



Mid-Atlantic Fishery Management Council
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Michael P. Luisi, Chairman | G. Warren Elliott, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: July 28, 2020
To: Council
From: J. Didden, staff
Subject: MSB Specifications

The following materials are enclosed for mackerel, longfin squid, and butterfish specifications:

Monitoring Committee Summary Memo

SSC Report – See Committee Reports Tab

Assessments/Data Updates are available at the SSC Page: <https://www.mafmc.org/ssc-meetings/2020/july-22-23>

Staff ABC Recommendation Memo to Chris Moore

Fishery Performance Report

Fishery Information Documents

Public Comments for Briefing Book



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M E M O R A N D U M

Date: July 28, 2020
To: Council
From: J. Didden, staff
Subject: Monitoring Committee Summary, MSB Specifications

The Mackerel, Squid, and Butterfish (MSB) Monitoring Committee met on July 27, 2020 to review the Acceptable Biological Catch (ABC) recommendations of the Council’s Scientific and Statistical Committee (SSC). All Monitoring Committee members attended – attendance details are available by contacting Council staff.

Atlantic Mackerel

The SSC recommended the status quo ABC of 29,184 metric tons (MT) for 2021-2022. A management track assessment for mackerel is expected in 2021. The Monitoring Committee recommended that other specifications also remain status quo, same as 2020.

Table 1. Recommended Mackerel Specifications (ALL MT)

Specification	Mackerel 2020 (MT)
Overfishing Limit (OFL) (only available for 2019)	
Total Acceptable Biological Catch (ABC) from	29,184
Canadian Deduction (10,000 MT)	10,000
U.S. ABC = ACL (Canadian catch deducted)	19,184
Recreational Allocation	1,270
Commercial Allocation (rest of ACL)	17,914
Management Uncertainty Buffer = 3%	537
Commercial ACT (97% of ACL)	17,377
DAH (0.37% discards)	17,312

All other measures (e.g. closure provisions and the 129 MT River Herring/Shad (RH/S) cap) would remain as well. The Monitoring Committee did not discuss the RH/S cap directly, but has noted in the past that while it will control RH/S catch in the mackerel fishery, the cap is not biologically based and cap estimates may have high uncertainty depending on the number of observed trips (6 in 2020 with a cap estimate of 21 MT to date as of July 27, 2020). Staff still plans a series of discussion papers on RH/S later in the year.

The Monitoring Committee discussed that while various arguments could be made about possible slight modifications to the Canadian deduction, the recreational allocation, the management uncertainty buffer, and/or the discard deduction, recent performance of the relevant fisheries was not different enough to justify any particular modifications.

Longfin Squid

The SSC recommended the status quo ABC of 23,400 metric tons (MT) for 2021-2023. A management track assessment is scheduled for 2023. The Monitoring Committee recommended that other management measures also remain status quo (recent performance did not suggest any changes), as described in the following table.

Table 2. Recommended Longfin Squid Specifications (ALL MT)

(a)	Overfishing Limit (OFL) (metric tons - mt)	Unknown
(b)	Acceptable Biological Catch (ABC) (mt)	23,400
(c)	Commercial Discard Set-Aside	2.00%
(d)	Initial Optimum Yield (IOY)	22,932
(e)	Domestic Annual Harvest (DAH) (mt)	22,932
(f)	Domestic Annual Processing (DAP) (mt)	22,932
(g)	Joint Venture Processing (JVP)	0
(h)	Total Allowable Level Foreign Fishing (TALFF)	0

The Monitoring Committee discussed the procedure for potentially re-considering within-year trimester roll-overs as there remains some concern about how the roll-over provisions relate to the apparent seasonal differences in longfin squid productivity, as well as peaks in spawning. Given the Council previously considered this issue in the longfin squid capacity amendment, staff suggested that the Science Center should communicate related concerns and any new information to the Council prior to the Council setting priorities for 2021 (October/December 2020).

Butterfish

The SSC endorsed a “variable” ABC of 11,993 MT for 2021 and 17,854 MT for 2022 and an “averaged” ABC of 14,924 MT for both years. The SSC preferred the varying approach due to the observed decline in the estimated biomass and recruits - constant catch approaches tend to not achieve desired fishing mortality targets, over or under shooting. The SSC also noted that if 2020 removals are much lower than assumed in the projections (5,443 MT), re-evaluation of 2021 ABC may be warranted (2020 landings to date have been trending lower). Staff’s more cautionary averaged ABC of 13,442 MT (using 150% OFL CV) would also be viable since it is below the SSC-averaged ABC recommendation. The Monitoring Committee worked though butterfish specifications with the “variable” ABC approach, noting that the same considerations would hold for the other averaged ABC approaches.

A 5% management uncertainty buffer appears sufficient given recent performance – the fishery has not approached the quota, but that also means that the current closure mechanisms have not been tested. While untested, the closure mechanisms still appear sufficient to slow the fishery and avoid substantial overages. Discards also vary from year to year. Butterfish discards are mostly limited through the butterfish cap in the longfin squid fishery, and other sources of discards are also accounted for. Review of recent observer data suggests a 7.6% discard rate in directed butterfish fishing. This is an increase from previous specifications, but is based on more recent data when there have been more observed “butterfish” trips. The set-aside for discards in fisheries other than longfin squid or directed butterfish fishing (637 MT) still seems reasonable based on 2019 discards and overall discard trends. Based on recent performance the 3,884 MT set-aside for the butterfish cap may appear excessive, but it affords stability to the longfin squid fishery as long as discard rates are kept reasonably low. The resulting quotas would all allow an expansion of landings compared to 2019 (3,431 MT).

Table 3. Butterfish Specifications Option A – SSC Variable (SSC-Recommended) (ALL MT)

	Specification	2021	2022
a	ABC	11,993	17,854
b	ACT Buffer %	5.0%	5.0%
c	ACT Buffer	600	893
d	ACT (a-c)	11,393	16,961
e	Assumed discards in butterfish fishing (7.6% of catch)	522	945
f	Assumed other discards (highest from early cap years)	637	637
g	Set-Aside for discards in butterfish and other fisheries (e+f)	1,159	1,582
h	Butterfish Cap (longfin discards)	3,884	3,884
i	Total discard set-aside (g+h)	5,043	5,466
j	Landings or "Domestic Annual Harvest (DAH = d-i)"	6,350	11,495
k	Close primary directed at this amount, i.e. with 1,000 mt left (j-1000); go to 5,000 pound trip limit	5,350	10,495

Table 4. Butterfish Specifications Option B – SSC Averaged (ALL MT)

	Specification	2021	2022
a	ABC	14,924	14,924
b	ACT Buffer %	5.0%	5.0%
c	ACT Buffer	746	746
d	ACT (a-c)	14,178	14,178
e	Assumed discards in butterfish fishing (7.6% of catch)	734	734
f	Assumed other discards (highest from early cap years)	637	637
g	Set-Aside for discards in butterfish and other fisheries (e+f)	1,371	1,371
h	Butterfish Cap (longfin discards)	3,884	3,884
i	Total discard set-aside (g+h)	5,255	5,255
j	Landings or "Domestic Annual Harvest (DAH = d-i)"	8,923	8,923
k	Close primary directed at this amount, i.e. with 1,000 mt left (j-1000); go to 5,000 pound trip limit	7,923	7,923

Table 5. Butterfish Specifications Option C – Staff Averaged (ALL MT)

	Specification	2021	2022
a	ABC	13,442	13,442
b	ACT Buffer %	5.0%	5.0%
c	ACT Buffer	672	672
d	ACT (a-c)	12,770	12,770
e	Assumed discards in butterfish fishing (7.6% of catch)	627	627
f	Assumed other discards (highest from early cap years)	637	637
g	Set-Aside for discards in butterfish and other fisheries (e+f)	1,264	1,264
h	Butterfish Cap (longfin discards)	3,884	3,884
i	Total discard set-aside (g+h)	5,148	5,148
j	Landings or "Domestic Annual Harvest (DAH = d-i)"	7,622	7,622
k	Close primary directed at this amount, i.e. with 1,000 mt left (j-1000); go to 5,000 pound trip limit	6,622	6,622

SSC Report is behind

Tab 11



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MEMORANDUM

Date: July 7, 2020
To: C. Moore
From: J. Didden
Subject: Butterfish, Longfin Squid, and Mackerel ABCs

Butterfish

The current butterfish acceptable biological catch (ABC) of 32,063 metric tons¹ (MT) is based on projections conducted in 2017 when the last update of the butterfish assessment occurred. The projections used the Council's risk policy at the time and the SSC's assignment of a 100% coefficient of variation (CV) to the projected overfishing level (OFL).

The 2019 butterfish landings totaled 3,431 MT with 1,651 MT of discards. This was the highest catch since directed fishing was allowed to increase in 2012. The Fishery Performance Report notes there are limited domestic markets for butterfish and the re-establishment of export markets is a long-term process that also requires butterfish of a particular size and quality.

The 2020 butterfish management track assessment found butterfish to be not overfished without overfishing in 2019, but if the full 2020 ABC was caught, projections suggest overfishing would have occurred and the stock would have become overfished. The last projections from 2017 overestimated stock biomass trends, largely due to the disconnect between projected and realized recruitment. Recruitment, while variable, has been generally declining since 1999 and recent years have seen historically low recruitment.

Due to this disconnect, Council staff requested that NMFS Northeast Fisheries Science Center (NEFSC) staff run projections sampling potential recruitments from just the last 10 years rather than the full time series (i.e. consider using lower recruitment). Given the trends in recruitment and the recent overly optimistic assessment projections, staff is recommending that 2021-2022 ABCs be based on averaged ABC projections using just the last 10 years for potential recruitment and a 150% CV, combined with the Council's new risk policy. The projections also assume a 2020 catch of 5,443 MT (instead of the full 2020 ABC). This was developed based on the 2019 catch of 5,082 MT and accounting for increasing the trend since 2013 (Excel trend calculation). Preliminary 2020 landings through July 1 are about half of 2019 landings through

¹ One metric ton equals approximately 2,205 pounds, so 32,063 metric tons equals about 70.7 million pounds.

July 1, so 5,443 MT may still be an overestimate for 2020 (landings before July 1 constituted the majority of 2019 landings). Projection details are provided in materials from NEFSC staff. **The staff recommendation would produce averaged ABCs of 13,442 MT for 2021-2022** given the associated parameters discussed above.

Longfin Squid

The current longfin squid ABC of 23,400 metric tons (MT), is based on the catch in the year of the highest exploitation ratio (1993) from the 2010 longfin squid benchmark assessment. That year remains the year of the highest annual exploitation index based on the 2020 management track assessment, though the catch in that year has been re-estimated to be 23,950 MT due to revised discards. Staff notes that catch in 1994 was also about the same as 1993.

The 2019 longfin squid landings totaled 12,458 MT with 314 MT of discards. This is within the typical range of variable landings since in-season quotas were established in 2000. The Fishery Performance Report notes that demand remained high through 2019, but various regulatory measures constrain the fishery.

There are no fishing mortality reference points for longfin squid, but the 2020 longfin squid management track assessment found that the annualized 2-year moving average of biomass was above the target in 2019. The annualized 2-year moving average exploitation rate was near the long term median. The 2-year moving averages for non-annualized (examining the spring and fall surveys separately) were also near or above potential proxy biomass targets, and the 2-year moving averages for non-annualized exploitation indices were near or below their long term medians in 2019. The median fall swept-area biomass estimate is about five times bigger than the median spring biomass, though uncertainties about potential differences in catchability between the fall and spring surveys make that scale difference somewhat difficult to interpret.

Staff appreciates the investigation of sub-annual biomass and exploitation conducted as part of the 2020 longfin squid management track assessment. However, staff's interpretation is that the two primary literature sources cited regarding cohorts (Brodziak and Macy, 1996; Macy and Brodziak, 2001) may not necessarily point to two particular "dominant" cohorts that can be effectively monitored with the current surveys. Brodziak and Macy 1996 found differences in growth rate between squid hatched during Nov-May and July-October, and that "monitoring the stock for in-season management would likely require several assessments throughout the year." They also noted that "If the long-finned squid stock is managed on a seasonal basis, revised stock assessment procedures are likely to require rapid collection of catch and effort data and efficient data analysis during periods of peak fishing activity," with a final concluding statement that "Owing to its short lifespan, the immediate benefits of harvesting the long-finned squid resource are probably best measured by average seasonal yield and its variance, and an adaptive approach to management may be needed to ensure sufficient spawning escapement and to foster efficient utilization of this resource." Macy and Brodziak, 2001 discuss "the large number of possibilities for micro-cohort production, due to continuous spawning throughout the year." Macy and Brodziak 2001's commercial samples for aging also appear to have been collected

during a limited portion of the year. Macy and Brodziak 2001 do note that *L. gahi* has two main spawning periods, and that longfin squid make similar ontogenetic descents in the water column as *L. gahi*. Staff supports continued development of sub-annual assessment and management approaches to longfin squid, but at this time **recommends the current annual longfin squid ABC of 23,400 MT for 2021-2023.**

Atlantic Mackerel

The current mackerel ABC of 29,184 metric tons (MT), is based on the projected catch in the first year (2019) of a rebuilding program designed to rebuild mackerel by June 2023. Catches in 2020 and 2021 were originally slated to increase given the projected increases in biomass. These projections were predicated on a rebuilding strategy that recognized a strong 2015 year class in the assessment results and moderate year classes subsequently. At its May 2019 meeting, the SSC considered results from the 2019 Canadian Atlantic mackerel assessment, which indicated lower than expected recruitment in 2016-2018. The SSC determined that it would not be appropriate to recommend the original higher 2020 ABC level based on recruitment levels in 2016-2018 that may be lower than those anticipated in the rebuilding plan. Instead, the SSC recommended maintaining the ABC for 2020 at the level established for 2019 (29,184 MT). A management track assessment was anticipated in 2020 but has been delayed to 2021 due COVID-19-related data delays.

The 2019 U.S. mackerel landings totaled 5,379 MT with 200 MT of discards. 2019 recreational catch was 2,119 MT (new MRIP methodology which the last assessment did not use), and 2019 Canadian catch was 8,557 (preliminary). Total catch was 16,255 MT, among the lowest in the time series, but as noted in the Fishery Performance Report, U.S. commercial landings were constrained after a river herring and shad cap closure early in the year. Canadian landings were constrained by a quota closure in early September 2019. 2018 landings were also restricted, though less so than 2019, by the same mechanisms in both countries.

Compared to the original rebuilding projections, 2017 catch was 3,494 MT higher (+20%) than assumed, 2018 catch was almost the same as assumed, and 2019 catch was 12,929 MT less (-44%) than projected. The 2017/2018 catches were approximated for projections due to data limitations at the time, and the 2019 catch was limited by the various closures discussed above.

The NEFSC provided a mackerel data update including information on: catch, the NEFSC spring bottom trawl survey, egg/ichthyoplankton surveys, catch location, commercial landings at age, U.S. commercial discards at age, U.S. recreational catch-at-age, and the most recent Canadian assessment. Based on a review of the available information, the mackerel situation does not appear substantially changed since last reviewed. Accordingly, **staff recommends maintaining the current mackerel ABC of 29,184 metric tons (MT) for 2021-2022** (until the 2021 assessment can be used).



Atlantic Mackerel, Squid, and Butterfish Fishery Performance Reports July 2020

The Mid-Atlantic Fishery Management Council's (Council) Mackerel-Squid-Butterfish (MSB) Advisory Panel (AP) met via webinar on July 6, 2020 to review the Fishery Information Documents and develop the following Fishery Performance Reports. The primary purpose of these reports is to contextualize catch histories for the Scientific and Statistical Committee (SSC) by providing information about fishing effort, market trends, environmental changes, and other factors. The trigger questions below were posed to the AP to generate discussion. Please note: The AP comments described below are not necessarily consensus or majority statements.

Advisory Panel members present: Katie Almeida, Joseph Gordon, Howard King, Eleanor Bochenek, Gerry O'Neil, Jeff Kaelin, Meghan Lapp, Greg DiDomenico, and Pam Lyons Gromen.

Others present: Jason Didden, Doug Christel, Aly Pitts, Dan Farnham Jr, Zoe Goozner, Ryan Clark, Zack Greenberg, Peter Hughes, Alissa Wilson, and Eric Reid.

Trigger questions:

1. What factors have influenced recent catch (markets, environment, regulations, etc.)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

For organizational purposes, the summary is broken down by MSB species. Each species discussion began by reviewing the species' "information document." Some general points were also made as described immediately below.

1.1 General

Concern was voiced that shifting thermal habitat suitability is impacting the distribution and/or productivity of MSB species, and needs to be taken into account by assessments/management.

There is concern that assessments will be hurt if surveys are limited by wind development.

Concern was voiced about the potential effects of data gaps from missed observer coverage due to COVID-19.

Tariffs affect prices and profitability, and therefore trade. If a buyer is in China, that buyer may try to negotiate price based on what they know they will have to absorb in tariffs.

1.2 Butterfish

Market/Economic Conditions

2019 butterfish demand was good for the right size and quality of butterfish.

There is still limited interest in this fishery by the typical MSB fishery participant, but it's a substantial fishery for some.

Traditional markets disappeared (export to Japan – breakfast) and it's a long-term process to re-establish markets. Domestic fresh markets are limited, though suppliers are working on ways to expand the market.

Environmental Conditions

See point above in general section about shifting thermal habitat.

Management Issues

The Northeast Canyons and Seamounts Marine Monument was negatively impacting access to butterfish until mid-2020, especially large butterfish that command the best prices.

Other Issues – None mentioned

Research Priorities

Integrating state surveys is important for this species in terms of observing recruitment.

There was support voiced for the SSC providing catch advice that continues to incorporate forage concerns (see the 1992 Patterson paper, the butterfish assessment, and previous SSC approaches). It was also noted that the Fmsy proxy used in the assessment explicitly accounts for the forage role of butterfish.

1.3 Longfin Squid

Market/Economic Conditions

Demand continued to be good through 2019 but COVID-19 had drastic impacts on early-2020 demand. Retail trade has provided an outlet for some longfin squid products. COVID-19 will continue to increase market uncertainties for the foreseeable future.

Environmental Conditions

See point above in general section about shifting thermal habitat.

Management Issues

Area/gear limitations negatively affect fishing/landings. Scup, Tilefish, and Fixed/Mobile Gear Restricted Areas (GRAs) have made longfin squid fishing more difficult. Large mesh requirements on George's Bank also restrict targeting of longfin squid in an areas where fishermen have been seeing signs of longfin squid. The Northeast Canyons and Seamounts Marine Monument may have also been negatively impacting access to areas where longfin squid could have been caught.

Other Issues

Windfarm development continues to be a major concern for the longfin squid fishery given overlap between potential wind farm areas and squid fishery areas.

Research Priorities

Concern was voiced that the spring NEFSC survey may have low catchability for longfin. A public comment also voiced concern about the general catchability of longfin in a bottom trawl survey. These concerns would apply to using the two indices separately, and raises the question whether attempting to assess/manage the stock in multiple cohorts is ready for implementation or is more appropriate to address through/after a research-track assessment process. It needs to be more clearly described how the existing evidence supports two primary cohorts (which happen to align with the surveys). The existing tight controls on this fishery suggest that a careful approach to implementing substantial changes is warranted. There was discussion whether NEAMAP (inshore VIMS) data was included in the assessment update data – staff confirmed it was, in the same fashion as the benchmark and previous update.

1.4 Mackerel

Market/Economic Conditions

See RH/S cap discussion below re: 2019. In 2020 fish disappeared before COVID-19 effects were substantially affecting fishing.

Environmental Conditions

See point above in general section about shifting thermal habitat. Mackerel availability continues to be highly variable.

Management Issues

The RH/S cap had substantial negative impacts on the mackerel fishery in 2018/2019. There are discrepancies between New England and the Mid-Atlantic that are hamstringing the mackerel fishery (especially given it's a high-volume fishery), while substantial RH/S cap remains in the Atlantic herring fishery.

The Atlantic Herring fishery has become a choke-species for the Atlantic mackerel fishery.

In early 2020, the fishery collaborated to avoid RH/S and also luckily encountered mackerel further north early with observers onboard to benefit the cap estimates and give the fishery a chance (the previous year's ratio is used in a transition method until enough new trips are observed, so the fishery can potentially be shut down based on the previous year's data).

The current status of mackerel remains overfished.

Other Issues – None mentioned

Research Priorities – None mentioned



Atlantic Mackerel Fishery Information Document

July 2020

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for Atlantic mackerel (“mackerel” hereafter), with an emphasis on 2019. Data sources for Fishery Information Documents include unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/msb>.

Key Facts

- Mackerel is in a rebuilding period.
- Like 2018, the mackerel fishery was closed early in 2019 due to the river herring and shad cap (March 12, 2019), so mackerel landings were constrained independent of the mackerel quota and/or mackerel availability.
- A mackerel assessment update was delayed until 2021 due to data delays associated with COVID-19. NMFS will be providing a data update instead.

Basic Biology

Mackerel is a semi-pelagic/semi-demersal (may be found near the bottom or higher in the water column) schooling species primarily distributed between Labrador (Newfoundland, Canada) and North Carolina. The stock is considered to comprise two spawning contingents: a northern contingent spawning primarily in the southern Gulf of St. Lawrence and a southern contingent spawning in the Mid-Atlantic Bight, Southern New England and the western Gulf of Maine. The two contingents mix during winter months on the Northeast U.S. shelf. The Canadian fishery likely primarily catches the northern contingent while the U.S. fishery likely catches both contingents.

Mackerel spawning occurs during spring and summer and progresses from south to north as surface waters warm. Atlantic mackerel are serial, or batch spawners. Eggs are pelagic. Post-larvae gradually transform from planktonic to swimming and schooling behavior at about 30-50 mm. Approximately 50% of fish are mature at age 2 and about 99% were mature at age 3 (for 2007-2016 fish) according to the recent benchmark assessment. Atlantic mackerel are opportunistic feeders that can ingest prey either by individual selection of prey organisms or by passive filter feeding. See <https://www.nefsc.noaa.gov/nefsc/habitat/efh/> for more life history information.

Status of the Stock

Based on a recent benchmark assessment (NEFSC 2018, available at <http://www.mafmc.org/ssc-meetings/2018/may-8-9>), the mackerel stock was declared overfished, with overfishing occurring in 2016 (the last year of data in the assessment). Rebuilding projections indicate that overfishing should have ended by 2018. The biomass target is the SSB associated with the FMSY proxy and is estimated to be 196,894 MT. The 2016 spawning stock biomass (SSB) was estimated to be 43,519 metric tons (MT), or 22% of the target so mackerel is “overfished” (below 50% of the target). Past assessments (which used different methods and data) appear to have been overly optimistic about the stock’s productivity. Once rebuilt, the MSYproxy (i.e. the proxy for maximum sustainable annual yield) is estimated to be only 41,334 MT (total catch, U.S. plus Canada combined). A mackerel assessment update was delayed until 2021 due to data delays associated with COVID-19.

Management System and Fishery Performance

Management

The Mid-Atlantic Fishery Management Council (the Council or MAFMC) established management of mackerel in 1978 and the management unit includes all federal East Coast waters. Expected Canadian landings are deducted from the total Acceptable Biological Catch (ABC) that is recommended by the Council’s Scientific and Statistical Committee (SSC).

Access is limited with several tiers having different trip limits. Stricter trip limits are triggered when the quota is approached. Additional summary regulatory information is available at <https://www.fisheries.noaa.gov/region/new-england-mid-atlantic>.

At its May 2019 meeting, the SSC considered preliminary results from the 2019 Canadian Atlantic mackerel assessment, which indicated lower than expected recruitment in 2016-2018. The SSC determined that it would not be appropriate to recommend the original higher 2020 ABC level based on recruitment levels in 2016-2018 that may be lower than those anticipated in the rebuilding plan. Instead, the SSC recommended maintaining the ABC for 2020 at the level established for 2019 (ABC = 29,184 mt). After accounting for Canadian landings, recreational catch, management uncertainty, and discards, the 2020 U.S. quota is 17,312 MT.

Commercial Fishery

Figure 1 describes U.S. mackerel landings 1960-2019. Figure 2 describes total mackerel catch 1960-2019 including domestic landings, recreational catch, Canadian catch, and foreign landings, highlighting the scale of the early foreign fishery. Figures 3-4 describe domestic landings, ex-vessel revenues (nominal), and prices (inflation adjusted) since 1996. Figures 5-6 illustrate preliminary landings throughout the year for 2018-2020.

Table 1 describes 2019 Mackerel landings by state, and Table 2 describes 2019 Mackerel landings by gear type. Figures 7/8 describe the location of 2018/2019 mackerel landings.

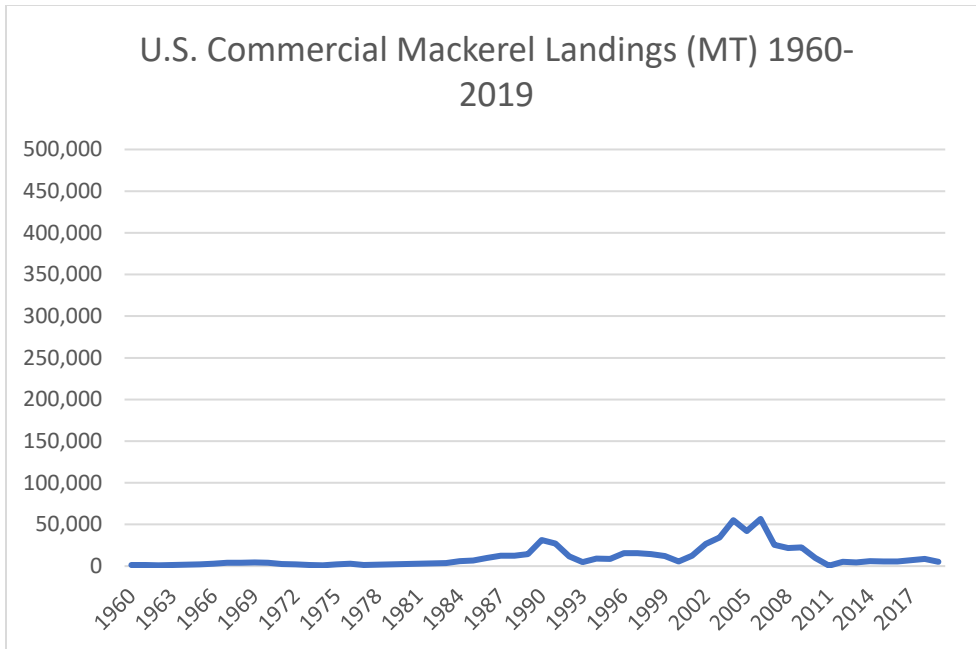


Figure 1. Total annual U.S. mackerel landings (mt) by the U.S. 1960-2019. Sources: NMFS unpublished dealer data.

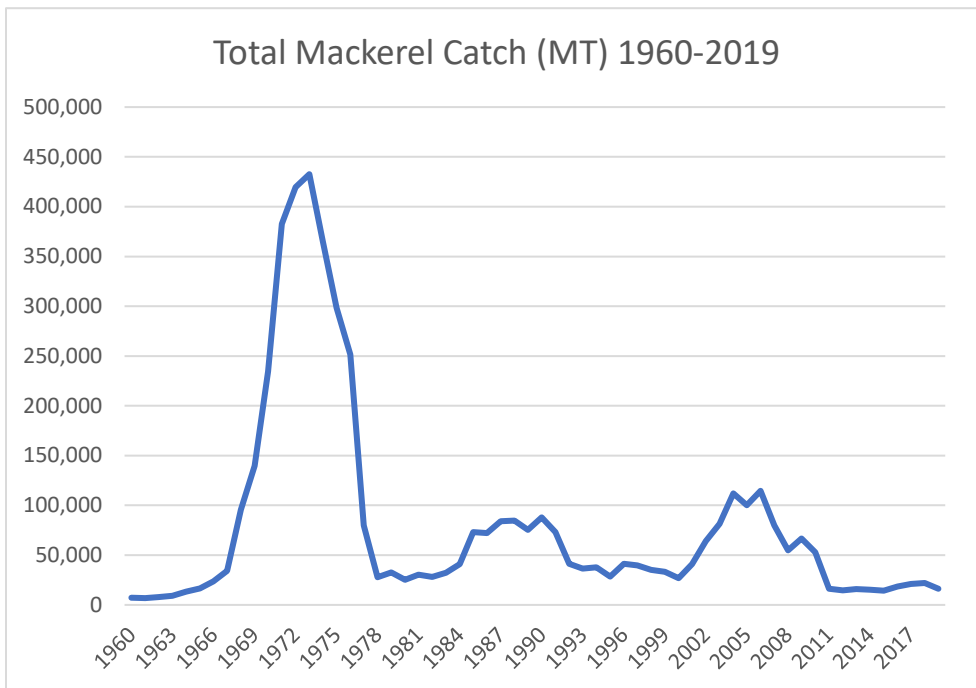


Figure 2. Total mackerel catch 1960-2019 including domestic landings, recreational catch, Canadian catch, and foreign landings.

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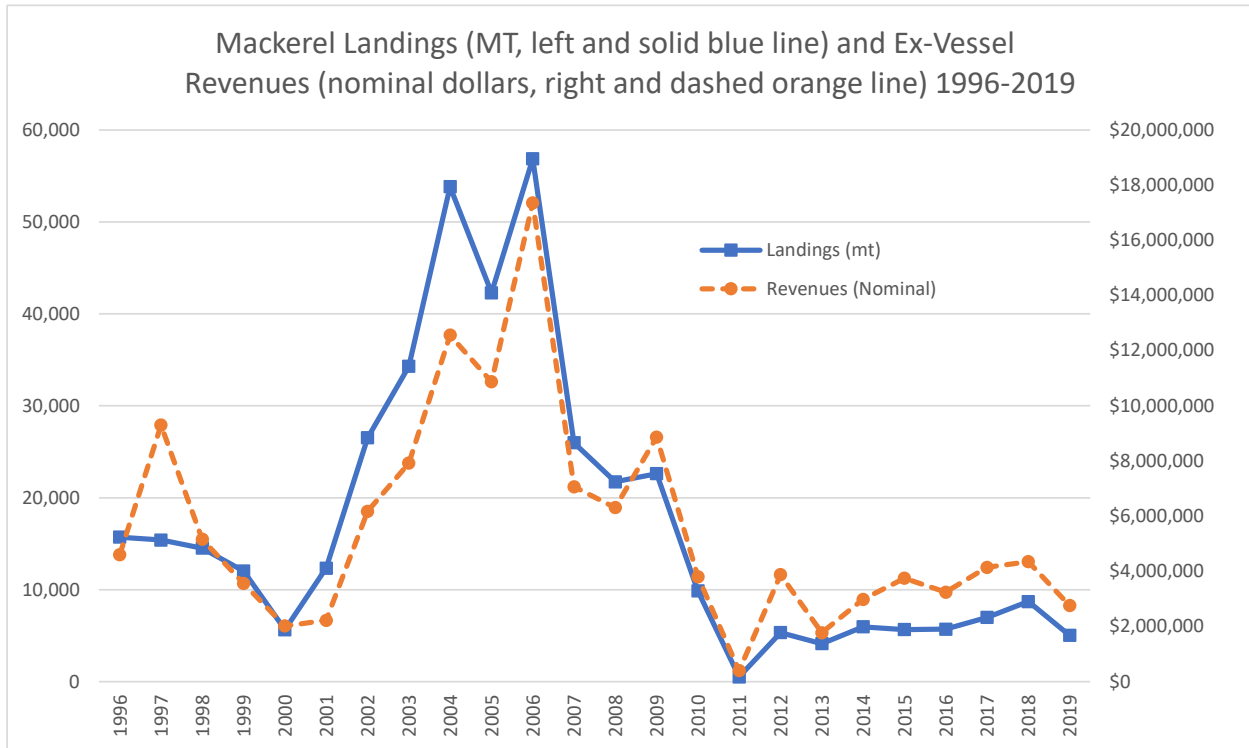


Figure 3. U.S. Mackerel Landings and Nominal Mackerel Ex-Vessel Values 1996-2019. Source: NMFS unpublished dealer data.

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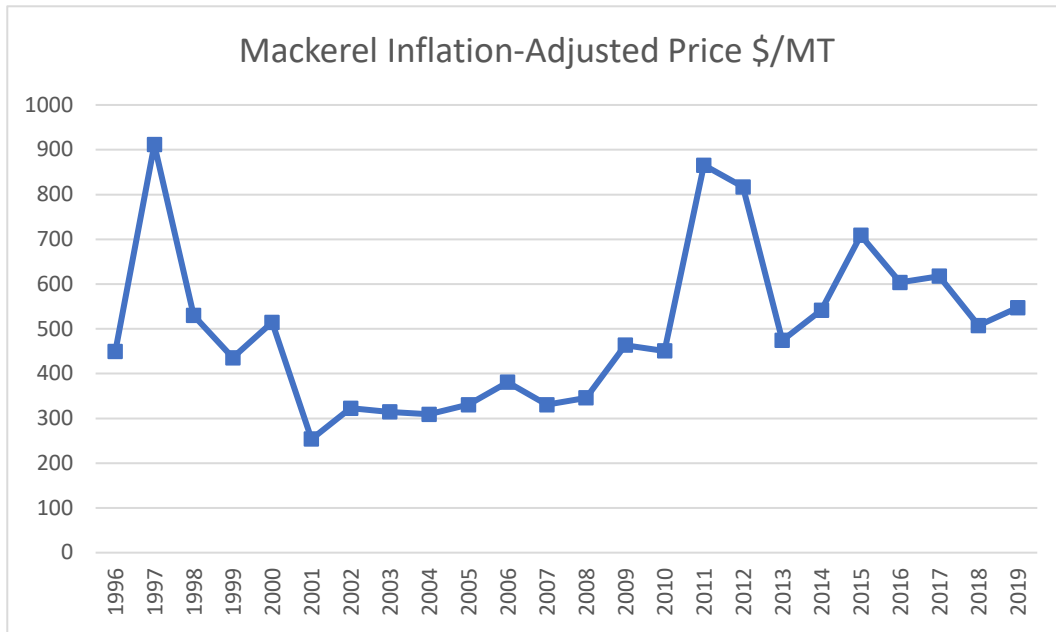


Figure 4. Ex-Vessel Mackerel Prices 1996-2019 Adjusted to 2019 Dollars Source: NMFS unpublished dealer data.

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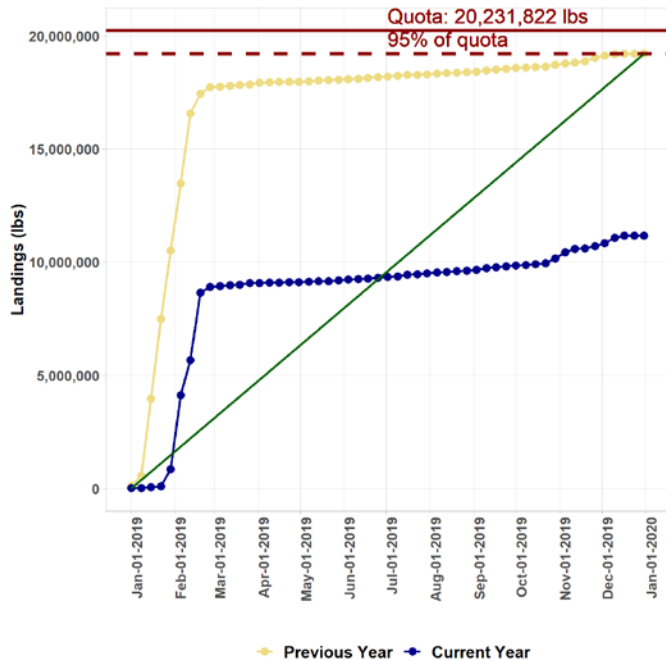


Figure 5. U.S. Preliminary Mackerel landings; 2019 in blue, 2018 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>. (note different scale than Figure 5 due to quota change)

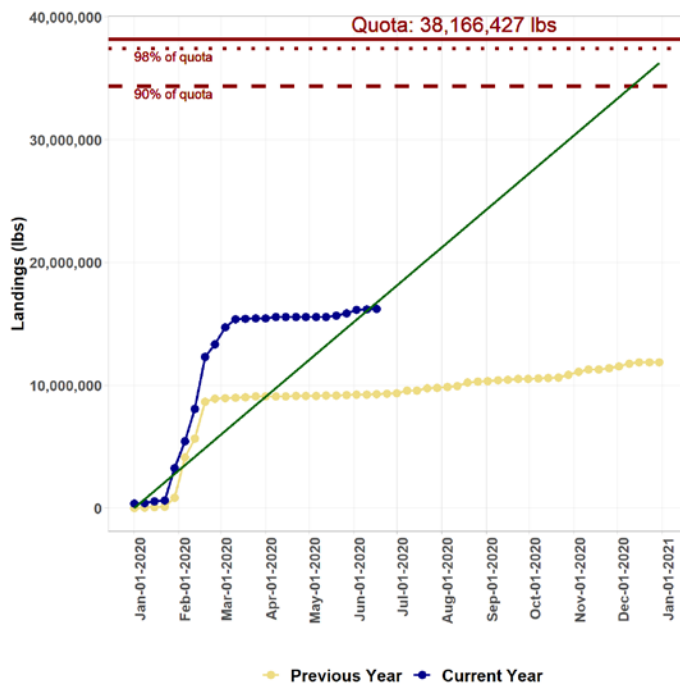


Figure 6. U.S. Preliminary Mackerel landings; 2020 in blue, 2019 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>. (note different scale than Figure 4 due to quota change)

Table 1. Commercial Mackerel landings (live weight) by state in 2019. Source: NMFS unpublished dealer data.

State	Metric_Tons
NJ	2,501
MA	1,622
RI	587
ME	254
NY	49
CT	22
Other	13
Total	5,047

Table 2. Commercial Mackerel landings (live weight) by gear in 2019. Source: NMFS unpublished dealer data.

GEAR	Landings (MT)
TRAWL,OTTER,BOTTOM,FISH	3,313
TRAWL,OTTER,MIDWATER PAIRED	857
LONGLINE, BOTTOM	223
UNKNOWN	203
HAND LINE, OTHER	168
TRAWL,OTTER,MIDWATER	143
HANDLINE,AUTO JIG	75
Other	64
Total	5,047

Atlantic Mackerel

Scomber scombrus

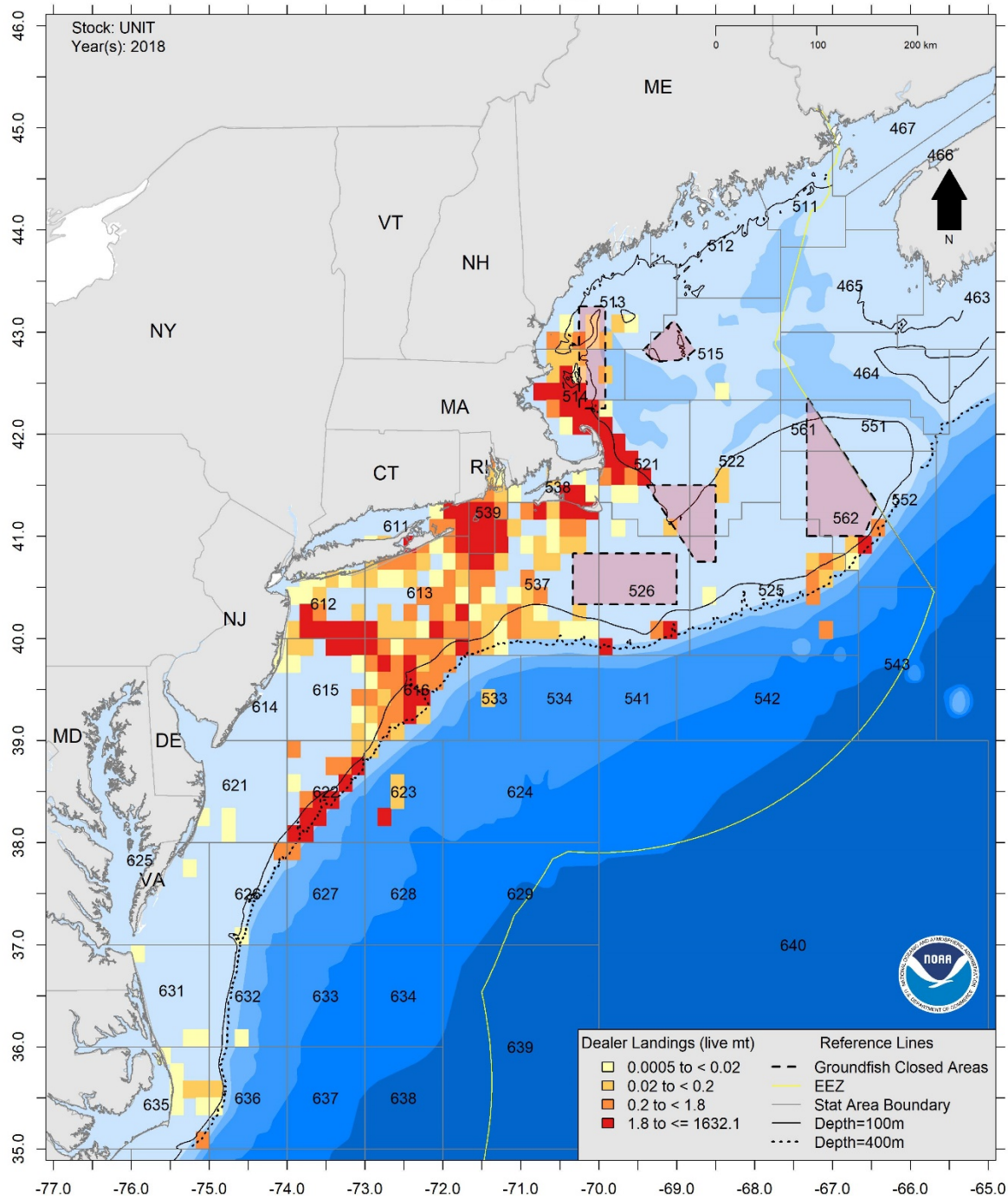


Figure 7. Approximate Primary 2018 Mackerel Catch Locations (from dealer and VTR data)

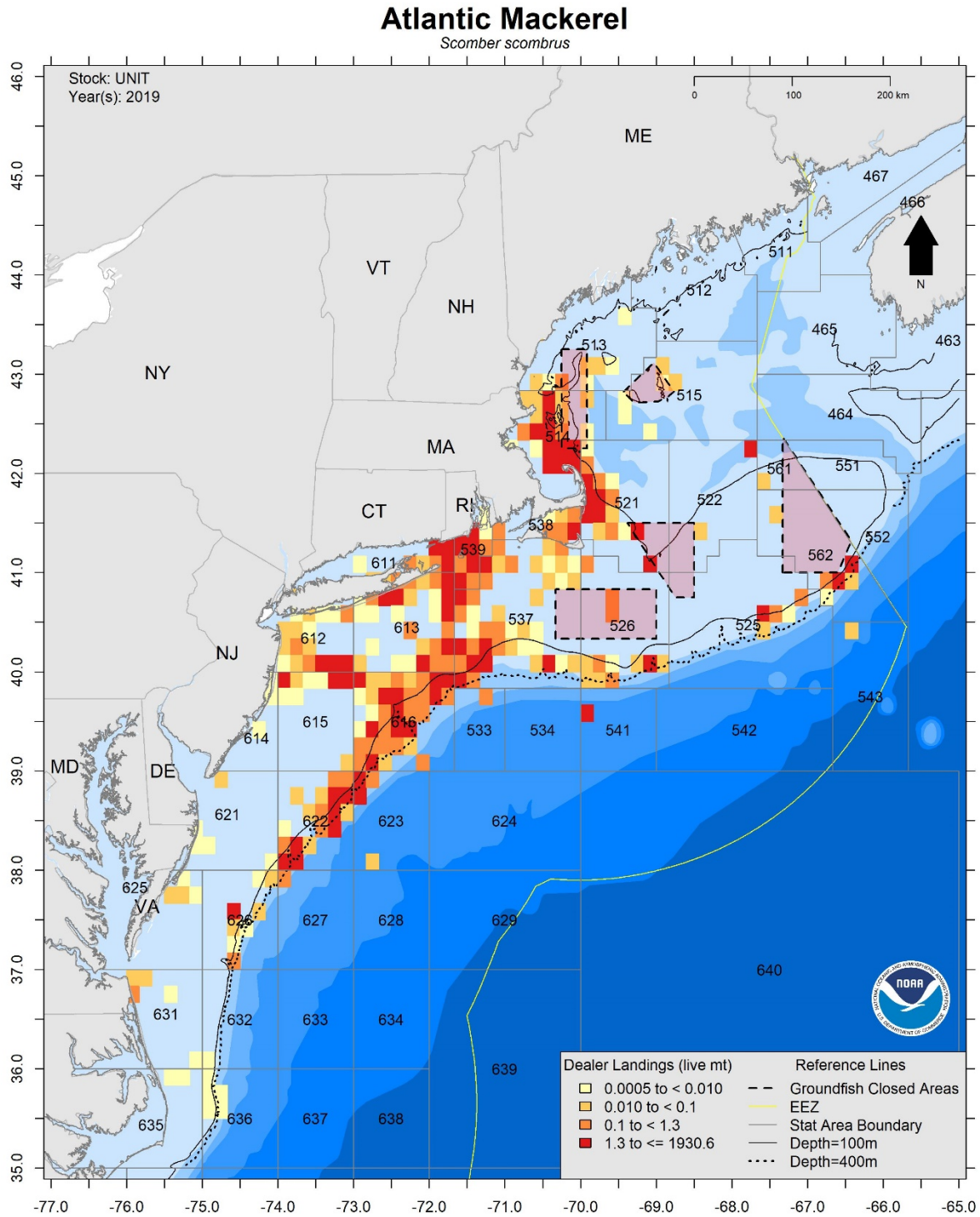


Figure 8. Approximate Primary 2019 Mackerel Catch Locations (from dealer and VTR data)

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Longfin Squid Fishery Information Document

July 2020

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for longfin squid (“longfin” hereafter, formerly known as “Loligo”), with an emphasis on 2019. Data sources for Fishery Information Documents include unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/msb>.

Key Facts

- Longfin had a management track assessment in 2020. Based on 2019 data the fishery was not overfished. Overfishing reference points are not available.
- Longfin landings were 7% higher in 2019 compared to 2018 but still substantially below the quota; there were no seasonal trimester closures in 2018.
- Substantial variability is to be expected with squid species.

Basic Biology

Longfin squid is a neritic (from the shore to the edge of the continental shelf), semi-pelagic schooling cephalopod species primarily distributed between Georges Bank and Cape Hatteras, NC. The squid, and the fishery, generally occur offshore in the winter and inshore during the summer, with mixing and migrations from one to the other in spring and fall. Spawning/recruitment occurs year-round with seasonal peaks in cohorts. The average lifespan of a cohort is about six months. Individuals hatched inshore during the summer are taken in the winter offshore fishery and those hatched in the winter are taken in the inshore summer fishery. Age data indicate that NEFSC spring surveys (March-April) capture longfin squid that were hatched during the previous six months, in the fall, and those caught in the NEFSC fall surveys (September-October) were hatched during the previous spring. Longfin squid attach egg masses to the substrate and fixed objects. Fishing and spawning mortality occur concurrently inshore during late spring through fall. The locations of spawning sites offshore at other times of the year are not well understood. Additional life history information is detailed in the EFH document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

Status of the Stock

Based on a recent management track assessment, the status of longfin squid is not overfished but there are no overfishing reference points available (available at https://apps-nefsc.fisheries.noaa.gov/saw/sasi/sasi_report_options.php). See Figure 1 for trends in biomass from the assessment. The assessment also presented unaveraged trends based on the spring and fall surveys separately representing two dominant cohorts, and solicited input from the reviewers about moving to considering the two dominant cohorts separately. The reviewers supported moving forward with such an approach - Since the median fall biomass is about five times bigger than the median spring biomass, there could be considerable management implications if the surveys are ultimately used to manage two cohorts separately.

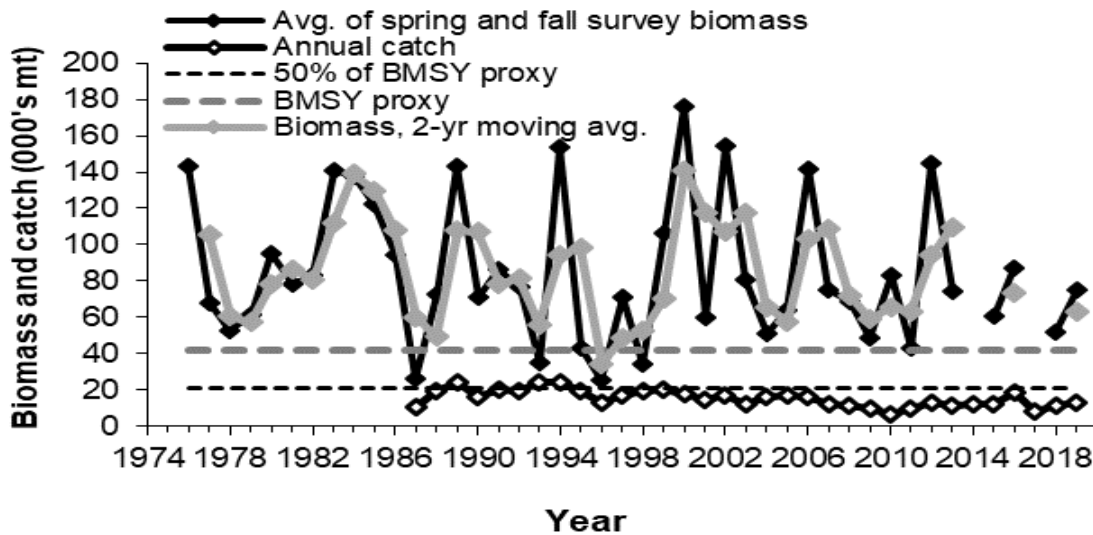


Figure 1. Annualized biomass estimates (annual averages of the NEFSC spring and fall survey biomass estimates in mt) of longfin in relation to the existing BMSY proxy (42,205 mt) and annual catches during 1987-2019 (when fishing was solely conducted by the USA fleet). The grey line represents the annualized biomass two-year moving averages which are used to determine stock status. Some years near the end are missing due to missing survey data.

Management System and Fishery Performance

Management

The Council established management of longfin in 1978 and the management unit includes all federal East Coast waters.

Access is limited with several moratorium permit categories. The quota is divided into three, 4-month Trimesters - 43% (Jan-Apr), 17% (May-Aug), and 40% (Sept-Dec). Unused quota can roll over into later trimesters within a year depending on the amount of longfin landed. Underages from T1 that are greater than 25% are reallocated to Trimesters 2 and 3 (split equally between both trimesters) of the same year. However, the T2 quota may only be increased by 50% via rollover and the remaining portion of the underage is reallocated to T3. Any underages for T1

that are less than 25% of the T1 quota are applied only to T3 of the same year. Any overages for T1 and T2 are subtracted from T3 of the same year as needed.

The 2018-2020 longfin squid ABC is 23,400 MT, with a commercial quota of 22,932 MT.

Recreational catch of longfin is believed to be negligible relative to commercial catch. There are no recreational regulations except for party/charter vessel permits and reporting.

Commercial Fishery

Figure 2 describes longfin landings 1963-2019. Figures 3-4 describe domestic landings, ex-vessel revenues (nominal), and prices (inflation adjusted) since 1996. Figures 5-6 illustrate preliminary landings throughout the year for 2018-2020.

Table 1 describes 2019 longfin landings by state, and Table 2 describes 2019 longfin landings by gear type. Table 3 describes 2019 longfin landings by NMFS Statistical Areas.

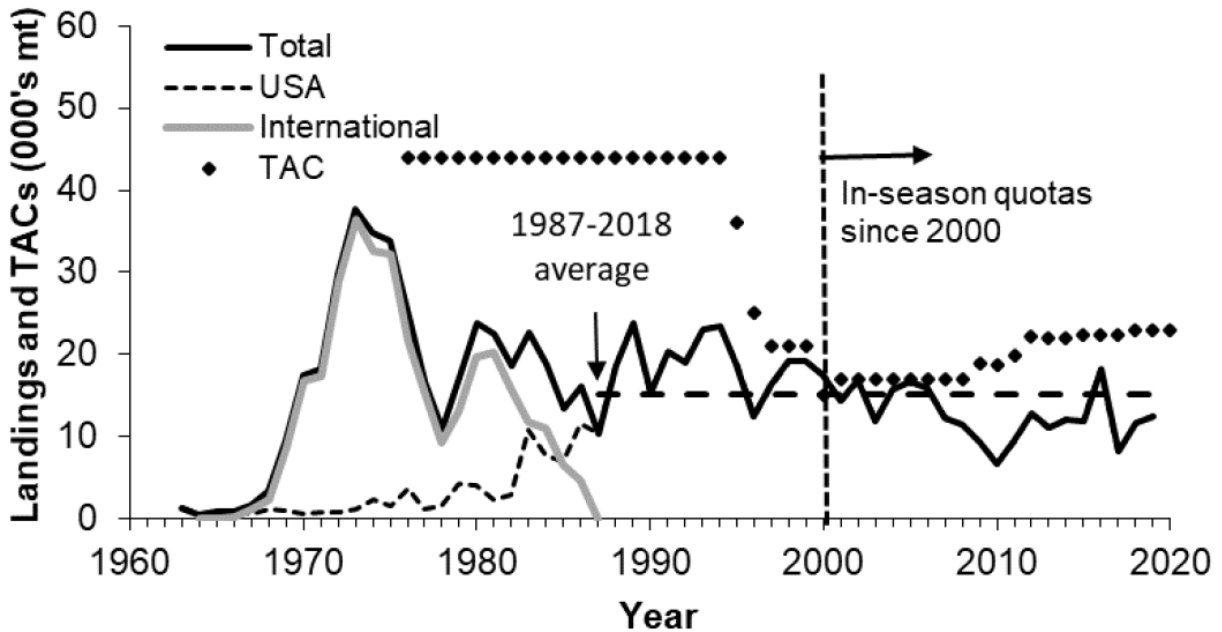


Figure 2. Landings (000s mt) of *Doryteuthis pealeii*, by USA and international fleets, on the Northeast USA continental shelf during 1963-2019 and annual TACs during 1974-2020. In-season quotas were quarterly-based during 2001-2006 and trimester-based during 2000 and 2007-2019.

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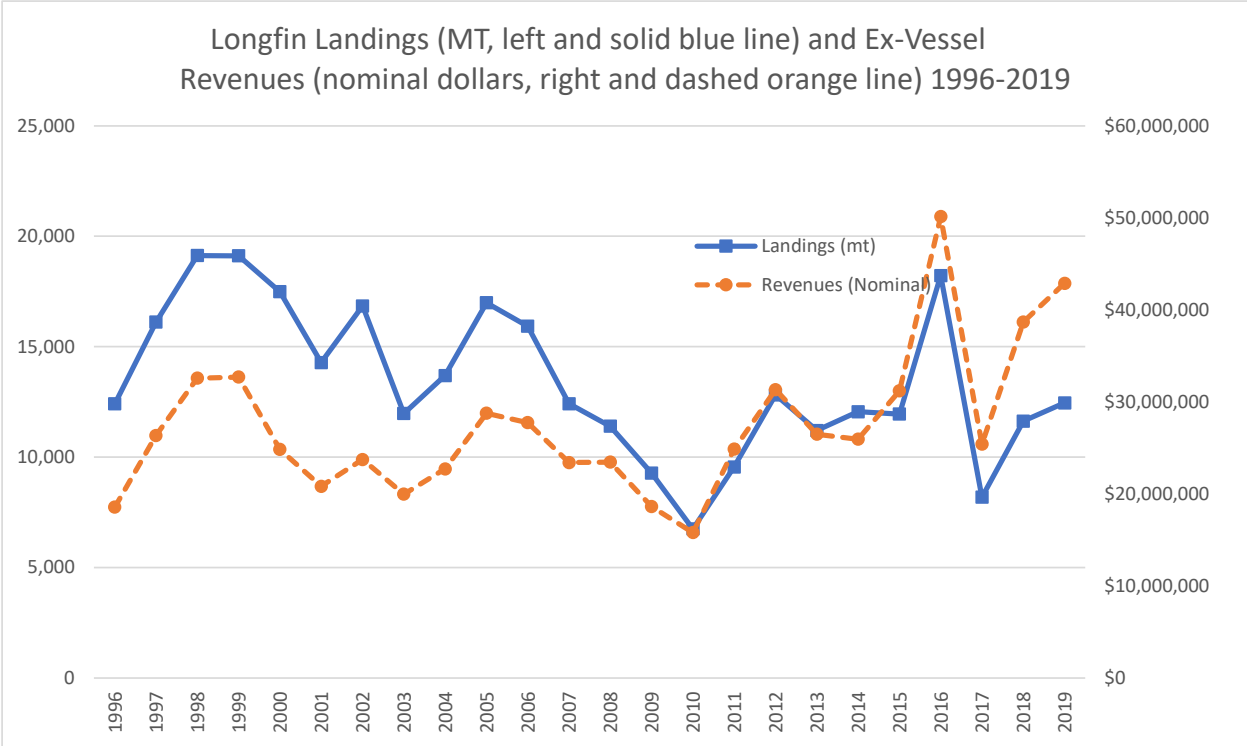


Figure 3. U.S. Longfin Landings and Nominal Longfin Ex-Vessel Values 1996-2019. Source: NMFS unpublished dealer data.

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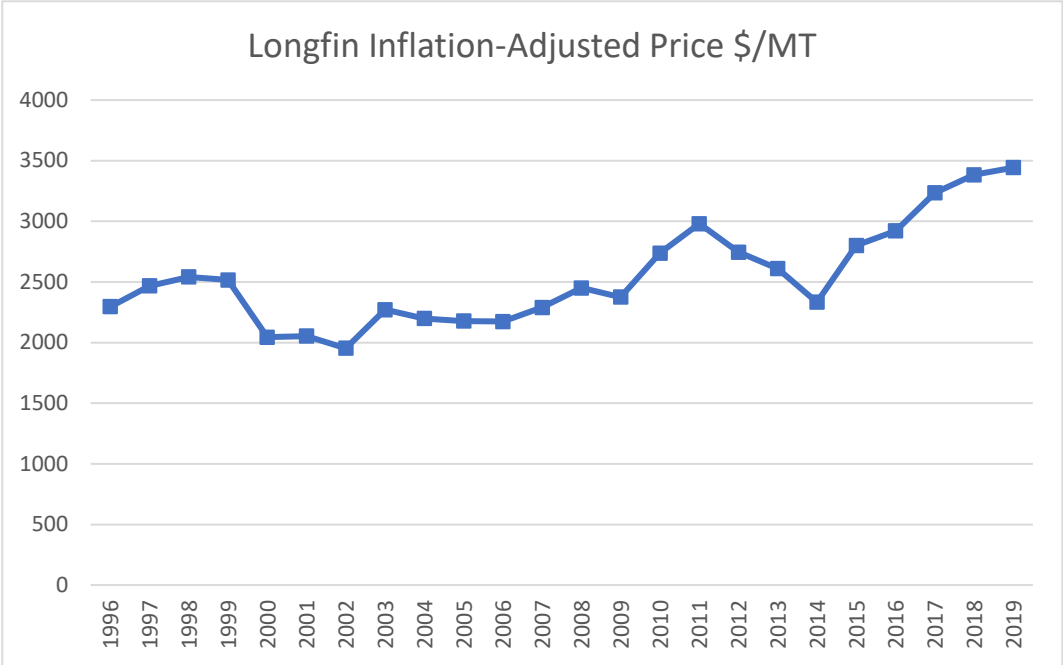


Figure 4. Ex-Vessel Longfin Prices 1996-2019 Adjusted to 2019 Dollars Source: NMFS unpublished dealer data.

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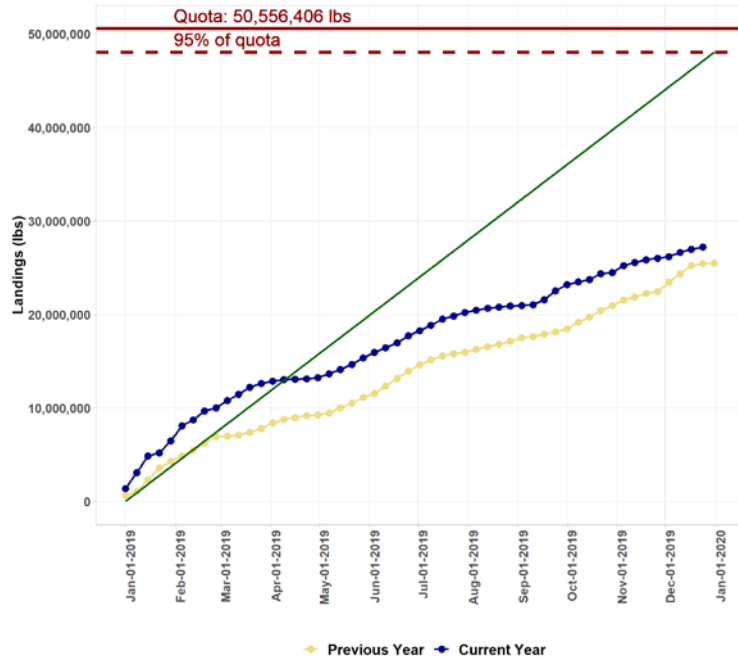


Figure 5. U.S. Preliminary Longfin landings; 2019 in blue, 2018 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

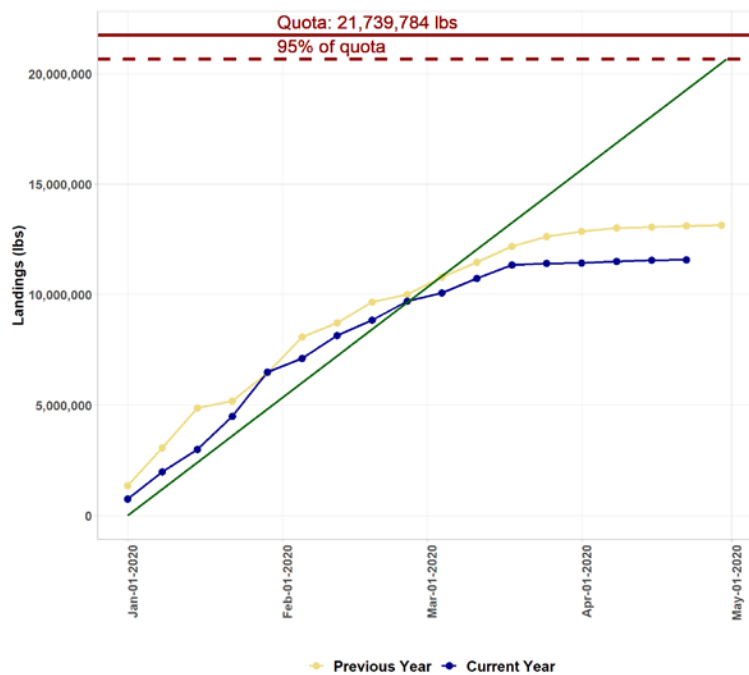


Figure 6. U.S. Preliminary Longfin landings; 2020 Trimester 1 in blue, 2019 Trimester 1 in yellow-orange. Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region>.

Table 1. Commercial Longfin landings (live weight) by state in 2019. Source: NMFS unpublished dealer data.

State	Metric_Tons
RI	6,040
NJ	2,203
NY	1,828
MA	1,188
CT	980
Other/Unknown	216
Total	12,457

Table 2. Commercial Longfin landings (live weight) by gear in 2019. Source: NMFS unpublished dealer data.

GEAR	Landings (MT)
TRAWL,OTTER,BOTTOM,FISH	10,582
UNKNOWN	1,290
TRAWL,OTTER,BOTTOM,OTHER	380
DREDGE, OTHER	187
Other	19
Total	12,457

Table 3. Commercial longfin landings by statistical area in 2019. Source: NMFS unpublished VTR data.

Stat Area	Metric_Tons
616	3,182
622	2,502
537	1,616
613	771
626	747
538	552
623	493
612	316
562	196
611	178
539	177
627	141
525	106
Other	600
Total	11,577

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Butterfish Fishery Information Document

July 2020

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for butterfish, with an emphasis on 2019. Data sources for Fishery Information Documents include unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/msb>.

Key Facts

- 2019 landings were about double 2018 landings and similar to 2017. Landings have generally been variable and well below the quota in recent years.
- Butterfish just had a management track assessment update, which concluded biomass has been trending down but the stock is not overfished nor experiencing overfishing. Recruitment is variable but has been trending lower since 1999. Spawning stock biomass (SSB) in 2019 was estimated to be 69% of the target.
- Considerable variability is expected in abundance, availability, and landings.

Basic Biology

Atlantic butterfish is a semi-pelagic/semi-demersal schooling fish species primarily distributed between Nova Scotia, Canada and Florida. They are most abundant from the Gulf of Maine to Cape Hatteras and are fast-growing, short-lived, and form loose schools. They winter near the edge of the continental shelf in the Middle Atlantic Bight and migrate inshore in the spring into Mid-Atlantic, southern New England, and Gulf of Maine waters. During the summer, butterfish occur over the entire mid-Atlantic shelf from sheltered bays and estuaries out to about 200 m. In late fall, butterfish move southward and offshore in response to falling water temperatures.

Butterfish are short-lived and grow rapidly; few individuals live beyond 3 years and most are sexually mature at 1-2 years of age. The maximum age reported is 6 years. Juvenile butterfish range from 16 mm to about 120 mm. During their first year, they grow to 76-127 mm, or about half their adult size. Early-spawned individuals are 76-102 mm in the fall; late-spawned individuals are 51-76 mm in the fall and 76-127 mm the following spring. Adult butterfish range from about 120 mm to 305mm with an average length of 150-230 mm. See <https://www.nefsc.noaa.gov/nefsc/habitat/efh/> for more life history information.

Status of the Stock

Based on a recent management track assessment, the status of butterfish is not overfished with no overfishing occurring (available at https://apps-nefsc.fisheries.noaa.gov/saw/sasi/sasi_report_options.php). However, declining recruitment has led to declines in biomass (Figure 1), and as of 2019 biomass is estimated to have been only 69% of the target. Projections run based on typical long-term recruitment predict a rapid increase in biomass, but that will only occur when the trend in recruitment reverses. Initial projections using lower, more recent (last 10 years) recruitment and a high level of uncertainty suggest that considering substantial reductions in acceptable biological catch (ABC) may be warranted.

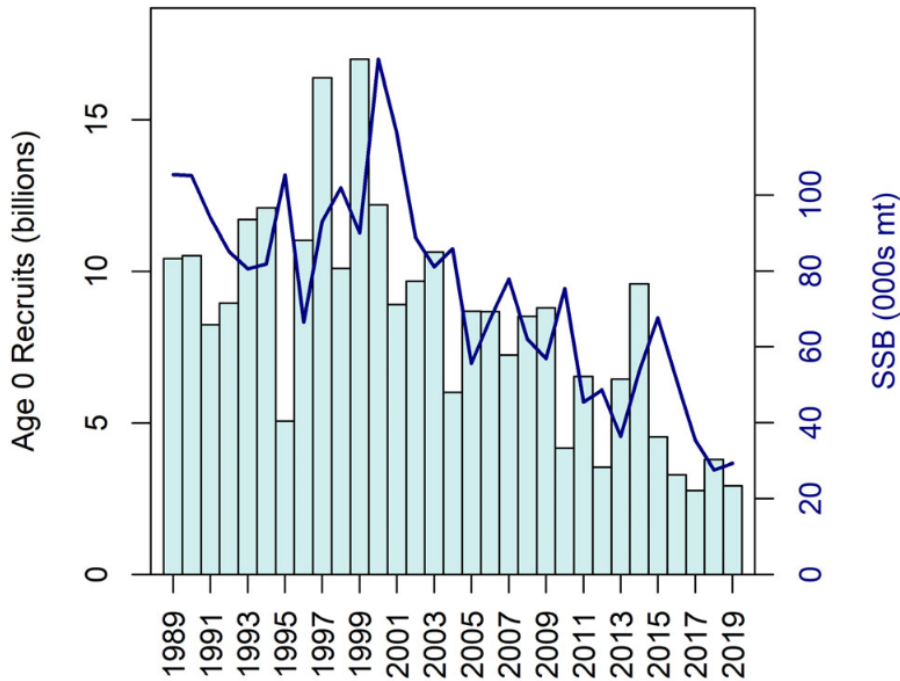


Figure 1. Butterfish recruitment (vertical bars), and the spawning stock biomass (blue line) 1989-2019.

Management System and Fishery Performance

Management

The Mid-Atlantic Fishery Management Council (the Council or MAFMC) established management of butterfish in 1978 and the management unit includes all federal East Coast waters.

Limited access commercial vessels can fish year-round, subject to applicable gear requirements. Trip limits are triggered when the quota is approached. Incidental permits are limited to 600 pounds per trip. Additional summary regulatory information is available at

<https://www.fisheries.noaa.gov/region/new-england-mid-atlantic>. The ABC for 2020 is 32,063 MT, with a commercial quota of 23,752 MT.

Recreational landings are negligible. There are no recreational regulations except for party/charter vessel permits and reporting.

Commercial Fishery

Figure 2 describes U.S. butterfish catch 1965-2019. Figures 3-4 describe domestic landings, ex-vessel revenues (nominal), and prices (inflation adjusted) since 1996.

Table 1 describes 2019 butterfish landings by state, and Table 2 describes 2019 butterfish landings by gear type. Table 3 describes 2019 butterfish landings by NMFS Statistical Area as reported in Vessel Trip Reports.

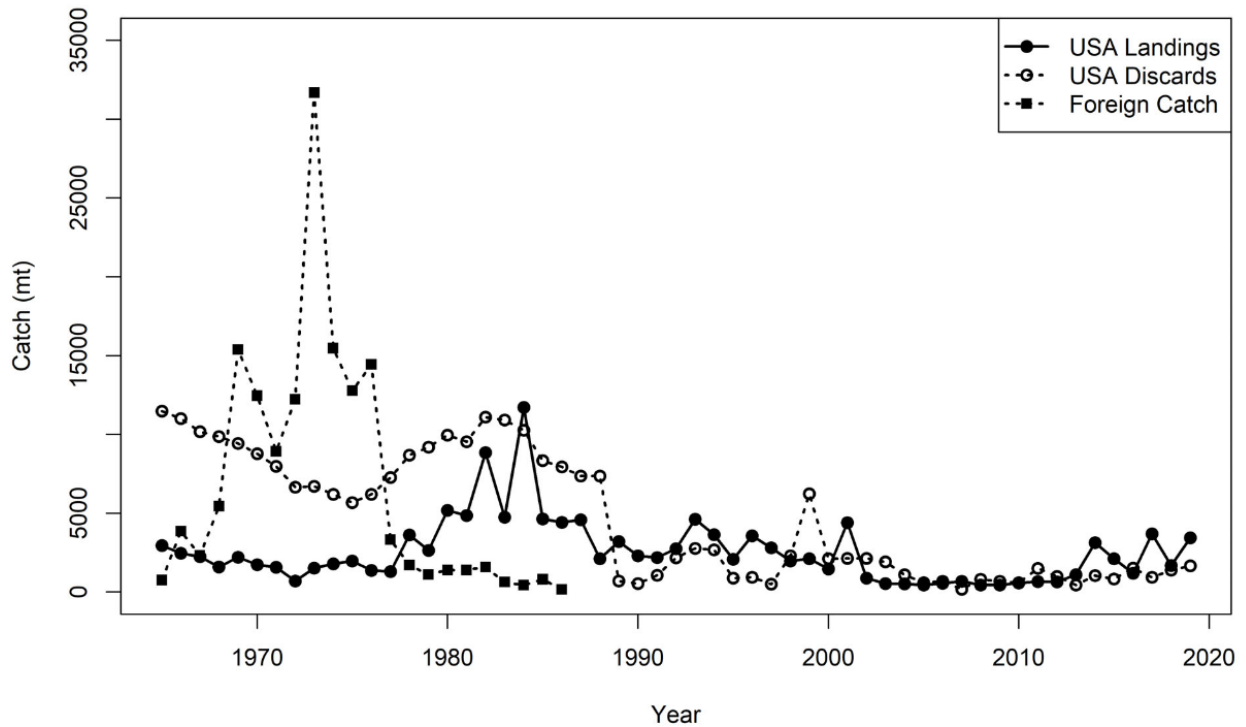


Figure 2. US landings, US discards, and foreign catch of butterfish, 1965–2019. Source: NEFSC Butterfish Management Track Assessment, available at https://apps-nefsc.fisheries.noaa.gov/saw/sasi/sasi_report_options.php.

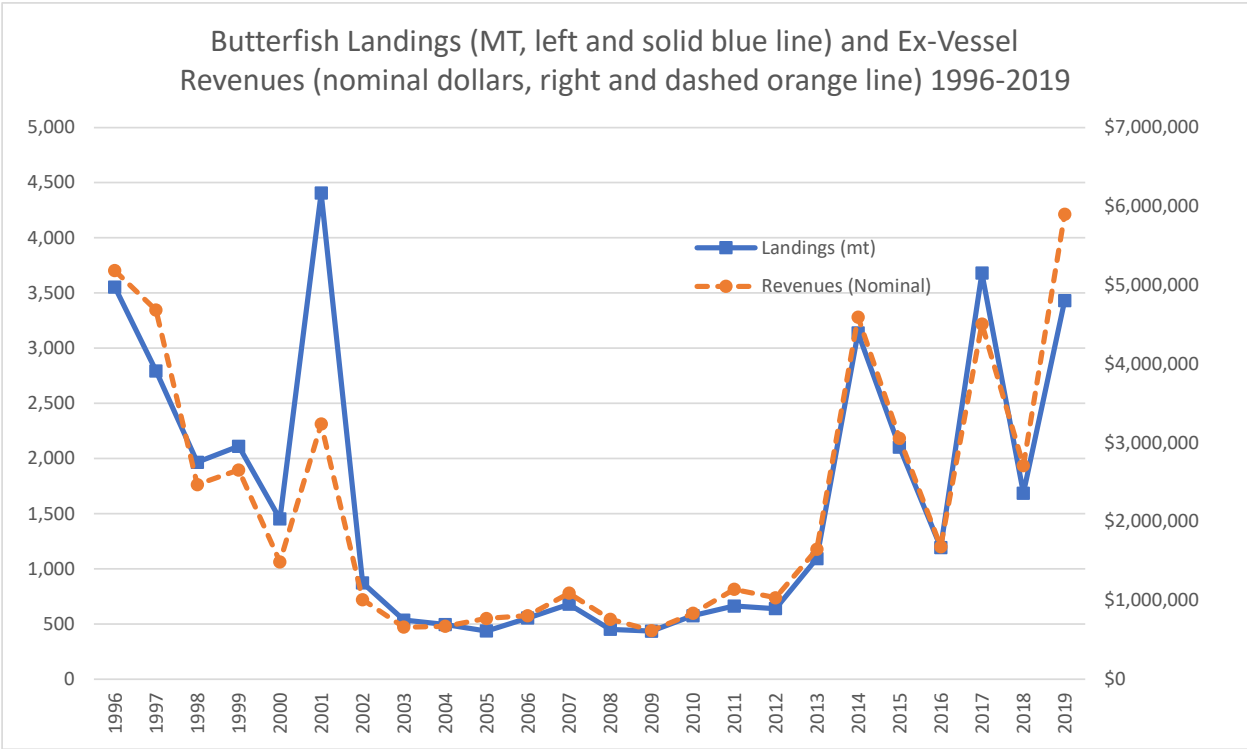


Figure 3. U.S. Butterfish Landings and Nominal Butterfish Ex-Vessel Values 1996-2019. Source: NMFS unpublished dealer data.

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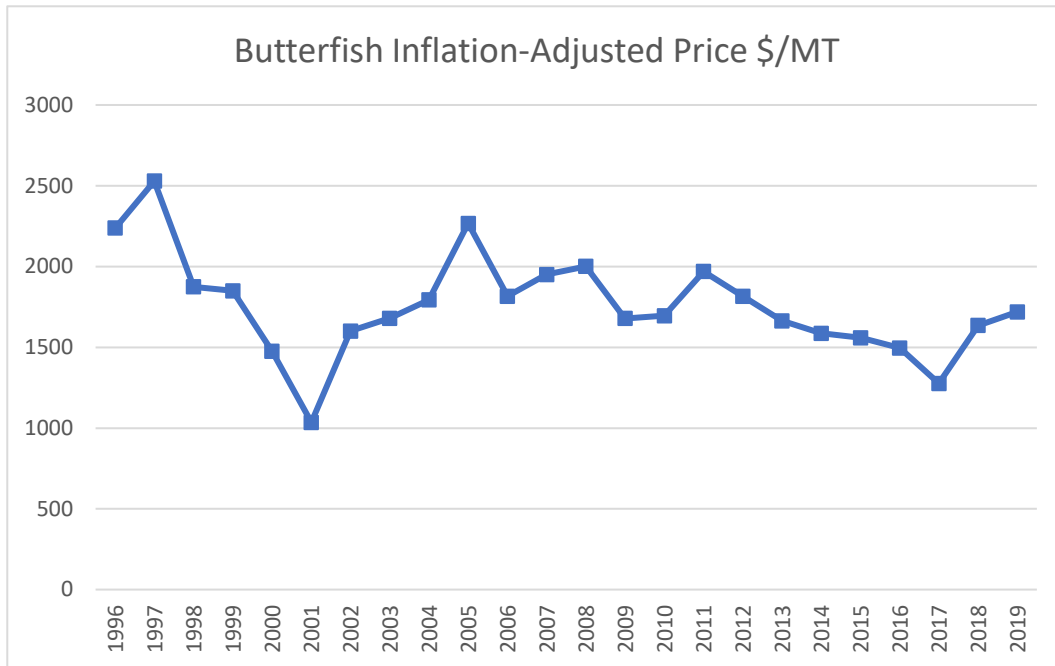


Figure 4. Ex-Vessel Butterfish Prices 1996-2019 Adjusted to 2019 Dollars Source: NMFS unpublished dealer data.

Table 1. Commercial Butterfish landings (live weight) by state in 2019. Source: NMFS unpublished dealer data.

State	Metric_Tons
RI	2,969
NY	224
CT	100
MA	85
NJ	40
Other	13
Total	3,431

Table 2. Commercial Butterfish landings (live weight) by gear in 2019. Source: NMFS unpublished dealer data.

GEAR	Landings (MT)
TRAWL,OTTER,BOTTOM,FISH	3,214
Other	217
Total	3,431

Table 3. Commercial butterfish landings by statistical area in 2019. Source: NMFS unpublished VTR data.

Stat Area	Metric_Tons
526	1,878
537	732
616	630
539	229
541	167
611	89
525	86
622	49
613	45
562	42
Other	116
Total	4,062

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Public Comments Received RE: MSB Specifications

From: Jean Public <jeanpublic1@yahoo.com>

Sent: Sunday, July 12, 2020 4:22 PM

To: Didden, Jason <jdidden@mafmc.org>; Mary Clark Sabo <msabo@mafmc.org>; info@peta.org; info@idausa.org; info@cok.net; information@sierraclub.org; info@pewtrusts.org; humanelines@hsus.org

Subject: Fw: MAFMC Webinar - July 16, 2020 public comment onf ederal register

quots for mackeral, squid butterfish need to be reduced by 50%. we need to stop overexploitation of these species so they dont go the way of the cod that noa managed into obliivion. this comment is for the publi record. please receipt. jean publee jeanpublic1@yahoo.com

From: Pete Kaizer <ackfish@gmail.com>

Sent: Monday, July 6, 2020 10:54 PM

To: Didden, Jason <jdidden@mafmc.org>

Subject: Re: MSB Specs (besides Illex) AP FPR Meeting - 1pm Monday July 6

Hello Jason it's Pete I am right out straight at this point in time sorry I haven't been more of a participant lately . There was a question about how to regulate the mackerel fishery in a more sustainable matter I still feel that since Canada and Europe have got a minimum size limits of 10 1/2 inches that we the US should follow their lead and let them Spawn before harvesting them ! It's all about the Indiscriminate harvesting gear that is allowed to be used that is the problem !

Sent from my iPhone