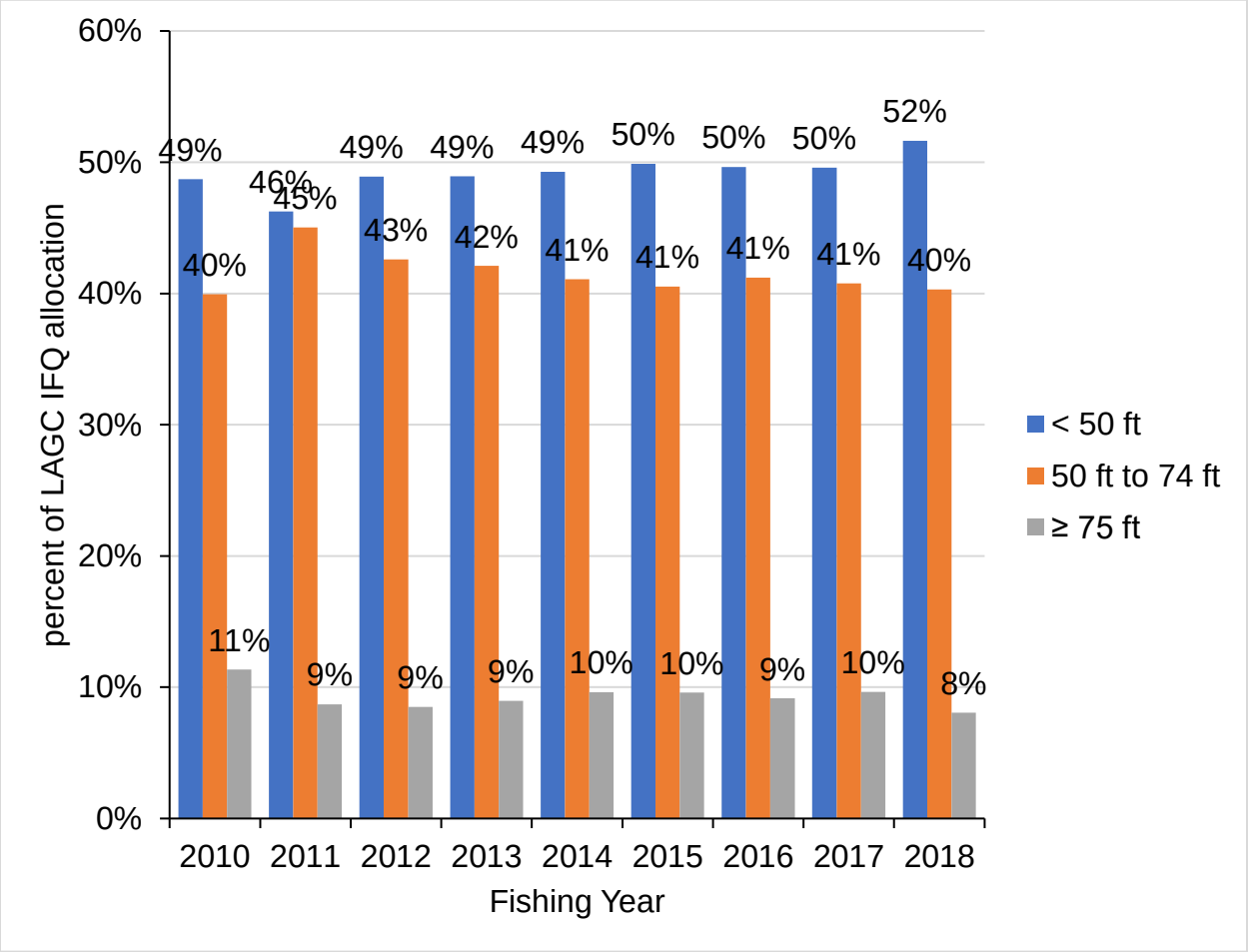


Figure 22. The distribution of scallop landings by vessel length group.



The distribution of allocated quota for active LAGC IFQ vessels by vessels size group from FY2010 to FY2018 is shown in Figure 23. The proportion of allocated quota from was relatively consistent from FY2010 to FY2018; vessels < 50 ft. held the greatest share of quota (between 46% and 52%), vessels 50 ft. to 74 ft. held the second most share of quota (between 40% and 45%), and vessels ≥ 75 ft. held the least share of quota (between 8% and 11%). The share of allocated quota for vessels < 50 ft. FY2017 was approximately 3% more than in FY2010, the same as FY2020 for vessels 50 ft. to 74 ft., while vessels ≥ 75 ft. held approximately 3% less.

Figure 23. The distribution of allocated quota to active LAGC IFQ vessels by vessel size group.



5.4.5.6 Fuel Prices

Fuel prices are a major factor when estimating trip costs. Increasing fuel prices were also part of the Council's rationale for raising the LAGC IFQ possession limit from 400 pounds to 600 pounds in 2011 (Amendment 15). Fuel prices (i.e. USD per gallon of diesel) are recorded by at-sea monitors before the start of observed trips.

Figure 24 shows average fuel price per month from March 2007 through February 2020, based on trip-level data from observed limited access and LAGC IFQ trips. Fuel prices fluctuated throughout this time period, with the highest average price being $4.38 per gallon in June 2008 and the lowest average price being $1.70 per gallon in February 2016. Since February 2016, average price appears have fluctuated monthly but overall has risen steadily to a most recent $2.50 per gallon in February 2020.

Figure 24. Average fuel price (USD per gallon of diesel) from observed LA and LAGC IFQ trips between March 2007 and February 2020.

5.4.5.7 Distance of Fishing Effort from Shore

VMS data were used to estimate scallop fishery effort by 10 nautical mile (nm) zones from shore for the LAGC IFQ component (Figure 25) and the LA component (Figure 26) from FY2007 to FY2017. VMS data used were from all scallop trips (i.e. both open and access area) and effort is described in terms of total days fished for each component.

Since FY2010, LAGC IFQ vessels have primarily fished between 10 nm to 50 nm from shore with the exception of FY2016 when considerably more effort was directed ≥60 nm from shore compared to other years. Overall effort in FY2016 was also considerably higher compared to other years from FY2010 to FY2017 which is likely a result of the increased LAGC IFQ allocation in FY2016. Most recently, FY2017 LAGC IFQ effort appeared to be evenly distributed between zones of 10 nm and 50 nm from shore.

Figure 25. LAGC IFQ effort (VMS days fished) by 10 nm zones from shore (FY2007-FY2017).

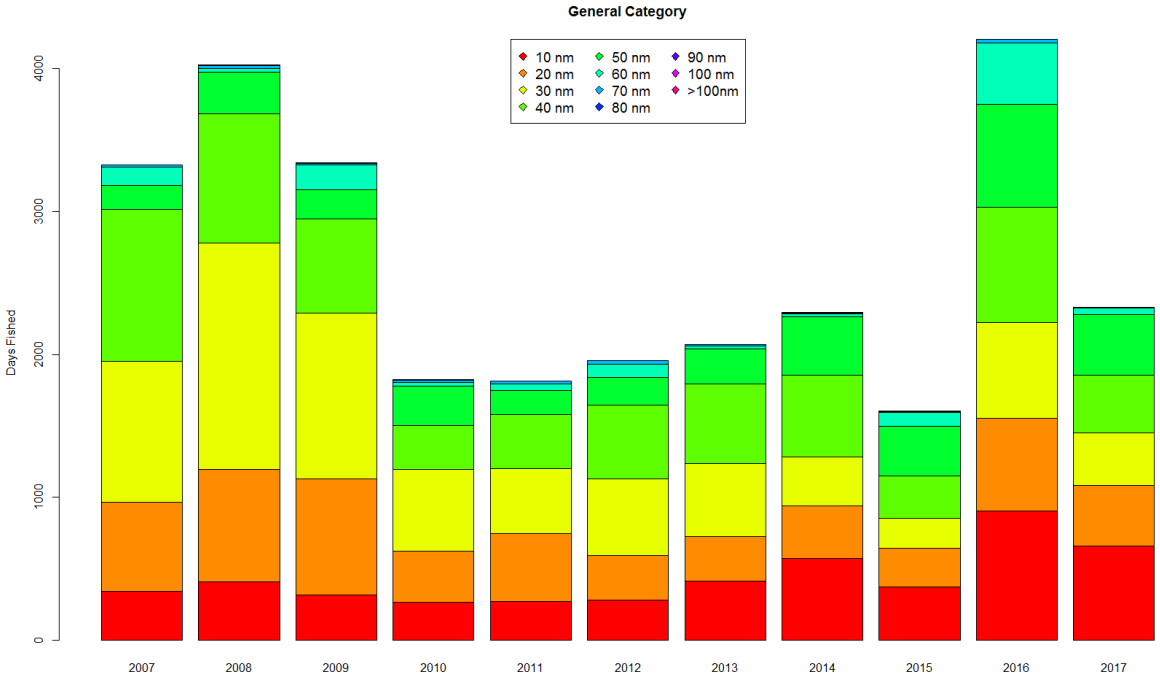
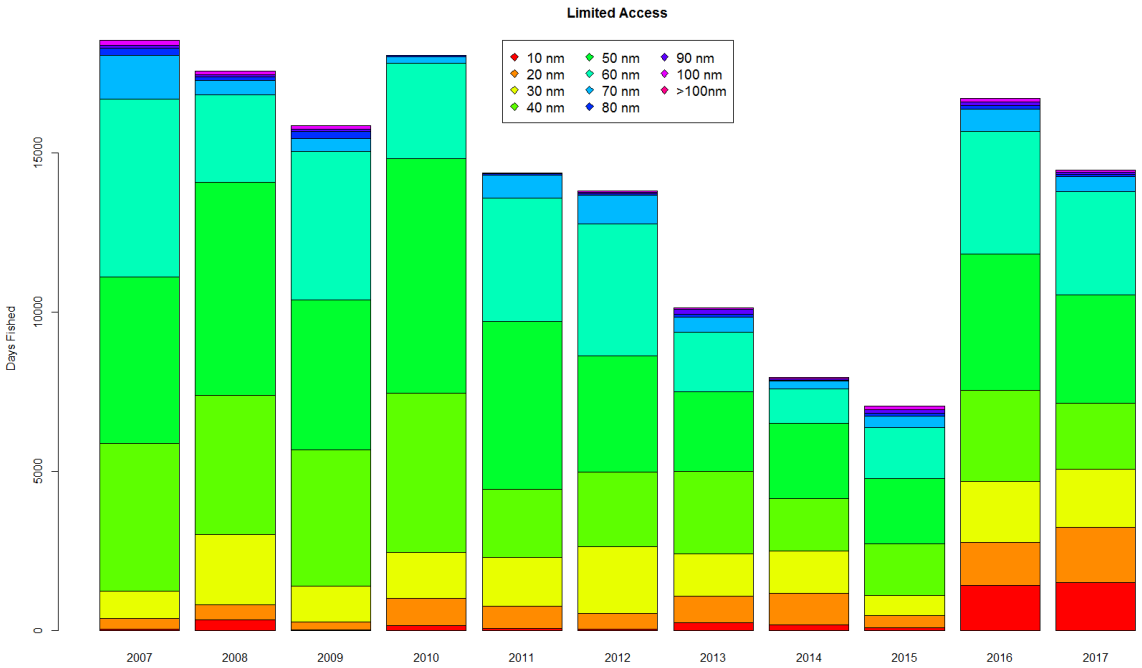


Figure 26. LA effort (VMS days fished) by 10 nm zones from shore (FY2007-FY2017).



5.4.6 Scallop Landings

Total scallop landings are described in Section 5.4.2.

5.4.6.1 LA Vessel Landings

Scallops are primarily landed by Limited Access vessels, or 89-95% between 2011-2017 (Table 29). LA landings have been below the ACT since 2014. In 2017, LA vessel landings were 49M pounds, a 24% increase from 2016 (37M).

Table 29. Limited Access landings relative to ACT and fishery-wide landings, FY 2011-2017

FY	LA - only			Total Landings (lbs)	% Total Landings
	LA ACT (lbs)	LA Landings (lbs)	Landings/ACT (%)		
2011	47,247,267	53,929,369	114%	58,461,465	92%
2012	51,910,044	52,274,515	101%	57,098,684	92%
2013	33,783,637	35,743,247	106%	39,807,589	90%
2014	34,319,360	28,544,694	83%	32,020,980	89%
2015	42,617,560	32,818,998	77%	36,974,195	89%
2016	40,322,555	36,821,068	91%	42,423,177	87%
2017	85,149,139	48,879,324	57%	51,325,269	95%
2018					

5.4.6.2 LAGC Vessel Landings

LAGC IFQ. Since the LAGC IFQ TAC is just 5.5% of total ACL, landings by the LAGC vessels are small relative to the total fishery, 5-8% in FY 2011-2017 (Table 30). LAGC IFQ landings have been below the ACL since 2011. In 2017,LACG IFQ landings were 2.8M pounds, a 19% decrease from 2016 (3.5M lbs.). The landings by LAGC fishery (IFQ, NGOM and incidental permits) declined in 2017 to about 2.8M pounds compared to 3.5M pounds in 2016.

Table 30. LAGC IFQ landings relative to IFQ ACL and fishery-wide landings, FY 2011-2017.

FY	IFQ ACL (lbs)	IFQ Landings (lbs)	Landings/ACL (%)	Total Landings (lbs)	% Total Landings
2011	3,201,880	3,046,245	95%	58,461,465	5%
2012	3,405,000	3,331,284	98%	57,098,684	6%
2013	2,449,856	2,414,256	99%	39,807,589	6%
2014	2,423,145	2,089,589	86%	32,020,980	7%
2015	2,971,831	2,353,787	79%	36,974,195	6%
2016	4,473,180	3,483,689	78%	42,423,177	8%
2017	5,538,012	2,821,411	51%	51,325,269	5%
2018					

Beginning FY 2010, LAGC-IFQ vessels were allocated 5% of the estimated scallop catch resulting a decline in landings by the general category vessels. The NEFMC IFQ program review report details the trends of the IFQ fishery during 2010-2015 (NEFMC 2017). Table 31 presents the number of IFQ only permits and their scallop landings during 2009-2017. Compared to 2016, the landings by IFQ vessels decreased in 2017 from about 3.5M pounds to 2.6M pounds.

Table 31. LAGC IFQ active vessels and landings (excluding LA vessels with IFQ permits).

Fish Year	Permit (IFQ only)	Landings lbs.
2009	202	3,758,125
2010	143	2,170,666
2011	139	2,870,826
2012	118	2,869,312
2013	115	2,302,402
2014	126	2,103,751
2015	122	2,413,760
2016	135	3,493,383
2017	129	2,584,087

LAGC Incidental. Landings by the LAGC incidental vessels has been minor relative to the total fishery, 0.07-0.18% in FY 2011-2017 (Table 32). Incidental landings were above the landings target twice in FY 2011-2017. In 2017, LAGC incidental vessel landings were 18K pounds, a 76% decrease from 2016 (74K).

Table 32. LAGC Incidental Landings relative to target and fishery-wide landings, FY 2011-2017.

FY	Incidental Landings Target (lbs)	Actual Landings (lbs)	Landings/Target (%)	Total Landings (lbs)	% Total Landings
2011	50,000	38,700	77%	58,461,465	0.07%
2012	50,000	61,869	124%	57,098,684	0.11%
2013	50,000	47,337	95%	39,807,589	0.12%
2014	50,000	42,107	84%	32,020,980	0.13%
2015	50,000	29,395	59%	36,974,195	0.08%
2016	50,000	74,341	149%	42,423,177	0.18%
2017	50,000	18,383	37%	51,325,269	0.04%

5.4.7 Scallop Research Set-Aside Program

This action includes alternatives that would amend the Scallop Research Set-Aside (RSA) program, namely including a program specific to the Northern Gulf of Maine Area. RSA programs are unique to Federal fisheries in the Greater Atlantic Region. No Federal funds are provided to support the research. Instead, research funds are generated through the sale of set-aside allocations for quota managed or days-at-sea (DAS) managed fisheries. The NEFMC and MAFMC set aside quota or DAS, which is awarded through a competitive grant process managed by the NEFSC. Money generated by the sale of the awarded RSA quota or DAS fund the proposed research.

RSA priorities are established by the Councils. Solicitations for RSA proposals are posted at www.grants.gov, and distributed widely through Council and NMFS public relations channels. Incoming proposals are reviewed and ranked based on both technical merit and management relevance. With competitive grants awarded through this process, different entities will apply. Projects funded under an RSA allocation must enhance understanding of the fishery resource and/or contribute to the body of information which management decisions are made.

The combination of low prices and catch rates in the late 1990's prompted interest in developing an experimental fishery to survey scallops in closed portions of Georges Bank. The success of this program,

both in the scientific objectives achieved and as a method of generating funding for research, led to the formal establishment of the Scallop Research Set-Aside program through Framework 11 to the Scallop FMP in 1999. One percent, about 95,000 pounds, of the sea scallop quota was set aside from the Nantucket Lightship Closed Area, Closed Area I, and the entire open area.

The Scallop RSA program has evolved since its creation in 1999. The set aside increased in 2004 from 1% to 2% of closed area allocations and open area days-at-sea (DAS; NEFMC 2004). In 2011, the RSA program shifted to a multi-year process to be more in line with the specifications process and research projects could span two years if appropriate. Second, the RSA allocation was changed from 2% of allocations to a set poundage of 1.25 million lbs. Third, program structure was modified so that unused RSA pounds could be awarded projects to projects if there was an incorrect estimation of price-per-pound in the Federal Funding Opportunity. In addition, unused RSA allocation may be used to increase the scope of an awarded project. Finally, three measures were identified from which RSA projects could be exempt if identified in the proposal: crew restrictions, seasonal closures of access areas in the Mid-Atlantic to reduce impacts on sea turtles, and the requirement to return to port if fishing in more than one area (NEFMC 2010). The Council has supported increased public input of the RSA process through involvement of the Scallop Advisory Panel in setting research priorities and participating on management review panels if not involved in proposals.

5.4.7.1 RSA Grants Supporting Surveys of Northern Gulf of Maine

The Scallop RSA program has supported survey coverage in the NGOM management area periodically since 2008. Awards for survey coverage in the NGOM have varied over time in terms of survey methodology, research group, area coverage, and pounds awarded. Table 33 summarizes these awards by year, survey group, area coverage, and amount awarded in terms of compensation pounds and an estimate of funds the compensation pounds would result in (i.e. pounds X common price). Note that a total of ten NGOM surveys were awarded between 2008 and 2020, with awards totaling 551,173 pounds and estimated funds totaling $4,902,901.

Table 33 – Scallop Research Set-Aside awards for survey coverage in the NGOM management area by year. Awards are allocated in scallop pounds ("Compensation Pounds). Estimated funds are equal to the pounds awarded multiplied by the common price.

Funding Year	Survey Year	Organization	Areas Surveyed	Common Price	Compensation Pounds Awarded	Estimated Funds
2008	2009	ME DMR	Machias Seal Island, Mount Desert Rock, Platts Bank, No. Stellwagen Bank, Cape Ann (i.e. So. Jeffreys Ledge, Ipswich Bay)	$7.55	70,000	$539,000
2010	2010	SMAST	Jeffreys Ledge, Platts Bank, Fippennies Ledge, Cashes Ledge	$7.55	102,676	$775,206
2011	2012	ME DMR	Machias Seal Island, Mount Desert Rock, Platts Bank, Northeast of Cape Ann (i.e. So Jeffreys Ledge, Ipswich Bay), No. Stellwagen Bank	$7.64	77,135	$589,314
2014	2016	ME DMR	Machias Seal Island, Mount Desert Island, Platts Bank, Fippennies Ledge, Ipswich Bay, So. Jeffreys Ledge, No. Stellwagen Bank	$10.50	53,192	$558,515
2017	2017	SMAST	Stellwagen Bank	$12.00	1,734	$20,808
		CFF	Stellwagen Bank, So. Jeffreys Ledge	$12.00	12,000	$144,000
2018		SMAST	Platts Bank, Ipswich Bay, So. Jeffreys Ledge, No. Stellwagen Bank, So. Stellwagen Bank	$10.50	48,922	$513,680
2019	2019	ME DMR	Machias Seal Island, Platts Bank, Ipswich Bay, So. Jeffreys Ledge, No. Stellwagen Bank, So. Stellwagen Bank	$9.50	35,258	$334,950
2020	2020	SMAST	Platts Bank, Ipswich Bay, So. Jeffreys Ledge, No. Stellwagen Bank, So. Stellwagen Bank	$9.50	131,834	$1,252,423
		ME DMR	No. Stellwagen Bank, So. Stellwagen Bank	$9.50	18,422	$175,005
				Total	551,173	$4,902,901

5.4.8 Fishing Communities

5.4.8.1 Introduction

There are over 200 communities that have been a homeport or landing port to one or more active sea scallop vessels since 2010. These ports occur throughout the coastal northeast and Mid-Atlantic, primarily from Massachusetts to Virginia. The level of activity in the sea scallop fishery has varied across time. This section identifies the communities for which sea scallops are particularly important. While the involvement of communities in the sea scallop fishery is described, individual vessel participation may vary.

Consideration of the socioeconomic impacts on these communities from proposed fishery regulations is required under NEPA and the MSFCMA. In particular, National Standard 8 of the MSFCMA stipulates that "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 economic impacts on such communities" (16 U.S.C. § 1851(a)(8)). A "fishing community" is defined in the MSFCMA, as "substantially dependent on or substantially engaged in the harvesting or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community" (16 U.S.C. § 1802(17)). Determining which fishing communities are "substantially" dependent on or engaged in a fishery can be difficult.

Although it is useful to narrow the focus to individual communities in the analysis of fishing dependence, there are several potential issues with data confidentiality. There are privacy concerns with presenting the data in such a way that proprietary information (landings, revenue, etc.) can be attributed to an individual vessel or a small group of vessels. This is particularly difficult when presenting information on small ports and communities that may only have a small number of vessels and data can easily be attributed to a vessel, dealer, or individual. The fishery data in this action are thus aggregated to at least three reporting units, to preserve confidentiality. To report landings activity to a specific geographic location (e.g., port, state), the landings must be attributed to at least three fishing permit numbers and the landings must be sold to at least three dealer numbers. However, the dealers do not necessarily have to be in the same specific geographic location.

5.4.8.2 Communities Identified

Communities dependent on the sea scallop resource are categorized into primary and secondary port groups. Because geographical shifts in the distribution of sea scallop fishing activity have occurred, the characterization of some ports as "primary" or "secondary" may not reflect their historical participation in and dependence on the fishery.

Primary Port Criteria. The sea scallop fishery primary ports are those that are substantially dependent on or engaged in the fishery, and which are likely to be the most impacted by the alternatives under consideration. The primary ports meet at least one of the following criteria:

- At least $5M average annual revenue of sea scallops, 2010-2017 (Table 34);
- At least 50% of average annual fishing revenue was from sea scallops, 2010-2017 (with $500K as a minimum scallop revenue); or
- A top 10 port by percent of landings each year for either the limited access or the limited access general category scallop permit categories, fishing years 2013-2017.

Secondary Port Criteria. The sea scallop fishery secondary ports are those that may not be as engaged in or dependent on the fishery as the primary ports but are involved to a lesser extent. The secondary ports meet the following criterion:

- At least $500K average annual revenue of sea scallops during 2010-2017.

Atlantic Sea Scallop Primary Ports. Based on these criteria, there are 11 primary ports and 12 secondary ports in the sea scallop fishery (Table 35); confidential ports have been combined with adjacent non-confidential ports). The primary and secondary ports comprise about 92% and 4% of total fishery revenue, respectively, during 2010-2017. Most of the fishery revenue is from landings in New Bedford, and arguably New Bedford and Fairhaven, Massachusetts, could be considered one fishing community, separated only by the Acushnet River. As Hampton/Seaford and Newport News, Virginia are all located in the Hampton Roads metropolitan area, they could also be considered one fishing community. In both cases, the communities are distinguished because reporting their fishing activity is permissible within data confidentiality standards. Scallop fishing activity occurs along a spectrum across ports, rather than in the neat categories of "primary, secondary and other." For example, while Chatham, Massachusetts is considered secondary here, its contribution to the fishery closely matches Provincetown, its neighbor to the north and primary scallop port. While Gloucester is a secondary port, it is the main landing port for vessels with Northern Gulf of Maine permits, a focus of this action.

Because of the size and diversity of the sea scallop fishery, it is unpractical to examine each secondary port individually. However, they are listed here to provide a broader scope of potential communities impacted by scallop management measures. There are about 175 other ports that have had more minor participation (4%) in the fishery recently. Descriptions of the communities involved in the sea scallop fishery and all Northeast fishing communities are on the NEFSC website: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/. The Northeast Ocean Data Portal has interactive maps to help understand where dredge fisheries based in these ports have been active at sea over time: https://www.northeastoceandata.org/.

Table 34. Fishing revenue in primary and secondary sea scallop ports, calendar years 2010-2017.

Port	Average revenue, 2010-2017		
	All fisheries	Sea scallops only	% sea scallops
Primary Ports			
New Bedford, MA	$333.9M	$265.6M	80%
Cape May, NJ	$66.4M	$53.8M	81%
Hampton/Seaford, VA	$27.7M	$23.5M	85%
Newport News, VA	$26.2M	$23.3M	89%
Barnegat Light/Long Beach, NJ	$25.2M	$19.4M	77%
Fairhaven, MA	$17.3M	$12.5M	73%
Pt. Pleasant/Pt. Pleasant Beach, NJ	$25.4M	$11.6M	46%
Narragansett/Pt. Judith, RI	$42.1M	$7.2M	17%
Stonington, CT	$6.9M	$4.8M	69%
Provincetown, MA	$4.7M	$2.2M	47%
Wildwood, NJ	$4.6M	$4.4M	96%
Secondary Ports			
New London, CT	$4.9M	$2.2M	45%
Chatham, MA	$10.8M	$2.1M	19%
Atlantic City, NJ	$19.2M	$1.9M	10%
Gloucester, MA	$45.2M	$1.7M	4%
Harwichport/Barnstable, MA	$3.3M	$1.5M	45%
Montauk, NY	$16.4M	$1.3M	8%
Ocean City, MD	$5.9M	$0.9M	16%
Hampton Bays/Shinnecock, NY	$6.4M	$0.9M	14%
Sandwich, MA	$4.0M	$0.5M	14%
Total (n=approx. 200)	**$1,046.3M**	**$460.4M**	**44%**

Note: Inflation adjusted to 2017 dollars.
Source: NMFS dealer data, accessed October 2018.

Table 35. Primary and secondary ports in the sea scallop fishery.

State	Community	Average revenue, 2010-2017[a]			Top 10 landing port, 2013-2017[b]		Primary/ Secondary
		>$500K	>$5M	≥50% scallops	LA	LAGC	
MA	Gloucester	√					Secondary
	Sandwich	√					Secondary
	Provincetown	√				√	Primary
	Chatham	√					Secondary
	Harwich/Harwichport/ Barnstable	√					Secondary
	Fairhaven	√	√	√			Primary
	New Bedford	√	√	√	√	√	Primary
RI	Narragansett/Pt. Judith	√	√		√		Primary
CT	Stonington	√	√	√	√		Primary
	New London	√					Secondary
NY	Montauk	√					Secondary
	Hampton Bays/Shinnecock	√					Secondary
NJ	Pt. Pleasant/Pt. Pleasant Beach	√	√		√	√	Primary
	Barnegat Light/Long Beach	√	√	√	√	√	Primary
	Atlantic City	√					Secondary
	Wildwood	√	√	√			Primary
	Cape May	√	√	√	√	√	Primary
MD	Ocean City	√					Secondary
VA	Hampton/Seaford	√	√	√	√		Primary
	Newport News	√	√	√			Primary

Notes:
[a] Inflation adjusted to 2017 dollars.
[b] A top 10 port by percent of landings each year for either the LA or LAGC permits, 2013-2017.

5.4.8.3 Port Descriptions

Described here are the fishing communities that are primary ports for the scallop fishery, ordered from north to south (Table 4). In addition, Gloucester is described, as it is an important landing port to vessels with Northern Gulf of Maine permits, and modifications to management in the NGOM area is being considered through this amendment. Information in this section is largely based on demographic data collected by the U.S. Census and fishery data collected by NMFS, much of which are available on the NEFSC website (NEFSC 2017). Clay *et al.* (2007) has a detailed profile of each port, including important social and demographic information.

5.4.8.3.1 Maine Ports

Portland

General: Portland is a fishing community in Cumberland County, ME. In 2016, Portland had a population of 66,649, a 0.7% increase from the year 2010 (66,194). In 2012-2016, 0.5% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Portland; the poverty rate was 19.2%; and the population was 82% white, non-Hispanic

(U.S. Census 2018). The commercial fishing engagement and reliance indices for Portland are high and low, respectively (Jepson & Colburn 2013). In 2015, Portland was the homeport and primary landing port for 69 and 67 federal fishing permits (i.e., vessels), respectively (GARFO 2017). Total landings in Portland were valued at $35M, 6% of the state-wide total ($591M). In 2019, American lobster ($15M) was the highest valued species, accounting for ???% of the total Portland revenue, landed by 107 vessels and sold to 21 dealers (Table 36).

Table 36. Top five species landed by value in Portland ME, 2019

Species	Revenue ($)	Vessels	Dealers
American lobster	$15M	107	21
Atlantic herring	$3.4M	7	12
Menhaden	$1.1M	18	6
Bluefin tuna	$0.69M	41	3
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

5.4.8.3.2 Massachusetts Ports

Gloucester

General: Gloucester is a fishing community in Essex County, MA. In 2016, Gloucester had a population of 29,858, a 4% increase from the year 2010 (28,789). In 2013-2017, 1.6% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Gloucester; the poverty rate was 8.5%; and the population was 95% white, non-Hispanic (U.S. Census 2018). The commercial fishing engagement and reliance indices for Gloucester are high and medium, respectively (Jepson & Colburn 2013).

In 2018, Gloucester was the registered homeport and primary landing port for 194 and 205 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Gloucester were valued at $53M, 8% of the state-wide total ($649M). American lobster ($21M) was the highest valued species, accounting for 40% of the total Gloucester revenue, landed by 144 vessels and sold to 26 dealers (Table 37).

Table 37. Top five species landed by value in Gloucester MA, 2019

Species	Revenue ($)	Vessels	Dealers
American lobster	$22M	140	22
Haddock	$8.1M	72	14
Acadian redfish	$3.4M	52	21
Pollock	$2.5M	54	14
Monkfish	$2.4M	53	15
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Scallop fishery: Gloucester is a secondary port for the scallop fishery, with an average revenue of $1.7M/year from 2010-2017, 4% of total revenue in Gloucester during that time (Table 34). In 2018, there was $1.5M in scallop revenue, landed by 43 vessels and sold to 21 dealers (dealer data). In 2019, Gloucester was the registered homeport and primary landing port for 27 LAGC vessels; 37% are IFQ and 44% are NGOM vessels, and the remainder are incidental (Table 38). No LA vessels are based in Gloucester. For the vessels with Gloucester as a primary landing port, their registered homeports are primarily Gloucester, but also Hampton Falls and Seabrook, NH. For the vessels with Gloucester as a

registered homeport, their primary landing ports are primarily Gloucester, but also Portland and South Bristol, ME and Salisbury, MA.

Table 38. Number of scallop vessels (permits) in Gloucester, 2019

Permit category	Homeport	Landing port
LAGC only	27	27
IFQ	10	10
NGOM	12	11
Incidental	5	5
Total	**27**	**26**
Source: GARFO permit data, accessed July 2019.		

Provincetown

General: Provincetown is a fishing community in Barnstable County, on Cape Cod, MA. In 2017, Provincetown had a population of 2,952, a 0.3% increase from the year 2010 (2,942). In 2013-2017, 1.2% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Provincetown; the poverty rate was 10.7%; and the population was 88% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Provincetown are medium-high and medium, respectively (Jepson & Colburn 2013).

In 2018, Provincetown was the registered homeport and primary landing port for 14 and 16 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Provincetown were valued at $8M, 1% of the state-wide total ($649M). American lobster ($5M) was the highest valued species, accounting for 60% of the total Provincetown revenue, landed by 34 vessels and sold to 9 dealers (Table 39).

Scallop fishery: Provincetown is a primary port for the scallop fishery, with an average revenue of $2.2M/year from 2010-2017 (11th highest of all ports), 47% of total revenue in Provincetown during that time (Table 34). In 2018, there was $2.5M in scallop revenue, landed by 24 vessels and sold to 12 dealers and it was one of the top five species landed by value in Provincetown (Table 39). For the LAGC vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Provincetown was the registered homeport and primary landing port for 8 scallop vessels, all of which are LAGC IFQ vessels (Table 40). These vessels all have Provincetown as their registered homeport and primary landing port. No LA vessels are based in Provincetown.

Table 39. Top five species landed by value in Provincetown, 2019

Species	Revenue ($)	Vessels	Dealers
American lobster	$3.7M	27	8
Sea scallop	$3.3M	22	9
Bluefin tuna	$0.34M	34	6
Menhaden	$0.06M	4	3
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 40. Number of scallop vessels (permits) in Provincetown, 2019

Permit category	Homeport	Landing port
LAGC only	8	8
IFQ	8	8
Total	**8**	**8**
Source: GARFO permit data, accessed July 2019.		

Fairhaven

General: Fairhaven is a fishing community in Bristol County, Massachusetts. In 2017, Fairhaven had a population of 16,027, a 1% increase from the year 2010 (15,873). In 2013-2017, 0.8% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Fairhaven; the poverty rate was 9.1%; and the population was 89% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Fairhaven are high and low, respectively (Jepson & Colburn 2013).

In 2018, Fairhaven was the registered homeport and primary landing port for 23 and 27 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Fairhaven were valued at $8M, 1% of the state-wide total ($649M). Sea scallops ($4M) was the highest valued species, accounting for 48% of the total Fairhaven revenue, landed by 12 vessels and sold to 5 dealers (Table 41).

Scallop fishery: Fairhaven is a primary port for the scallop fishery, with an average revenue of $13M/year from 2010-2017 (sixth highest of all ports), 73% of total revenue in Fairhaven during that time (Table 34). In 2018, there was $4M in scallop revenue, landed by 12 vessels and sold to 5 dealers and it was one of the top five species landed by value in Fairhaven (Table 41). In 2019, Fairhaven was the registered homeport and primary landing port for 8 scallop vessels, all full-time LA vessels, one of which also has a NGOM permit (Table 42). For the vessels with Fairhaven as a homeport or primary landing port, their registered homeport and primary landing ports is primarily Fairhaven, but also New Bedford, MA.

Table 41. Top five species landed by value in Fairhaven MA, 2019

Species	Nominal revenue ($)	Vessels	Dealers
Sea scallop	$4.5M	17	6
Atlantic surfclam	$4.3M	9	3
Whelk	$0.47M	9	4
Note: Data are preliminary; data for two of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 42. Number of scallop vessels (permits) in Fairhaven, 2019

Permit category	Homeport	Landing port
LAGC only	0	1
Incidental	0	1
LA only	7	7
Full time, large dredge	7	7
LA and NGOM combo	1	1
Total	**8**	**8**
Source: GARFO permit data, accessed July 2019.		

New Bedford

General: New Bedford is a fishing community in Bristol County, Massachusetts. In 2017, New Bedford had a population of 95,125, a 0.06% increase from the year 2010 (95,072). In 2013-2017, 1.5% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in New Bedford; the poverty rate was 23.1%; and the population was 64% white, non-Hispanic, 20% Hispanic or Latino, and 5% Black or African American alone (U.S. Census 2019). The commercial fishing engagement and reliance indices for New Bedford are high and medium, respectively (Jepson & Colburn 2013).

In 2018, New Bedford was the registered homeport and primary landing port for 229 and 246 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in New Bedford were valued at $431M, 66% of the state-wide total ($649M). Sea scallops ($358M) was the highest valued species, accounting for 83% of the total New Bedford revenue, landed by 324 vessels and sold to 28 dealers (Table 43).

Scallop fishery: New Bedford is a primary port for the scallop fishery, with an average revenue of $266M/year from 2010-2017 (highest of all ports), 80% of total revenue in New Bedford during that time (Table 34). In 2018, there was $358M in scallop revenue, landed by 324 vessels and sold to 28 dealers and it was one of the top five species landed by value in New Bedford (Table 43). For both the LA and LAGC vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, New Bedford was the registered homeport and primary landing port for 179 and 188 scallop vessels, respectively, about 24% LAGC only vessels, 32% LA-only vessels, and 43% LA and LAGC combo vessels (Table 44). For the vessels with New Bedford as a primary landing port, their registered homeports are primarily New Bedford, but also Boston, Fairhaven, and Nantucket, MA; Atlantic City, Cape May, NJ; and New Bern, NC. For the vessels with New Bedford as a registered homeport, their primary landing ports are primarily New Bedford, but also Fairhaven.

Table 43. Top five species landed by value in New Bedford MA, 2019

Species	Nominal revenue ($)	Vessels	Dealers
Sea scallop	$379M	316	32
American lobster	$13M	56	17
Atlantic surfclam	$7.4M	16	6
Jonah crab	$6.1M	26	8
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 44. Number of scallop vessels (permits) in New Bedford, 2019

Permit category	Homeport	Landing port
LAGC only	42	46
IFQ	31	32
NGOM	2	2
Incidental	9	12
LA only	59	61
Full time, dredge	52	52
Full time, small dredge	7	7
Part time, small dredge	0	1
Full time, trawl		1
LA and IFQ combo	4	4
LA and NGOM combo	18	19
LA and incidental combo	56	58
Total	**179**	**188**
Source: GARFO permit data, accessed July 2019.		

5.4.8.3.3 Rhode Island Ports

Narragansett/Point Judith

General: Point Judith is a fishing community in the town of Narragansett, in Washington County, RI. In 2017, Narragansett had a population of 15,601, a 2% decrease from the year 2010 (15,868). In 2013-2017, 1.8% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Narragansett; the poverty rate was 17.6%; and the population was 94% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Narragansett/Point Judith are high and medium, respectively (Jepson & Colburn 2013).

In 2018, Point Judith was the registered homeport and primary landing port for 116 and 135 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Point Judith were valued at $64M, 61% of the state-wide total ($105M). Sea scallops ($21M) was the highest valued species, accounting for 33% of the total Point Judith revenue, landed by 58 vessels and sold to 15 dealers (Table 45).

Scallop fishery: Point Judith is a primary port for the scallop fishery, with an average revenue of $7.2M/year from 2010-2017 (eighth highest of all ports), 17% of total revenue in Point Judith during that time (Table 34). In 2018, there was $21M in scallop revenue, landed by 58 vessels and sold to 15 dealers and it was the top species landed by value in Point Judith (Table 45). For the LA vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Point Judith was the registered homeport and primary landing port for 35 and 40 scallop vessels, respectively, about 94% LAGC only vessels and 6% LA and LAGC combo vessels (Table 46). No LA-only vessels are based in Point Judith. For the vessels with Point Judith as a primary landing port, their registered homeports are primarily Point Judith but also Boston and Scituate, MA; and Narragansett and Wakefield, RI. For the vessels with Point Judith as a registered homeport, their primary landing port is Point Judith.

Table 45. Top five species landed by value in Point Judith, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$20M	49	15
Loligo squid	$19M	87	16
American lobster	$4.9M	48	9
Summer flounder	$4.8M	120	16
Silver hake	$3.4M	79	13
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 46. Number of scallop vessels (permits) in Point Judith, 2019

Permit category	Homeport	Landing port
LAGC only	33	38
IFQ	8	8
NGOM	0	1
Incidental	25	29
LA and NGOM combo	2	2
Total	**35**	**40**
Source: GARFO permit data, accessed July 2019.		

5.4.8.3.4 Connecticut Ports

Stonington

General: Stonington is a fishing community in New London County, CT. In 2017, Stonington had a population of 18,483, a 0.3% decrease from the year 2010 (18,545). In 2013-2017, 0.3% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Stonington; the poverty rate was 8.2%; and the population was 91% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Stonington are high and low, respectively (Jepson & Colburn 2013).

In 2018, Stonington was the registered homeport and primary landing port for 14 and 21 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Stonington were valued at $7M, 41% of the state-wide total ($17M). Sea scallops ($4M) was the highest valued species, accounting for 58% of the total Stonington revenue, landed by 14 vessels and sold to 6 dealers (Table 47).

Scallop fishery: Stonington is a primary port for the scallop fishery, with an average revenue of $4.8M/year from 2010-2017 (ninth highest of all ports), 69% of total revenue in Stonington during that time (Table 34). In 2018, there was $3.8M in scallop revenue, landed by 14 vessels and sold to 6 dealers and it was one of the top five species landed by value in Stonington (Table 47). For the LA vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Stonington was the registered homeport and primary landing port for 5 and 7 scallop vessels, respectively, about 43% LAGC only vessels, 29% LA only vessels, and 29% LA and LAGC combo vessels (Table 48). For the vessels with Stonington as a primary landing port, their registered homeports are primarily Stonington but also Mystic, CT and Montauk, NY. For the vessels with Stonington as a registered homeport, their primary landing port is Stonington.

Table 47. Top five species landed by value in Stonington, 2019

Species	Revenue ($)	Vessels	Dealers
Loligo squid	$1.3M	13	6
Sea scallop	$0.86M	10	4
Summer flounder	$0.51M	18	8
Scup	$0.31M	19	7
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 48. Number of scallop vessels (permits) in Stonington, 2019

Permit category	Homeport	Landing port
LAGC only	1	3
IFQ	0	1
Incidental	1	2
LA only	2	2
Full time, dredge	1	1
Full time, small dredge	1	1
LA and IFQ combo	1	1
LA and incidental combo	1	1
Total	**5**	**7**
Source: GARFO permit data, accessed July 2019.		

5.4.8.3.5 New Jersey Ports

Point Pleasant/Point Pleasant Beach

General: Point Pleasant and Point Pleasant Beach are two boroughs in Ocean County, NJ, but are considered one fishing community. Landings occur in Point Pleasant Beach, but fishermen usually attribute landings to Point Pleasant. In 2017, the two boroughs combined had a population of 23,096, a 0.2% increase from the year 2010 (23,057). In 2013-2017, 0.4% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Point Pleasant; the poverty rate was 5.1%; and the population was 93% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Point Pleasant are high and medium, respectively. For Point Pleasant Beach, they are medium and low, respectively (Jepson & Colburn 2013).

In 2018, Point Pleasant/Point Pleasant Beach was the registered homeport and primary landing port for 64 and 71 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Point Pleasant/Point Pleasant Beach were valued at $30M, 18% of the state-wide total ($170M). Sea scallops ($8M) was the highest valued species, accounting for 27% of the total Point Pleasant revenue, landed by 40 vessels and sold to 13 dealers (Table 49).

Scallop fishery: Point Pleasant/Point Pleasant Beach is a primary port for the scallop fishery, with an average revenue of $12M/year from 2010-2017 (seventh highest of all ports), 46% of total revenue in Point Pleasant/Point Pleasant Beach during that time (Table 34). In 2018, there was $7.9M in scallop revenue, landed by 40 vessels and sold to 13 dealers and it was one of the top five species landed by value in Point Pleasant/Point Pleasant Beach (Table 49). For both the LA and LAGC vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Point Pleasant/Point Pleasant Beach was the registered homeport and primary landing port for 28 and 29 scallop vessels, respectively, about 69% LAGC only vessels, 10% LA only vessels and 17% LA and LAGC combo vessels (Table 50). For the vessels with Point Pleasant/Point Pleasant Beach as a primary landing port, their registered homeport is primarily Point Pleasant but also Belford, NJ. For the vessels with Point Pleasant/Point Pleasant Beach as a registered homeport, their primary landing port is Point Pleasant/Point Pleasant Beach.

Table 49. Top five species landed by value in Point Pleasant/Point Pleasant Beach, 2019

Species	Nominal revenue ($)	Vessels	Dealers
Sea scallop	$10M	33	12
Summer flounder	$2.9M	48	15
Black seabass	$1.6M	40	16
Note: Data are preliminary; data for two of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 50. Number of scallop vessels (permits) in Point Pleasant/Point Pleasant Beach, 2019

Permit category	Homeport	Landing port
LAGC only	20	20
IFQ	16	16
NGOM	1	1
Incidental	3	4
LA only	3	3
Full time, dredge	2	2
Full time, small dredge	1	1
LA and IFQ combo	4	4
LA and incidental combo	1	1
Total	**28**	**29**
Source: GARFO permit data, accessed July 2019.		

Barnegat Light/Long Beach

General: Barnegat Light on Long Beach island is a fishing community in Ocean County, NJ. In 2017, Barnegat Light had a population of 494, a 14% decrease from the year 2010 (574). In 2013-2017, 5.4% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Barnegat Light; the poverty rate was 1.2%; and the population was 98% white, non-Hispanic (U.S. Census 2019). The commercial fishing engagement and reliance indices for Barnegat Light are both high (Jepson & Colburn 2013).

In 2018, Barnegat Light was the registered homeport and primary landing port for 59 and 65 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Barnegat Light were valued at $24M, 14% of the state-wide total ($170M). Sea scallops ($20M) was the highest valued species, accounting for 83% of the total Barnegat Light revenue, landed by 28 vessels and sold to 4 dealers (Table 51).

Scallop fishery: Barnegat Light is a primary port for the scallop fishery, with an average revenue of $19M/year from 2010-2017 (fifth highest of all ports), 77% of total revenue in Barnegat Light during that time (Table 34). In 2018, there was $20M in scallop revenue, landed by 28 vessels and sold to 4 dealers and it was one of the top five species landed by value in Barnegat Light (Table 51). For both the LA and LAGC vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Barnegat Light was the registered homeport and primary landing port for 30 and 31 scallop vessels, respectively, about 61% LAGC only vessels and 39% LA and LAGC combo vessels (Table 52). No LA-only vessels are based in Barnegat Light. For the vessels with Barnegat Light as a primary landing port, their registered homeports are primarily Barnegat Light but also Manahawkin, NJ and Philadelphia, PA. For the vessels with Barnegat Light as a registered homeport, their primary landing port is Barnegat Light but also Philadelphia, PA.

Table 51. Top five species landed by value in Barnegat Light/Long Beach, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$20M	25	4
Monkfish	$0.96M	41	7
Summer flounder	$0.49M	18	4
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Table 52. Number of scallop vessels (permits) in Barnegat Light, 2019

Permit category	Homeport	Landing port
LAGC only	20	19
IFQ	18	17
Incidental	2	2
LA and IFQ combo	5	7
LA and incidental combo	5	5
Total	**30**	**31**
Source: GARFO permit data, accessed July 2019.		

Wildwood

General: Wildwood is a fishing community in Cape May County, NJ. In 2017, Wildwood had a population of 5,136, a 4% decrease from the year 2010 (5,325). In 2013-2017, 0% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Wildwood; the poverty rate was 27.7%; and the population was 66% white, non-Hispanic, 23% Hispanic or Latino, and 7% Black or African American alone (U.S. Census 2019). The commercial

fishing engagement and reliance indices for Wildwood are medium and low, respectively (Jepson & Colburn 2013).

In 2018, Wildwood was the registered homeport and primary landing port for 5 and 6 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Wildwood were valued at $5M, 3% of the state-wide total ($170M). Sea scallops ($5M) was the highest valued species, accounting for 95% of the total Wildwood revenue, landed by 12 vessels and sold to 3 dealers (Table 53).

Table 53. Top five species landed by value in Wildwood, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$6.2M	11	3
Note: Data are preliminary; data for four of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Scallop fishery: Wildwood is a primary port for the scallop fishery, with an average revenue of $4.4M/year from 2010-2017 (tenth highest of all ports), 96% of total revenue in Wildwood during that time (Table 34). In 2018, there was $5M in scallop revenue, landed by 12 vessels and sold to 3 dealers and it was one of the top five species landed by value in Wildwood (Table 51). In 2019, Wildwood was the registered homeport and primary landing port for 2 and 3 scallop vessels, respectively, one LAGC-only vessel and 2-3 LA and LAGC combo vessels (Table 54). No LA-only vessels are based in Wildwood. For the vessels with Wildwood as a primary landing port, their registered homeports are Wildwood and Philadelphia, PA. For the vessels with Wildwood as a registered homeport, their primary landing port is Wildwood.

Table 54. Number of scallop vessels (permits) in Wildwood, 2019

Permit category	Homeport	Landing port
LAGC only	1	1
IFQ	1	1
LA and IFQ combo	0	1
LA and incidental combo	1	1
Total	**2**	**3**
Source: GARFO permit data, accessed July 2019.		

Cape May

General: Cape May is a fishing community in Cape May County, NJ. In 2017, Cape May had a population of 3,500, a 3% decrease from the year 2010 (3,607). In 2013-2017, 0.3% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Cape May; the poverty rate was 9.3%; and the population was 79% white, non-Hispanic and 15%Hispanic or Latino (U.S. Census 2019). The commercial fishing engagement and reliance indices for Cape May are both high (Jepson & Colburn 2013).

In 2018, Cape May was the registered homeport and primary landing port for 131 and 133 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Cape May were valued at $62M, 36% of the state-wide total ($170M). Sea scallops ($40M) was the highest valued species, accounting for 65% of the total Cape May revenue, landed by 128 vessels and sold to 11 dealers (Table 55).

Table 55. Top five species landed by value in Cape May, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$58M	140	11
Inshore longfin squid	$9.2M	15	3
Loligo squid	$5.3M	36	7
Note: Data are preliminary; data for three of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

Scallop fishery: Cape May is a primary port for the scallop fishery, with an average revenue of $54M/year from 2010-2017 (second of all ports), 81% of total revenue in Cape May during that time (Table 34). In 2018, there was $40M in scallop revenue, landed by 128 vessels and sold to 11 dealers and it was one of the top five species landed by value in Cape May (Table 55). For both the LA and LAGC vessels, it was a top ten landing port each year from 2013-2017 (Table 35). In 2019, Cape May was the registered homeport and primary landing port for 84 and 87 scallop vessels, respectively, 15% LAGC-only vessels, 39% LA-only vessels, and 40% LA and LAGC combo vessels (Table 56). For the vessels with Cape May as a primary landing port, their registered homeports are primarily Cape May but also Port Norris, NJ; Philadelphia, PA; Hampton, VA; and Aurora, NC. For the vessels with Cape May as a registered homeport, their primary landing port is primarily Cape May but also New Bedford, MA and Port Norris, NJ.

Table 56. Number of scallop vessels (permits) in Cape May, 2019

Permit category	Homeport	Landing port
LAGC only	12	13
IFQ	7	8
Incidental	5	5
LA only	35	34
Full time, dredge	21	21
Full time, small dredge	8	8
Part time, small dredge	3	2
Full time, trawl	3	3
LA and IFQ combo	12	13
LA and NGOM combo	1	1
LA and incidental combo	24	26
Total	**84**	**87**
Source: GARFO permit data, accessed July 2019.		

5.4.8.3.6 Virginia Ports

Hampton and Seaford

General: Hampton is a fishing community in the Hampton Roads metropolitan area of Virginia. Seaford is an unincorporated town in York County to the north of Hampton. Both communities are located on the Virginia Peninsula, along with Newport News. In 2017, Hampton had a population of 136,255, a 0.9% decrease from the year 2010 (137,436); Seaford (postal area) had a population of 3,562, a 3% decrease from the year 2010 (3,669). In 2013-2017, 0.3% of the civilian employed population aged 16 years and over worked in agriculture, forestry, fishing, hunting, and mining occupations in Hampton (1.7% for

Seaford); the poverty rate was 15% (3.1% for Seaford); and the population was 49% Black or African American alone, 39% white, non-Hispanic, and 5% Hispanic or Latino (91% white for Seaford; U.S. Census 2019). The commercial fishing engagement and reliance indices for Hampton are high and medium, respectively (Jepson & Colburn 2013). Indicators are not available for Seaford.

In 2018, Hampton and Seaford were the registered homeport and primary landing port for 24 and 33 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Hampton and Seaford were valued at $27M, 5% of the state-wide total ($528M). Sea scallops ($21M) was the highest valued species, accounting for 79% of the total Hampton and Seaford revenue, landed by 35 vessels and sold to 5 dealers (Table 57).

Scallop fishery: Hampton and Seaford (combined) is a primary port for the scallop fishery, with an average revenue of $24M/year from 2010-2017 (third highest of all ports), 85% of total revenue in Hampton and Seaford during that time (Table 34). In 2018, there was $21M in scallop revenue, landed by 35 vessels and sold to 5 dealers. It was one of the top five species landed by value in Hampton and Seaford (Table 57). For LA vessels, it was a top ten landing port each year from 2013-2017 (Table 35).

Table 57. Top five species landed by value in Hampton and Seaford, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$21M	~17	~4
Summer flounder	$2.5M	~58	5
Black seabass	$0.76M	32	6
Loligo squid	$0.64M	39	4
Note: Data are preliminary; data for one of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

In 2019, Hampton and Seaford (combined) was the registered homeport and primary landing port for 21 and 28 scallop vessels, respectively, 7% LAGC-only vessels, 68% LA-only vessels, and 25% LA and LAGC combo vessels (Table 58). For the vessels with Hampton or Seaford as a primary landing port, their registered homeports are primarily Hampton; Seaford; and Wanchese, VA but also Norfolk, VA; and Beaufort, NC. For the vessels with Hampton or Seaford as a registered homeport, their primary landing port is primarily Hampton or Seaford but also Cape May, NJ and Richmond, VA.

Table 58. Number of scallop vessels (permits) in Hampton and Seaford (combined), 2019

Permit category	Homeport	Landing port
LAGC only	1	2
IFQ	1	1
Incidental		1
LA only	18	19
Full time, dredge	16	19
Full time, trawl	2	0
LA and IFQ combo	1	2
LA and incidental combo	1	5
Total	**21**	**28**
Source: GARFO permit data, accessed July 2019.		

Newport News

General: Newport News is a fishing community in the Hampton Roads metropolitan area of Virginia. In 2017, Newport News had a population of 180,775, a 0.03% increase from the year 2010 (180,719). In 2013-2017, 0.3% of the civilian employed population aged 16 years and over worked in agriculture,

forestry, fishing, hunting, and mining occupations in Newport News; the poverty rate was 16.4%; and the population was 44% white, non-Hispanic, 40% black or African American alone, and 9% Hispanic or Latino (U.S. Census 2019). The commercial fishing engagement and reliance indices for Newport News are high and medium, respectively (Jepson & Colburn 2013).

In 2018, Newport News was the registered homeport and primary landing port for 24 and 33 federal fishing permits (i.e., vessels), respectively (GARFO 2019). In 2018, total landings in Newport News were valued at $18M, 11% of the state-wide total ($170M). Sea scallops ($14M) was the highest valued species, accounting for 77% of the total Newport News revenue, landed by 44 vessels and sold to 77 dealers (Table 59).

Scallop fishery: Newport News is a primary port for the scallop fishery, with an average revenue of $23M/year from 2010-2017 (fourth highest of all ports), 89% of total revenue in Newport News during that time (Table 34). In 2018, there was $14M in scallop revenue, landed by 44 vessels and sold to 7 dealers and it was one of the top five species landed by value in Newport News (Table 59).

Table 59. Top five species landed by value in Newport News, 2019

Species	Revenue ($)	Vessels	Dealers
Sea scallop	$14M	43	6
Summer flounder	$1.9M	49	6
Black seabass	$0.59M	17	5
Note: Data are preliminary; data for two of the five top species landed are confidential. *Source:* NEFSC dealer data, accessed March 2020.			

In 2019, Newport News was the registered homeport and primary landing port for 22 and 31 scallop vessels, respectively, 5% LAGC-only vessels, 77% LA-only vessels, and 16% LA and LAGC combo vessels (Table 60). For the vessels with Newport News as a primary landing port, their registered homeport is primarily Newport News but also Norfolk, Poquoson, and Suffolk, VA; Lowland, NC; and Cape Canaveral and Key West, FL. For the vessels with Newport News as a registered homeport, their primary landing port is Newport News.

Table 60. Number of scallop vessels (permits) in Newport News, 2019

Permit category	Homeport	Landing port
LAGC only	1	2
IFQ	1	2
LA only	16	24
Full time, dredge	15	21
Full time, small dredge	0	2
Part time, small dredge	1	1
LA and IFQ combo	3	3
LA and incidental combo	2	2
Total	**22**	**31**
Source: GARFO permit data, accessed July 2019.		

From 1996-2015, dredge fishing by vessels with Newport News as a primary landing port primarily occurred in the Mid-Atlantic Exemption Area and in the Nantucket Lightship and Closed Area I and II Access Areas (NROC 2019).

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