



## Black Sea Bass Fishery Information Document

June 2021

This document provides a brief overview of the biology, stock condition, management system, and fishery performance for black sea bass (*Centropristis striata*) with an emphasis on 2020 (note that there are caveats associated with 2020 data due to COVID-19 related data gaps). Data sources include unpublished National Marine Fisheries Service (NMFS) commercial fish dealer reports, vessel trip reports (VTRs), permit data, as well as Marine Recreational Information Program (MRIP) data and stock assessment information. All 2020 data should be considered preliminary. For more information on black sea bass management, including previous Fishery Information Documents, please visit <http://www.mafmc.org/sf-s-bsb>.

### Key Facts

- Black sea bass are not overfished and overfishing is not occurring, according to the most recent stock assessment, which included data through 2018. Incorporation of a revised time series of MRIP data and data on the large 2015 year class both contributed to an increase in estimated stock biomass compared to the previous assessment.
- Updated stock assessment information will be available in July 2021.
- In 2020, about 4.12 million pounds of black sea bass were landed by commercial fishermen, a 19% increase from 2019. Commercial fish dealers paid an average of \$2.40 per pound of black sea bass, a 30% decrease from the 2019 average price. This decrease was likely influenced by impacts of the COVID-19 pandemic on market demand in 2020.
- Recreational fishermen harvested an estimated 9.05 million pounds of black sea bass in 2020, a 5% increase from 2019. Anglers fishing from private/rental vessels accounted for 86% of black sea bass harvest (in numbers of fish) in 2020.

### Basic Biology

Black sea bass are distributed from the Gulf of Maine through the Gulf of Mexico. Genetic studies have identified three stocks within that region. This document focuses on the stock from the Gulf of Maine through Cape Hatteras, North Carolina.

Adult and juvenile black sea bass are mostly found on the continental shelf. Young of the year (i.e., fish less than one year old) can be found in estuaries. Adults show strong site fidelity during the summer and prefer to be near structures such as rocky reefs, coral patches, cobble and rock fields, mussel beds, and shipwrecks. Black sea bass migrate to offshore wintering areas starting in the fall. During the winter, young of the year are distributed across the shelf and adults and juveniles are found near the shelf edge. During the fall, adults and juveniles off New York and north move offshore and travel along the shelf edge to as far south as Virginia. Most return to northern inshore areas by May. Black sea bass off New Jersey to Maryland travel southeast to the

shelf edge during the late fall. Black sea bass off Virginia and Maryland travel a shorter distance due east to the shelf edge, which is closer to shore than in areas to the north.<sup>1,2</sup>

Black sea bass are protogynous hermaphrodites, meaning they are born female and some later transition to males, usually around 2-5 years of age. Male black sea bass are either of the dominant or subordinate type. Dominant males are larger than subordinate males and develop a bright blue nuchal hump during the spawning season. About 25% of black sea bass are male at 15 cm (about 6 inches), with increasing proportions of males at larger sizes until about 50 cm, when about 70-80% of black sea bass are male. Results from a simulation model highlight the importance of subordinate males in spawning success. This increases the resiliency of the population to exploitation compared to other species with a more typical protogynous life history. About half of black sea bass are sexually mature by 2 years of age and 21 cm (about 8 inches) in length. Black sea bass reach a maximum size of about 60 cm (about 24 inches) and a maximum age of about 12 years.<sup>2,3</sup>

Black sea bass in the Mid-Atlantic spawn in nearshore continental shelf areas at depths of 20-50 meters. Spawning usually takes place between April and October. During the summer, adult black sea bass share habitats with tautog, hakes, conger eel, sea robins and other migratory fish species. Essential fish habitat for black sea bass consists of pelagic waters, structured habitat, rough bottom, shellfish, sand, and shell, from the Gulf of Maine through Cape Hatteras, North Carolina. Juveniles and adults mostly feed on crustaceans, small fish, and squid. The Northeast Fisheries Science Center (NEFSC) food habits database lists spiny dogfish, Atlantic angel shark, skates, spotted hake, summer flounder, windowpane flounder, and monkfish as predators of black sea bass.<sup>1</sup>

### **Status of the Stock**

The information below is based on the most recent stock assessment information available when this document was written. Updated stock assessment information will be available in July 2021.

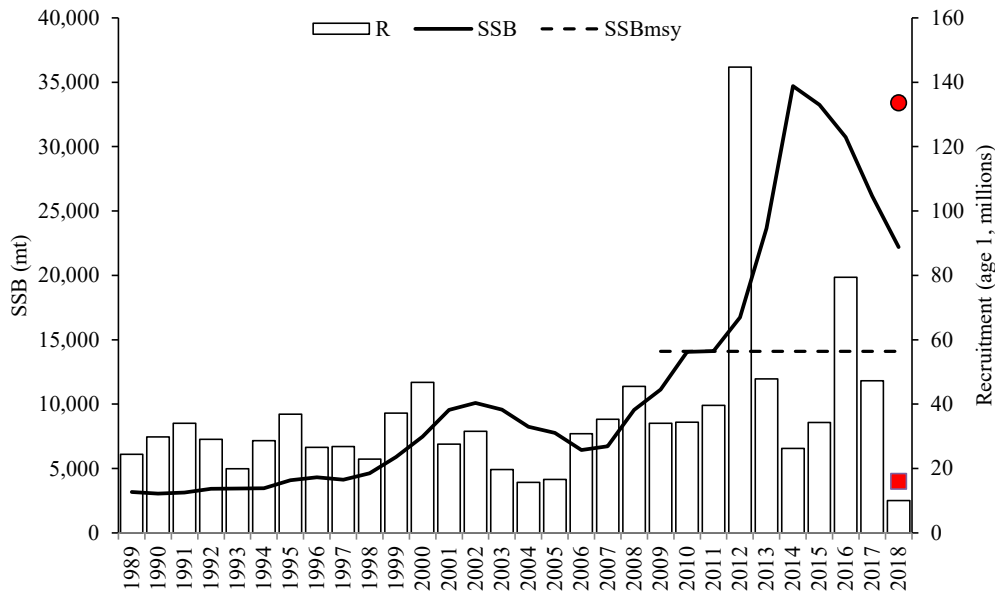
A black sea bass operational stock assessment was peer reviewed and accepted in August 2019. It incorporated commercial and recreational fisheries data and fishery-independent survey data through 2018, including revised MRIP data for 1989-2018. The assessment concluded that the black sea bass stock north of Cape Hatteras, North Carolina was not overfished and overfishing was not occurring in 2018. Spawning stock biomass in 2018 was estimated to be 2.4 times the target level. The average fishing mortality rate on fully selected ages 6-7 fish in 2018 was 9% below the fishing mortality threshold reference point, meaning that overfishing was not occurring in 2018 (Table 1). Figure 1 and Figure 2 show the time series of estimated spawning stock biomass, recruitment, fishing mortality, and catch (landings and dead discards) from the August 2019 stock assessment. The values for fishing mortality and spawning stock biomass were adjusted for 2018 only to account for retrospective bias in the model.<sup>4</sup>

The 2011 year class (i.e., those fish spawned in 2011) was estimated to be the largest in the time series at 144.7 million fish. The 2015 year class was the second largest at 79.4 million fish. The 2011 year class had a major impact on recent stock dynamics and was much more prevalent off Massachusetts through New York compared to New Jersey and south. The large 2015 year class is more evenly distributed from southern New England through the Mid-Atlantic. Recruitment of the 2017 year class as age 1 in 2018 was estimated at 16.0 million fish, well below the 1989-2018 average of 36 million fish (Figure 1).<sup>4</sup> Recruitment estimates for the 2018-2020 year classes are not yet available.

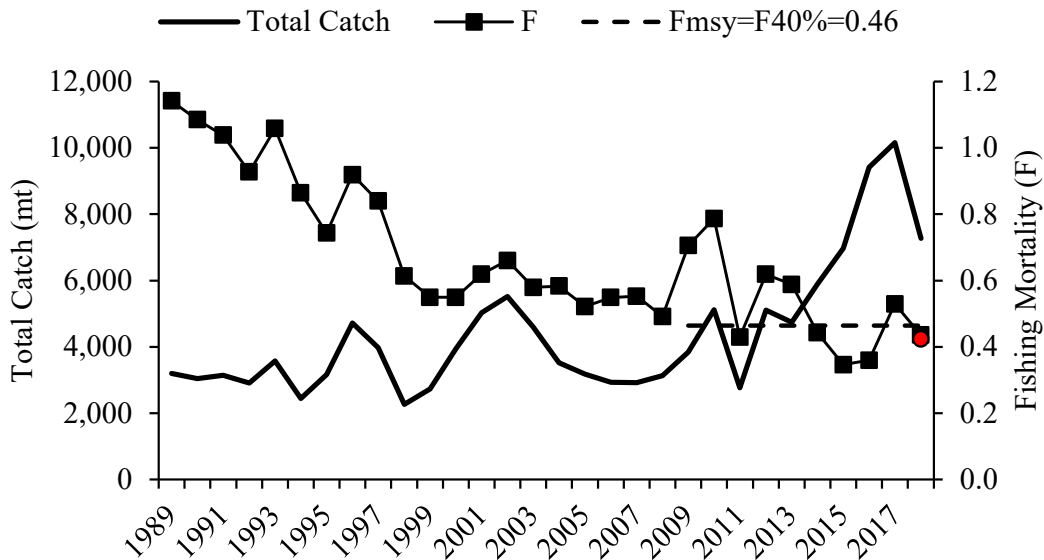
An updated black sea bass stock assessment will be peer reviewed in July 2021 and will be used to inform 2022-2023 catch and landings limits. This assessment will include data through 2019. Given data gaps for 2020 related to COVID-19 and the time required to address those gaps where possible, 2020 data will not be incorporated into this update.

**Table 1:** Black sea bass biological reference points from the 2019 operational stock assessment.<sup>4</sup>

Reference Points and terminal year SSB and F estimates	2019 operational stock assessment Data through 2018
$SSB_{MSY \text{ proxy}} = SSB_{40\%}$ (biomass target)	31.07 mil lb / 14,092 mt
$\frac{1}{2} SSB_{MSY}$ (biomass threshold defining an overfished state)	15.53 mil lb / 7,046 mt
Terminal year SSB	73.65 mil lb / 33,407 mt (2018). Adjusted for retrospective bias. 240% of $SSB_{MSY}$ . <b>Not overfished.</b>
$F_{MSY \text{ proxy}} = F_{40\%}$ (threshold defining overfishing)	0.46
Terminal year F	0.42 (2018). Adjusted for retrospective bias. Fully selected ages 6-7. 9% below $F_{MSY}$ . <b>Overfishing not occurring.</b>



**Figure 1:** Black sea bass spawning stock biomass (solid line); recruitment (bars), 1989 - 2018; and biomass reference point (dashed line) from the 2019 operational stock assessment. Recruitment is shown as age 1 fish (e.g., the 2011 year class is shown in 2012). The red circle is the retro-adjusted spawning stock biomass value for 2018. The red square is the retro-adjusted recruitment value for 2018. These values were adjusted only for 2018. The adjustments were made to correct for retrospective bias in the assessment model. The adjusted spawning stock biomass estimate should be used for comparison against the reference point. The stock is overfished when spawning stock biomass is below this reference point.<sup>4</sup>



**Figure 2:** Fishing mortality rate (F) on black sea bass ages 6-7, the FMSY proxy reference point from the 2019 operational stock assessment, and total catch (landings and dead discards), 1989-2018. The red circle is the retro-adjusted fishing mortality rate for 2018. This adjustment was made to correct for retrospective bias present in the assessment model and is used as the estimate to compare to the reference point. Overfishing is occurring when the fishing mortality rate exceeds this reference point.<sup>4</sup>

## Management System and Fishery Performance

### Management

The Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission) work cooperatively to develop commercial and recreational fishery regulations for black sea bass from Maine through Cape Hatteras, North Carolina. The Council and Commission work in conjunction with NMFS, which serves as the federal implementation and enforcement entity. This cooperative management system was developed because a significant portion of the catch is taken from both state waters (0-3 miles offshore) and federal waters (3-200 miles offshore). This joint management program began in 1996 with the approval of amendment 9 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). The original FMP and subsequent amendments and framework adjustments are available at: [www.mafmc.org/fisheries/fmp/sf-s-bsb](http://www.mafmc.org/fisheries/fmp/sf-s-bsb).

Commercial and recreational black sea bass fisheries are managed using catch and landings limits, minimum fish sizes, open and closed seasons, gear regulations, permit requirements, and other regulations.

The Council's Scientific and Statistical Committee (SSC) recommends annual Acceptable Biological Catch (ABC) levels for black sea bass. The Council must either approve the ABC recommended by the SSC or a lower ABC. The ABC is divided into commercial and recreational Annual Catch Limits (ACLs) based on the allocations prescribed in the FMP (i.e., 49% commercial, 51% recreational, applied to the portion of the ABC that is expected to be landed) and the recent distribution of discards between the commercial and recreational fisheries. These

allocations have been in place since 1998. The Council and Commission are considering an ongoing FMP amendment to determine if these allocation percentages should be revised to reflect more recent data.<sup>5</sup>

The Council and Commission also approve commercial and recreational annual catch targets (ACTs), which are set equal to or less than the respective ACLs to account for management uncertainty. To date, the black sea bass ACTs have always been set equal to the ACLs. The ABC, ACLs, and ACTs are catch limits which account for both landings and discards, while the commercial quota and recreational harvest limit (RHL) are landing limits. The commercial quota and RHL are calculated by subtracting expected discards from the respective ACTs.

#### *COVID-19 Data Impacts in 2020*

The COVID-19 pandemic impacted data collection in both the recreational and commercial fisheries. Commercial effort and markets were impacted by COVID-19 to various degrees; however, data collection for commercial landings from seafood dealers continued uninterrupted. Commercial discard estimates for 2020 will be affected by missing observer data. Commercial discard estimates are developed using approaches that rely heavily on observer data. On March 20, 2020, NMFS temporarily waived the requirement for vessels with Greater Atlantic permits to carry a fishery observer or at-sea monitor. This waiver was extended several times before observers were redeployed on August 14, 2020. At this time it is not clear whether alternative methodologies will be developed to generate 2020 commercial discard estimates for black sea bass and other species.

The COVID-19 pandemic disrupted the recreational Access Point Angler Intercept Survey (APAIS). All New England and Mid-Atlantic states suspended APAIS sampling starting in late March or April 2020. APAIS sampling resumed between May and August 2020, depending on the state. NMFS used imputation methods to fill gaps in 2020 catch data with data collected in 2018 and 2019. These proxy data match the time, place, and fishing mode combinations that would have been sampled had the APAIS continued uninterrupted. Proxy data were combined with observed data to produce catch estimates using the standard estimation methodology. The mail and telephone surveys that collect recreational effort data continued largely uninterrupted. NMFS has indicated that when complete 2021 recreational data are available in 2022, they will evaluate the effects of including 2021 data (for example, alongside 2019 data and instead of 2018 data) in the imputation. Because these effects are unknown, the agency cannot predict whether they will seek to revise their 2020 catch estimates.

#### *Fishery Landings Summary*

Table 2 shows black sea bass catch and landings limits from 2011 through 2021, as well as commercial and recreational landings through 2020. Total landings (commercial and recreational) peaked in 2017 at 15.5 million pounds. About 13.26 million pounds of black sea bass were landed by commercial and recreational fishermen from Maine through Cape Hatteras, North Carolina in 2020 (Figure 3).<sup>6,7</sup>

**Table 2:** Summary of catch and landings limits, and landings for commercial and recreational black sea bass fisheries from Maine through Cape Hatteras, NC 2010 through 2021. All values are in millions of pounds unless otherwise noted.<sup>6,7</sup>

Management measure	2011 <sup>a</sup>	2012 <sup>a</sup>	2013 <sup>a</sup>	2014 <sup>a</sup>	2015 <sup>a</sup>	2016 <sup>b</sup>	2017 <sup>c</sup>	2018 <sup>c</sup>	2019 <sup>c</sup>	2020 <sup>c</sup>	2021 <sup>d</sup>
ABC	4.50	4.50	5.50	5.50	5.50	6.67	10.47	8.94	8.94	15.07	17.45
Commercial ACL & ACT	--	1.98	2.60	2.60	2.60	3.15	5.09	4.35	4.35	6.98	9.52
Commercial quota <sup>e</sup>	1.71	1.71	2.17	2.17	2.21	2.71	4.12	3.52	3.52	5.58	6.09
Commercial landings	1.69	1.72	2.26	2.40	2.38	2.59	4.01	3.46	3.53	4.21	--
% of com. quota landed	99%	101%	104%	111%	108%	96%	97%	98%	100%	75%	--
Recreational ACL & ACT	--	1.86	2.90	2.90	2.90	3.52	5.38	4.59	4.59	8.09	7.93
RHL <sup>e</sup>	1.78	1.32	2.26	2.26	2.33	2.82	4.29	3.66	3.66	5.81	6.34
Recreational landings, old MRIP estimates	1.17	3.18	2.46	3.67	3.79	5.19	4.16	3.82	--	--	--
Recreational landings, revised MRIP estimates	3.27	7.04	5.68	6.93	7.82	12.05	11.50	7.92	8.61	9.05 <sup>f</sup>	--
% of RHL harvested (based on old MRIP estimates through 2018; new MRIP estimates for 2020) <sup>g</sup>	66%	241%	109%	162%	163%	184%	97%	104%	-- <sup>h</sup>	156%	--

<sup>a</sup> Measures in 2010-2015 were based on a constant catch approach used by the Council’s SSC to set the ABC.

<sup>b</sup> Measures in 2016 were based on ABC that was set using a data poor management strategy evaluation approach.

<sup>c</sup> Measures in 2017-2021 were set based on a peer reviewed and approved stock assessment. The 2020-2021 measures are based on a stock assessment update that incorporated the revised time series of MRIP data.

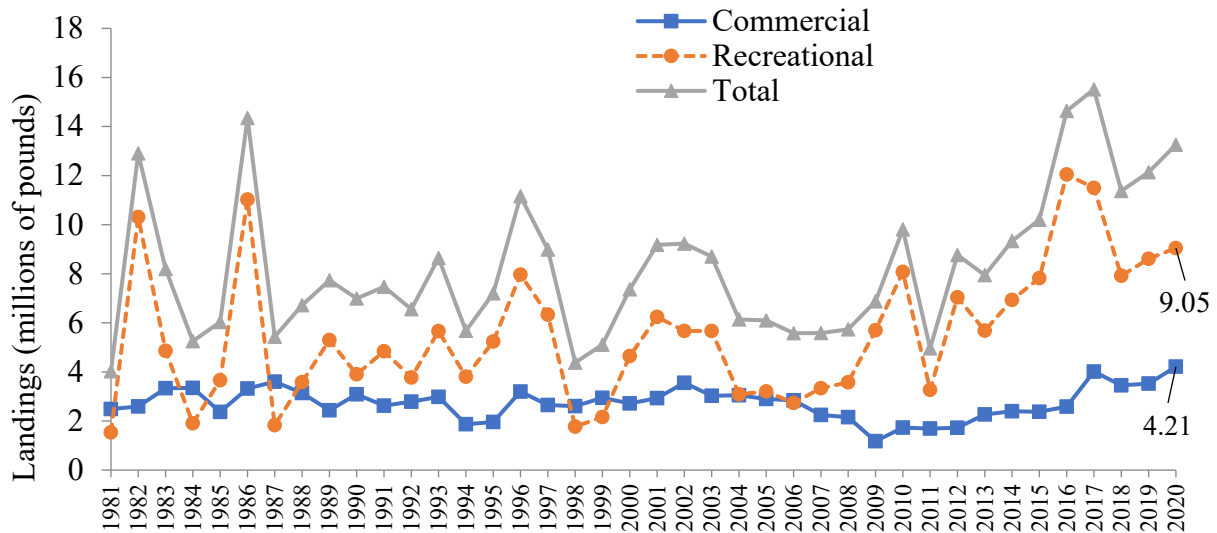
<sup>d</sup> The 2021 measures account for revisions to the Council’s risk policy.

<sup>e</sup> The commercial quotas and RHLs for 2006-2014 account for deductions for the Research Set Aside program.

<sup>f</sup> 2020 recreational estimates were developed using imputation methods (incorporating 2018 and 2019 data) to account for missing 2020 APAIS data.

<sup>g</sup> The percent of RHL harvested is based on a comparison of the RHL to the previous or old MRIP estimates. The RHLs through 2019 did not account for the new MRIP estimates; therefore, it would be inappropriate to compare RHLs through 2019 to the revised MRIP estimates.

<sup>h</sup> 2019 estimates in the “old MRIP units” are not available. The 2019 RHL should not be compared to harvest in the new MRIP units because it did not account for revisions to the data.



**Figure 3:** Commercial and recreational black sea bass landings in millions of pounds from Maine through Cape Hatteras, North Carolina, 1981-2020. Recreational landings are based on the revised MRIP estimates.<sup>6,7</sup>

### Commercial Fishery

About 4.21 million pounds of black sea bass were landed in the commercial fishery in 2020. This is the highest amount of landings in the time series of available data from 1981 through 2020. Commercial black sea bass landings generally follow the coastwide quota and the 2020 quota of 5.58 million pounds was higher than any previous quota (Table 2, Figure 3). The 2020 quota was not fully harvested in large part due to impacts of the COVID-19 pandemic on market demand. Commercial black sea bass landings were lowest in 2009, when 1.18 million pounds were landed and the lowest quota in the time series was implemented (1.09 million pounds).<sup>7</sup>

Black sea bass are a valuable commercial species. Total ex-vessel value averaged \$11.57 million per year during 2018-2020. Landings and average price per pound (adjusted to 2020 dollars) were generally stable from 2010 through 2016. Landings increased in 2017 with an increase in the quota. On an annual coastwide level, the average price per pound tended to decrease with increases in landings since 2016 (Figure 4).<sup>7</sup> Prices are impacted by many factors in addition to landings. The relationship between landings and price varies at the regional, state, and sometimes port level based on market demand, state-specific regulations (e.g., seasonal openings), or individual trawl trips with high landings, all of which can be inter-related.

Over 183 federally-permitted dealers from Maine through North Carolina purchased black sea bass in 2020. More dealers bought black sea bass in New York than in any other state (Table 3).<sup>7</sup>

According to federal VTR data, statistical area 616, which includes important fishing areas near Hudson Canyon, was responsible for the largest percentage (38%) of commercial black sea bass catch (landings and dead discards, as reported by captains) in 2020. Statistical area 621, off southern New Jersey, Delaware, and Maryland accounted for the second highest proportion of catch (8%), followed by statistical area 613, south of Long Island (8%); statistical area 615 off New Jersey (8%); statistical area 537, south of Massachusetts and Rhode Island (6%); and statistical area 539, inshore of area 537 (5%; Table 4, Figure 5). Statistical area 539 had the highest

number of trips which reported black sea bass catch on federal VTRs in 2020 (2,102 trips), followed by statistical area 613 (1,092 trips).<sup>8</sup>

In 2020, most commercial black sea bass landings from state and federally-permitted vessels occurred in New Jersey (26%), followed by Massachusetts (17%), Rhode Island (13%), Virginia (12%), and Maryland (10%).<sup>7</sup>

The percentage of landings by state is generally driven by and closely matches the state-by-state commercial quota allocations that have been in place since 2003. States set measures to achieve their state-specific commercial quotas. In February 2021, the Council and the Commission's Summer Flounder, Scup, and Black Sea Bass Management Board approved changes to these allocations to partially account for biomass distribution. The State of New York successfully appealed the February 2021 decision and, as a result, further revisions to these allocations are expected later in 2021.<sup>9</sup>

At least 100,000 pounds of black sea bass were landed in each of 11 ports in 8 states from Maine through North Carolina in 2020. These 11 ports collectively accounted for over 67% of all commercial black sea bass landings in 2020 (Table 5).<sup>7</sup>

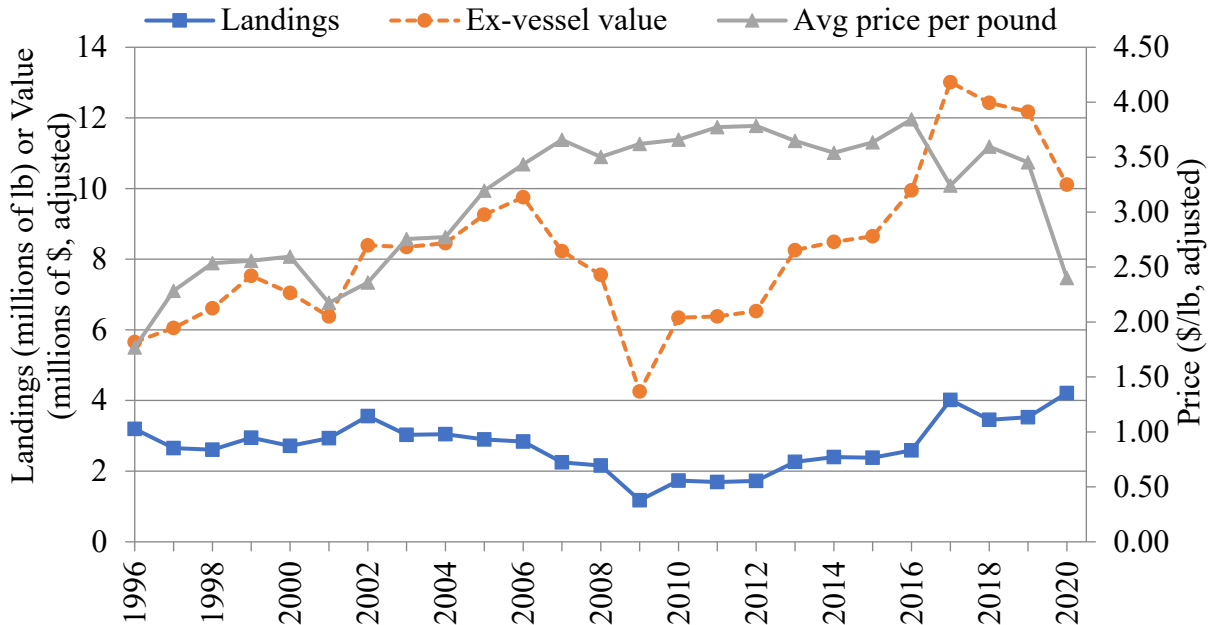
A moratorium permit is required to fish commercially for black sea bass in federal waters. In 2020, 710 federal commercial black sea bass permits were issued.<sup>10</sup>

A minimum commercial black sea bass size limit of 11 inches total length has been in place in federal waters since 2002. There is no federal waters black sea bass possession limit; however, states set possession limits for state waters.

About 72% of commercial black sea bass landings reported on federal VTRs in 2020 were caught with bottom otter trawl gear, 24% with pots/traps, and 3% with hand lines. Other gear types each accounted for 1% or less of total commercial landings reported on VTRs in 2020.<sup>8</sup> It is important to note that federal VTR data do not account for landings of black sea bass by vessels that are only permitted to fish in state waters. Some gear types (e.g., handlines) are more prevalent in state waters than in federal waters.

Any federally-permitted vessel which uses otter trawl gear and catches more than 500 pounds of black sea bass from January through March, or more than 100 pounds from April through December, must use nets with a minimum mesh size of 4.5-inch diamond mesh applied throughout the codend for at least 75 continuous meshes forward of the end of the net. Pots and traps used to commercially harvest black sea bass must have two escape vents with degradable hinges in the parlor. The escape vents must measure 1.375 inches by 5.75 inches if rectangular, 2 inches by 2 inches if square, or have a diameter of 2.5 inches if circular.





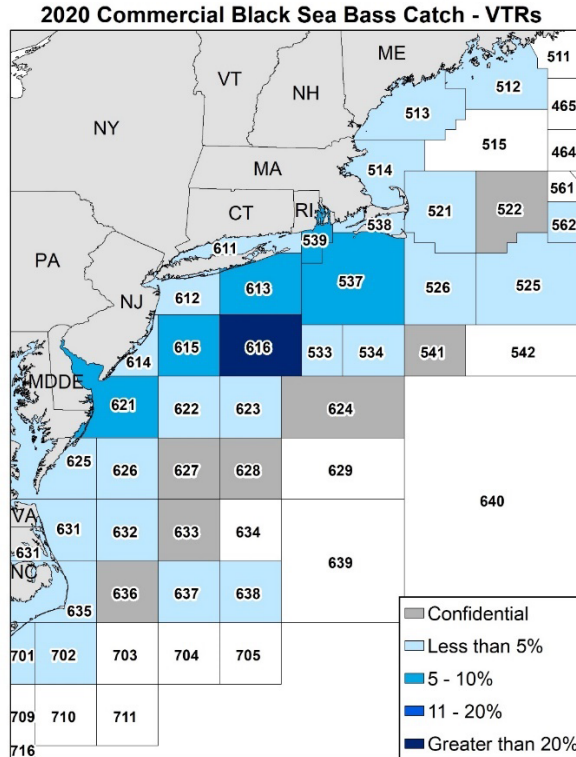
**Figure 4:** Landings, ex-vessel value, and average price for black sea bass, ME-NC, 1996-2020. Ex-vessel value and price are inflation-adjusted to 2020 dollars using the Gross Domestic Product Price Deflator.<sup>7</sup>

**Table 3:** Number of dealers, by state, reporting purchases of black sea bass in 2020. C = confidential.<sup>7</sup>

State	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC
Number of dealers	C	0	28	28	12	43	28	4	8	13	19

**Table 4:** Statistical areas that accounted for at least 5% of the total commercial black sea bass catch (landings and dead discards) in 2020 based on federal VTRs, with associated number of trips.<sup>8</sup> Federal VTR data do not capture landings by vessels only permitted to fish in state waters.

Statistical Area	Percent of 2020 Commercial Black Sea Bass Catch	Number of Trips
616	38%	587
621	8%	222
613	8%	1,092
615	8%	168
537	6%	828
539	5%	2,102



**Figure 5:** Proportion of black sea bass catch (landings and dead discards) by statistical area in 2020 based on federal VTR data. Confidential areas are associated with fewer than three vessels and/or dealers. Confidential areas collectively accounted for less than 1% of commercial catch reported on VTRs in 2020. The amount of catch not reported on federal VTRs (e.g., catch from vessels permitted to fish only in state waters) is unknown. In 2019, Northeast Fisheries Science Center Data (“AA tables”) suggest that 20% of total commercial landings (state and federal) were not associated with a statistical area reported in federal VTRs; AA data for 2020 are not available.<sup>8</sup>

**Table 5:** Ports reporting at least 100,000 pounds of black sea bass landings in 2020, associated number of vessels, and percentage of total commercial landings. C = confidential.<sup>7</sup>

Port name	Pounds of black sea bass landed	% of total commercial black sea bass landed	Number of vessels landing black sea bass
Point Pleasant, NJ	682,754	16%	37
Ocean City, MD	396,825	9%	9
Point Judith, RI	395,813	9%	148
New Bedford, MA	289,393	7%	57
Montauk, NY	229,432	5%	91
Cape May, NJ	211,373	5%	30
Hampton, VA	208,316	5%	23
Newport News, VA	157,717	4%	14
Beaufort, NC	141,486	3%	42
Sea Isle City, NJ	131,149	3%	9
Lewes, DE	C	C	C

## ***Recreational Fishery***

The Council develops coast-wide regulations for the recreational black sea bass fishery in federal waters, including a minimum fish size limit, a possession limit, and open and closed seasons (Table 6). The Commission and member states develop recreational measures in state waters (Table 7).

In July 2018, MRIP released revisions to their time series of recreational catch and landings estimates based on adjustments for a revised angler intercept methodology and a new effort estimation methodology, namely a transition from a telephone-based effort survey to a mail-based effort survey. The revised estimates of catch and landings are several times higher than the previous estimates for shore and private boat modes, substantially raising the overall black sea bass catch and harvest estimates. The RHLs and other management measures through 2019 were based on the previous MRIP estimates and should not be compared against the revised MRIP estimates. The revised MRIP estimates were incorporated into the stock assessment in 2019 and were used to derive the catch and landings limits for 2020 and beyond.

According to the most recent MRIP data, between 1981 and 2020, recreational catch (landings and live and dead discards) of black sea bass from Maine through Cape Hatteras, NC was lowest in 1984 at 4.73 million fish and was highest in 2017 at 41.19 million fish. Recreational harvest in weight was highest in 2016 at 12.05 million pounds; however, harvest in numbers of fish was highest in 1986 at 19.28 million fish. Recreational harvest in weight was lowest in 1981 at 1.53 million pounds, while harvest in numbers of fish was lowest in 1998 at 1.56 million fish.<sup>6</sup>

It should be noted that the coastwide 2016 and 2017 MRIP estimates for black sea bass are viewed as outliers by the Monitoring and Technical Committees and the Scientific and Statistical Committee due to the influence of very high estimates in individual states and waves (i.e., New York 2016 wave 6 for all modes and New Jersey 2017 wave 3 for the private/rental mode). Steps have been taken to address uncertainty in these specific estimates in the stock assessment and in management.

In 2020, an estimated 4.23 million black sea bass, at about 9.05 million pounds, were harvested by recreational anglers from Maine through Cape Hatteras, North Carolina (Figure 3, Table 9).<sup>6</sup> This represents a 56% overage of the 2020 RHL (Table 2). The Council and Board agreed to leave the recreational bag, size, and season limits unchanged in 2020 despite an expected RHL overage. This was viewed as a temporary solution to allow more time to consider how to fully transition the management system to use of the revised MRIP data, including ongoing considerations related to the commercial/recreational allocation and the Recreational Reform Initiative. The 2020 RHL overage will be discussed in development of 2022 recreational measures but is unlikely to impact the 2022 RHL and ACL given recent biomass estimates and the Council's Accountability Measures.<sup>11</sup>

In 2020, 56% of black sea bass harvested by recreational fishermen from Maine through North Carolina (in numbers of fish) were caught in state waters and 44% in federal waters (Table 9). Most of the recreational harvest in 2020 was landed in New York (30%), followed by New Jersey (19%), Rhode Island (15%), and Massachusetts (14%).<sup>6</sup>

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2020, 850 vessels held a federal party/charter permit.<sup>10</sup>

About 86% of the recreational black sea bass harvest in 2020 came from anglers fishing on private or rental boats, about 12% from anglers aboard party or charter boats, and 2% from anglers fishing

from shore (Table 11).<sup>6</sup> Party and charter fishing was restricted in all states for part of 2020 due to the COVID-19 pandemic.

**Table 6:** Federal black sea bass recreational measures, Maine - Cape Hatteras, NC, 2007 - 2020.<sup>6</sup>

Year	Min. size	Bag limit	Open season
2007-2008	12"	25	Jan 1 - Dec 31
2009	12.5"	25	Jan 1 - Oct 5
2010-2011	12.5"	25	May 22 - Oct 11; Nov 1 - Dec 31
2012	12.5"	25	May 19 - Oct 14; Nov 1 - Dec 31
2013	12.5"	20	Jan 1 - Feb 28; May 19 - Oct 14; Nov 1 - Dec 31
2014	12.5"	15	May 19 - Sept 18; Oct 18 - Dec 31
2015-2017	12.5"	15	May 15 - Sept 21; Oct 22 - Dec 31
2018-2021	12.5"	15	Feb 1 - 28; May 15 - Dec 31

**Table 7:** State waters black sea bass recreational measures in 2018-2021. The only changes made during these years were to maintain a Saturday opening (Massachusetts) or to account for harvest in the February opening (Virginia and North Carolina).<sup>6</sup>

State	Min. Size	Bag Limit	Open Season
Maine	13"	10	May 19 - Sept 21; Oct 18 - Dec 31
New Hampshire	13"	10	Jan 1 - Dec 31
Massachusetts	15"	5	2018: May 19 - Sept 12
			2019 & 2020: May 18 - Sept 8
			2021: May 18 - Sept 8
Rhode Island	15"	3	Jun 24 - Aug 31
		7	Sept 1 - Dec 31
Connecticut private & shore	15"	5	May 19 - Dec 31
CT authorized party/charter monitoring program vessels	15"	5	May 19 - Aug 31
		7	Sept 1 - Dec 31
New York	15"	3	Jun 23 - Aug 31
		7	Sept 1 - Dec 31
New Jersey	12.5"	10	May 15 - Jun 22
		2	Jul 1 - Aug 31
		10	Oct 8 - Oct 31
		15	Nov 1 - Dec 31
Delaware	12.5"	15	May 15 - Dec 31
Maryland	12.5"	15	May 15 - Dec 31
Virginia	12.5"	15	2018: Feb 1 - 28; May 15 - Dec 31
			2019: Feb 1-28; May 15-31; June 22-Dec 31
			2020: Feb 1 - 29; May 29 - Dec 31
			2021: Feb 1-28; May 15-May 31; Jun 16-Dec 31
North Carolina, North of Cape Hatteras (35° 15'N)	12.5	15	2018: Feb 1 - 28; May 15 - Dec 31
			2019: Feb 1 - 28; May 17 - Dec 31
			2020: Feb 1 - 29; May 17 - Nov 30
			2021: May 15 - Dec 31

**Table 8:** Estimated recreational black sea bass catch (harvest and live and dead discards) and harvest from Maine through Cape Hatteras, North Carolina, 2011-2021, based on the revised MRIP estimates.<sup>6</sup>

<b>Year</b>	<b>Catch (millions of fish)</b>	<b>Harvest (millions of fish)</b>	<b>Harvest (millions of pounds)</b>	<b>% of catch retained</b>
2011	12.47	1.78	3.27	14%
2012	34.95	3.69	7.04	11%
2013	25.71	3.01	5.68	12%
2014	23.29	3.81	6.93	16%
2015	23.17	4.39	7.82	19%
2016	35.80	5.84	12.05	16%
2017	41.19	5.70	11.50	14%
2018	24.99	3.99	7.92	16%
2019	32.32	4.38	8.61	14%
2020	34.11	4.23	9.05	12%

**Table 9:** Estimated percentage of black sea bass recreational harvest (in numbers of fish) in state and federal waters, from Maine through North Carolina, 2011-2021, based on the revised MRIP estimates.<sup>6</sup>

<b>Year</b>	<b>State waters</b>	<b>Federal waters</b>
2011	65%	35%
2012	69%	31%
2013	67%	33%
2014	68%	32%
2015	69%	31%
2016	59%	41%
2017	40%	60%
2018	61%	39%
2019	62%	38%
2020	56%	44%
<b>2011-2020 average</b>	<b>60%</b>	<b>40%</b>
<b>2018-2020 average</b>	<b>59%</b>	<b>41%</b>

**Table 10:** State-by-state contribution to total recreational harvest of black sea bass (in number of fish), Maine through Cape Hatteras, North Carolina, 2018 - 2020, based on the revised MRIP estimates.<sup>6</sup>

State	2018	2019	2020	2018-2020 average
Maine	0.0%	0.0%	0.0%	0.0%
New Hampshire	0.0%	0.0%	0.0%	0.0%
Massachusetts	17.0%	12.0%	13.6%	14.1%
Rhode Island	17.7%	11.8%	14.6%	14.6%
Connecticut	9.5%	11.8%	9.6%	10.3%
New York	21.4%	36.0%	30.1%	29.4%
New Jersey	26.0%	19.0%	19.2%	21.3%
Delaware	2.2%	1.0%	3.3%	2.2%
Maryland	3.9%	3.0%	1.9%	2.9%
Virginia	2.2%	5.3%	6.5%	4.7%
North Carolina	0.2%	0.1%	1.1%	0.5%

**Table 11:** Percent of total recreational black sea bass harvest (in numbers of fish) by recreational fishing mode, Maine through Cape Hatteras, North Carolina, 2011-2020, based on the revised MRIP estimates.<sup>6</sup>

Year	Shore	Party/charter	Private/rental	Total Number of Fish
2011	3%	21%	76%	1,782,519
2012	1%	19%	80%	3,690,188
2013	2%	9%	89%	3,014,535
2014	3%	16%	81%	3,806,448
2015	0%	12%	88%	4,392,452
2016	4%	9%	88%	5,841,460
2017	1%	9%	90%	5,704,072
2018	1%	12%	86%	3,992,628
2019	3%	18%	79%	4,377,491
2020	2%	12%	86%	4,227,860
2011-2020 avg	2%	13%	85%	4,082,965

## References

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- <sup>2</sup> Northeast Fisheries Science Center. 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Report. Northeast Fisheries Science Center Reference Doc. 17-03. 822 p. Available at: <https://www.nefsc.noaa.gov/publications/crd/crd1703/>
- <sup>3</sup> Blaylock, J. and G.R. Shepherd. 2016. Evaluating the vulnerability of an atypical protogynous hermaphrodite to fishery exploitation: results from a population model for black sea bass (*Centropristis striata*). *Fishery Bulletin* 114(4): 476-489.
- <sup>4</sup> Northeast Fisheries Science Center. 2019. Prepublication copy of the August 2019 operational stock assessment report prepared for the Council and the SSC. Available at: <http://www.mafmc.org/ssc-meetings/2019/september-9-11>
- <sup>5</sup> More information on the Summer Flounder, Scup, and Black Sea Bass Commercial/Recreational Allocation Amendment is available at: <https://www.mafmc.org/actions/sfsbsb-allocation-amendment>.
- <sup>6</sup> Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. Accessed June 2021. Available at: <https://www.fisheries.noaa.gov/data-tools/recreational-fisheries-statistics-queries>
- <sup>7</sup> Unpublished NMFS commercial fish dealer data (i.e., “DERS”), which include both state and federal dealer data).
- <sup>8</sup> Unpublished NMFS VTR data.
- <sup>9</sup> More information on the Black Sea Bass Commercial State Allocation Amendment/Addendum is available at: <https://www.mafmc.org/actions/bsb-commercial-allocation>.
- <sup>10</sup> Unpublished NMFS permit data.
- <sup>11</sup> A summary of the accountability measures is available at: [https://www.mafmc.org/s/AMs-description\\_SF\\_scup-BSB\\_Dec2020.pdf](https://www.mafmc.org/s/AMs-description_SF_scup-BSB_Dec2020.pdf)