FISHERY MANAGEMENT PLAN UPDATE
BLACK DRUM
AUGUST 2024

STATUS OF THE FISHERY MANAGEMENT PLAN

Fishery Management Plan History

FMP Documentation:	ASMFC FMP	June 2013
	Addendum I	May 2018
Information Updates:	October 2022	
Comprehensive Review:	2027	

In June 2013, the Atlantic States Marine Fisheries Commission (ASMFC) adopted the Interstate Fishery Management Plan (FMP) for Black Drum and required all states to maintain their current regulations and implement a maximum possession limit and minimum size limit (of no less than 12 inches) by January 1, 2014 (ASMFC 2013). States were also required to further increase the minimum size limit (to no less than 14 inches) by January 1, 2016. In response to the ASMFC requirement, the North Carolina Marine Fisheries Commission (MFC) implemented a 14- to 25-inch total length slot size limit (with one fish over 25 inches), 10-fish recreational bag limit, and a 500-pound commercial trip limit effective January 1, 2014 (Proclamation FF-73-2013). The FMP also includes an adaptive management framework to respond to future concerns or changes in the fishery or population. Concern about the increase in harvest by both recreational and commercial were alleviated by the findings of the 2015 stock assessment which determined the stock was not overfished and overfishing was not occurring (ASMFC 2015). In May 2018, ASMFC approved Addendum I to the Black Drum FMP to allow Maryland to reopen its black drum commercial fishery in Chesapeake Bay with a daily vessel limit of up to 10 fish and a 28-inch minimum size (ASMFC 2018). The Black Drum Technical Committee noted reopening the fishery would not likely lead to overfishing due to the relatively small size of the fishery and recommended that biological monitoring be conducted in the commercial fishery. In 2023, a benchmark stock assessment concluded the stock was not overfished and not experiencing overfishing (ASMFC 2023). The ASMFC Interstate FMP Policy Board determined no immediate management action was needed. However, due to relatively high level of uncertainty in qualitative estimates of stock status, stock indicators should be closely monitored between assessments.

To ensure compliance with interstate requirements, North Carolina also manages this species under the North Carolina Fishery Management Plan for Interjurisdictional Fisheries (IJ FMP). The goal of the IJ FMP is to adopt fishery management plans, consistent with N.C. law, approved by the Mid-Atlantic Fishery Management Council, South Atlantic Fishery Management Council, or the ASMFC by reference and implement corresponding fishery regulations in North Carolina to provide compliance or compatibility with approved fishery management plans and amendments, now and in the future. The goal of these plans, established under the Magnuson-Stevens Fishery Conservation and Management Act (federal council plans) and the Atlantic Coastal Fisheries Cooperative Management Act (ASMFC plans) are like the goals of the Fisheries Reform Act of 1997 to "ensure long-term viability" of these fisheries (NCDMF 2022).

Management Unit

The ASMFC FMP includes all states from Florida to New Jersey. The management unit is defined as the black drum (*Pogonias cromis*) resource throughout the range of the species within U.S. waters of the northwest Atlantic Ocean from the estuaries eastward to the offshore boundaries of the U.S. Exclusive Economic Zone (ASMFC 2015).

Goal and Objectives

The goal of the Black Drum FMP is to provide an efficient management structure to implement coastwide management measures (ASMFC 2013). The objectives of the FMP include:

- Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.
- Promote cooperative collection of biological, economic, and sociological data required to effectively monitor and assess the status of the black drum resource and evaluate the management efforts.
- Manage the black drum fishery to protect both young individuals and established breeding stock.
- Develop research priorities that will further refine the black drum management program to maximize the biological, social, and economic benefits derived from the black drum population.

DESCRIPTION OF THE STOCK

Biological Profile

Black drum is the largest member of the drum family (Sciaenidae), reaching sizes of over 46 inches and 120 pounds (Jones and Wells 1998). The range of black drum extends along the nearshore western Atlantic coast from the Gulf of Maine to Florida, into the Gulf of Mexico, and as far south as Argentina (Bigelow & Schroeder 1953; Simmons & Breuer 1962). Along the Atlantic Coast, black drum are thought to migrate northward and inshore each spring and southward and offshore by late fall (Jones & Wells 1998). Juvenile black drum can be found throughout the estuarine waters of North Carolina, while adults tend to congregate around structures including bridge and dock pilings. They are primarily bottom feeders; juvenile diets consist mainly amphipods, polychaetes, mollusks, crustaceans, and small fish, while the adult diet consists primarily of worms, bivalves, mollusks, crustaceans, and fish (Peters & McMichael 1990; Murphy and Muller 1995; Rubio et al. 2018). Spawning is thought to occur in the offshore waters of the mid-Atlantic during the winter and early spring (Richards 1973; Joseph et al. 1964; Wells & Jones 2002; Chesapeake Bay Program 2004). The number of juvenile fish entering the population annually (recruitment) is thought to be highly variable and dependent on natural environmental conditions (Murphey & Muller 1995). Females are sexually mature between the ages of 4 and 6 (25 to 28 inches) and spawn yearly through adulthood (Murphy & Taylor 1989). An average-sized female may spawn 32 million eggs each year (Fitzhugh et al. 1993). At ages 4 and 5 (22 to 25 inches) males are mature (Murphy & Taylor 1989). The species is long-lived, reaching up to 67 years of age (Jones & Wells 1998; Campana & Jones 1998; ASMFC 2023). Black drum are approximately 11 to 14 inches at age-1, 15 to 17 inches at age-2, and 19 to 21 inches at age-3 (Murphy & Taylor 1989; Murphy & Muller 1995; Jones & Wells 1998).

Stock Status

The 2023 ASMFC Black Drum Stock Assessment determined the stock is not overfished and not experiencing overfishing (ASMFC 2023).

Stock Assessment

Variable catch history in state surveys and fisheries, coupled with complex migratory patterns, made the use of traditional statistical catch-at-age models difficult. In 2023, a benchmark stock assessment was completed and approved for use for management by the ASMFC (ASMFC 2023). The assessment model, JABBA-Select, was developed as an extension to the Just Another Bayesian Biomass Assessment (JABBA) surplus production modeling framework as a means of incorporating life history and fishery selectivity information into an age-structured production type model (Winker et al. 2020). The JABBA-Select model allowed the inclusion of the recalibrated Marine Recreational Information Program (MRIP) data as an index of abundance and catch history (Dettloff and Matter 2019). Annual spawning abundance (SB), annual exploitation (H), and biological reference points are estimated internally in the model, using an index of abundance (MRIP), total fishery removals, life history information, and selectivity information to describe black drum's vulnerability to fisheries. The stock is considered overfished when SB falls below the SB_{MSY} threshold ($SB_y / SB_{MSY} < 1$). Overfishing is occurring when H exceeds the H_{MSY} threshold ($H_y / H_{MSYy} > 1$). In 2020, the median relative spawning biomass value was 2.92 and the median relative exploitation value was 0.29, indicating the stock was not overfished and not experiencing overfishing in the terminal year (ASMFC 2023; Figure 1). Results indicated greater certainty that the stock is not overfished; however, there was less certainty regarding the exploitation status. While overall stock indicators that monitor year class strength, sub-adult abundance, exploitable abundance, range expansion, and regional catch do not appear negative at this time, they will be closely monitored between assessments. The next benchmark stock assessment is scheduled to occur in 2027.

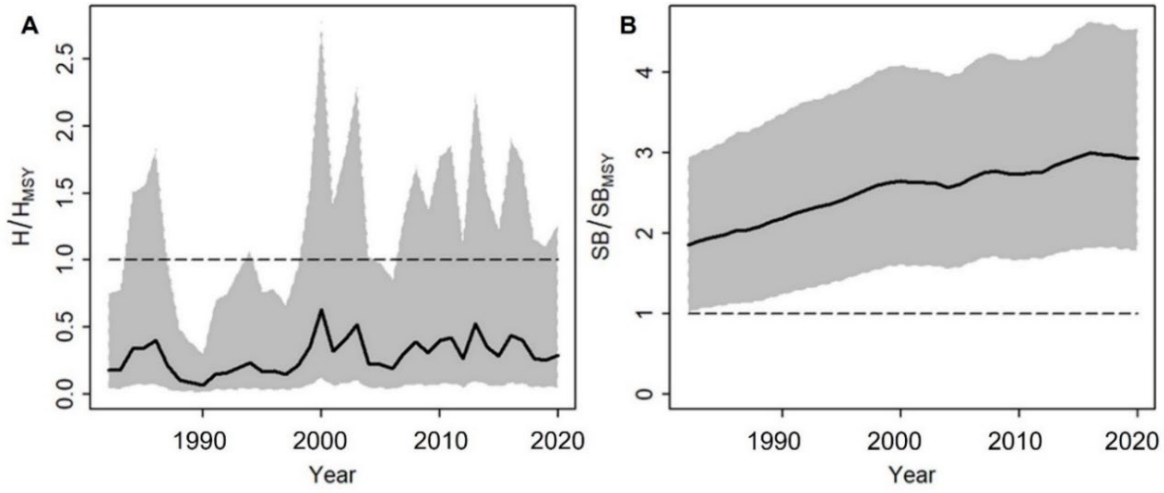

Figure 1. Black drum exploitation (A) and spawning biomass (B) relative to threshold reference points estimated in JABBA-Select. The solid line is the median and the shaded region is the 95% credible interval. The dashed line indicates the estimate at its respective threshold level. (Source: ASMFC 2023 Black Drum Stock Assessment and Peer Review Report).

DESCRIPTION OF THE FISHERY

Current Regulations

All harvest is limited to black drum between a 14-inch total length (TL) minimum size and 25-inch TL maximum size for both the recreational and commercial fisheries, except that one black drum over 25-inches TL may be retained. The recreational bag limit is ten fish per day. A daily commercial possession limit of no more than 500 pounds per trip is allowed for a commercial fishing operation, regardless of the number of persons, license holders, or vessels involved in the operation (Proclamation FF-73-2013).

Commercial Fishery

Since 1994, the North Carolina Trip Ticket Program (NCTTP) has collected data on the commercial harvest of black drum. Black drum is primarily caught as bycatch in several North Carolina commercial fisheries; however, the majority are landed in the gill net (66%) and pound net (33%) fisheries (Figure 2). The annual commercial harvest of black drum has been highly variable (Table 1; Figure 3A). On average 123,455 pounds of black drum were landed annually from 1994 to 2023. Commercial landings have ranged from a low of 27,750 pounds in 1998 to a high of 497,479 pounds in 2002. Commercial landings increased 67% from 2022 to 2023. In 2023, 240,814 pounds of black drum were landed in the commercial fishery.

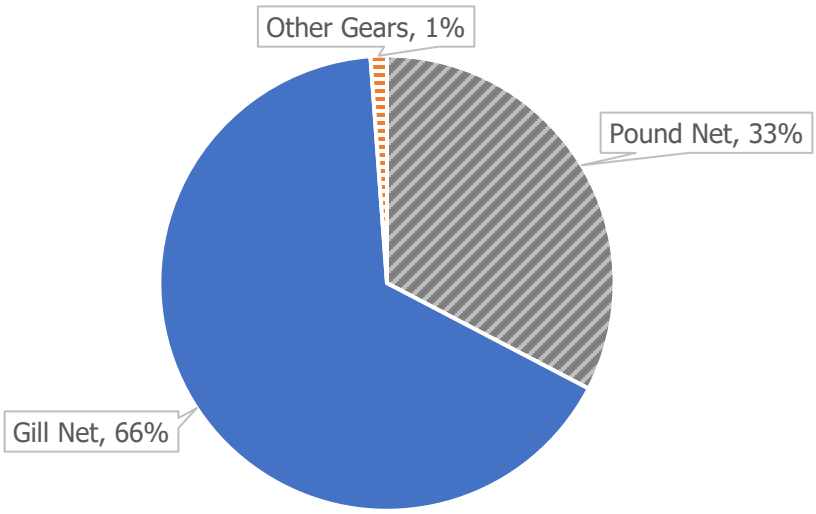

Figure 2. Black drum commercial harvest in 2023 by gear type. "Other Gears" includes haul seines, crab pots, channel nets, and fyke nets.

Table 1. Recreational harvest (number of fish landed and weight in pounds) and releases (number of fish) and commercial harvest (weight in pounds) of black drum from North Carolina for the period 1994–2023.

	Recreational			Commercial	
Year	Number Landed	Number Released	Weight Landed (lb)	Weight Landed (lb)	Total Weight Landed (lb)
1994	132,517	9,122	272,820	33,536	306,356
1995	931,269	227,608	713,652	128,221	841,873
1996	468,766	176,061	608,460	122,837	731,297
1997	106,854	62,498	277,316	86,610	363,926
1998	105,349	95,834	164,280	27,750	192,030
1999	374,245	267,723	561,678	122,772	684,450
2000	293,983	112,470	685,687	98,784	784,471
2001	400,983	325,234	446,202	77,892	524,094
2002	846,855	215,810	1,791,703	497,479	2,289,182
2003	1,265,995	481,742	1,926,671	148,785	2,075,456
2004	296,531	255,753	566,484	62,445	628,929
2005	465,076	376,363	509,328	44,989	554,317
2006	276,257	265,369	431,212	125,214	556,426
2007	876,178	832,132	697,822	148,231	846,053
2008	925,963	548,931	1,232,589	301,998	1,534,587
2009	449,901	411,358	421,788	148,994	570,782
2010	650,010	427,577	812,699	69,194	881,893
2011	1,259,216	711,755	823,423	56,083	879,506
2012	556,482	397,155	879,401	94,352	973,753
2013	1,511,995	497,334	2,709,269	127,170	2,836,439
2014	109,307	1,964,749	230,834	51,217	282,051
2015	276,126	1,791,758	780,876	51,097	831,973
2016	459,078	2,530,596	1,322,547	90,055	1,412,602
2017	355,544	2,336,352	856,081	182,989	1,039,070
2018	134,624	1,450,855	428,273	109,781	538,054
2019	156,401	756,749	404,452	80,049	484,501
2020	213,320	704,357	612,932	98,143	711,075
2021	121,454	681,121	359,481	131,761	491,242
2022	264,634	647,304	1,710,528	144,417	1,854,945
2023	348,374	591,980	973,869	240,814	1,214,683
Mean	487,776	671,788	807,079	123,455	930,534

Recreational Fishery

Recreational estimates across all years have been updated and are now based on the MRIP new Fishing Effort Survey-based calibrated estimates. For more information on MRIP see https://www.fisheries.noaa.gov/topic/recreational-fishing-data.

The recreational landings have been highly variable, ranging from a low of 164,280 pounds in 1998 to a high of 2,709,269 pounds in 2013 (Table 1; Figure 3B). In 2023, 973,869 pounds of black drum were harvested, above the time-series average of 807,079 pounds. The harvest (pounds of fish) decreased 43% from 2022 to 2023; however, harvest increased 376% from 2021 to 2022. Recreational releases (number of fish) decreased 9% from 2022 to 2023.

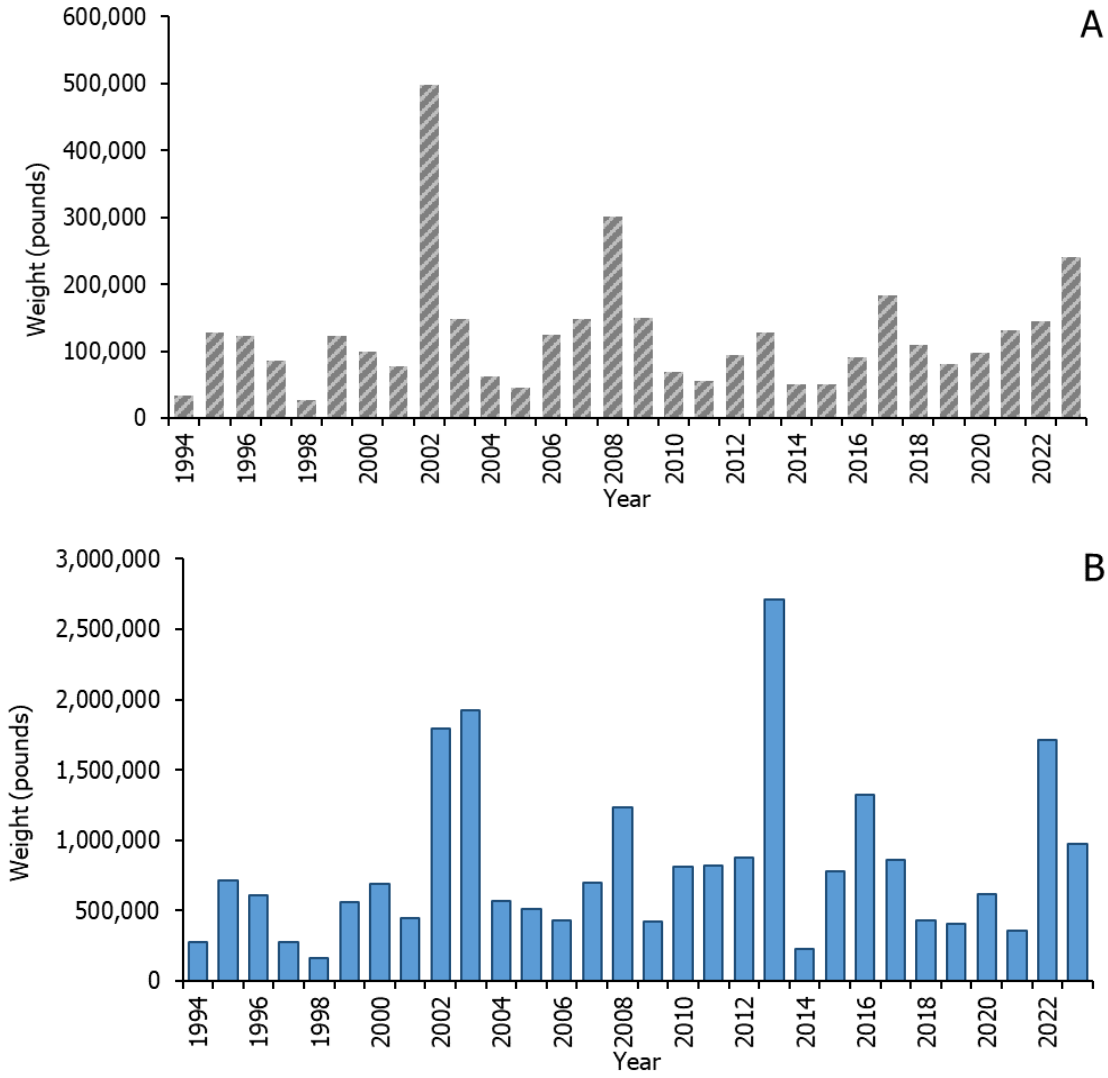

Figure 3. Annual commercial (A) and recreational (B) landings in pounds for black drum in North Carolina from 1994 to 2023.

The division offers award citations for exceptional catches of black drum. Prior to 2021, citations were awarded for black drum greater than 35 pounds or fish released greater than 40-inches TL. Released black drum greater than 40 inches TL are now only eligible for an award citation. In 2023, 64 citations were awarded (Figure 4).

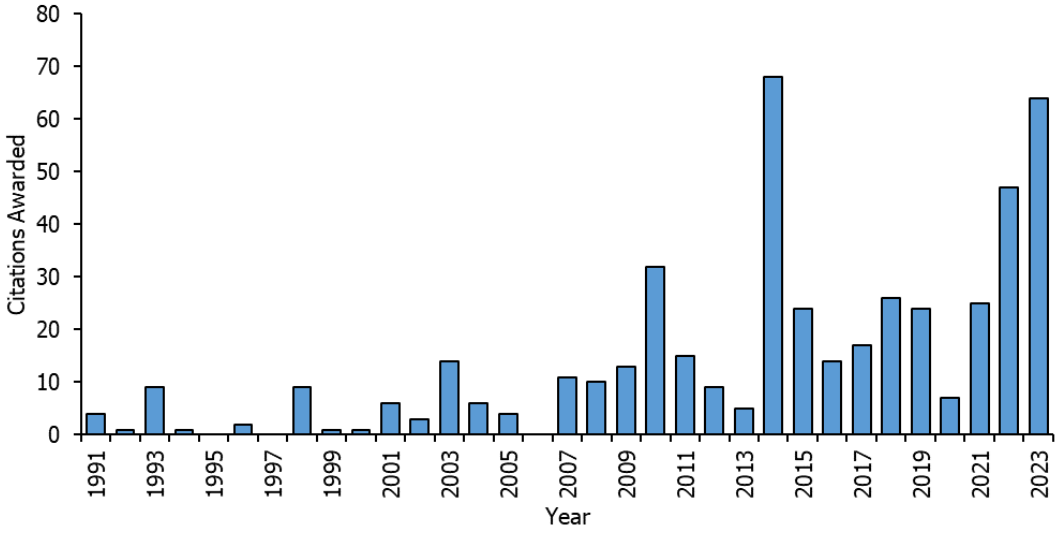

Figure 4. North Carolina Saltwater Fishing Tournament citations awarded for black drum from 1991 to 2023. Citations are awarded for released black drum greater than 40 inches total length.

MONITORING PROGRAM DATA

Fishery-Dependent Monitoring

Commercial fishing activity is monitored through fishery dependent sampling conducted under Title III of the Interjurisdictional Fisheries Act ongoing since 1982. Biological samples (lengths, aggregate weights) are obtained from several DMF commercial fisheries dependent sampling programs. Black drum lengths and aging structures are collected at local fish houses. After sampling a portion of the catch, the total weight of the catch by species and market grade are obtained for each trip, either by using the trip ticket weights or some other reliable estimate.

Since the implementation of the 14- to 25-inch slot limit in 2014, as would be expected the mean total length (TL) of commercially harvested black drum has increased. The mean TL has ranged from 10-inches to 19-inches (Table 2). In 2023, the minimum TL was 8-inches, and the maximum TL was 45-inches (Table 2; Figure 5).

The mean TL of recreational harvested black drum ranged from a 10-inches to 19-inches (Table 3). In 2023, the minimum TL was 9-inches, and the maximum TL was 36-inches (Table 2; Figure 5).

Undersized black drum continued to be harvested in both the commercial and recreational fisheries since the implementation of the 14-inch TL minimum size limit established in 2014 (Figures 6 and 7). Likely due to fishermen confusing black drum with sheepshead. The minimum size limit of sheepshead is smaller than the minimum size limit for black drum at 10-inches fork length (FL).

Table 2. Mean, minimum, maximum total length (TL; inches), and total number of black drum measured from North Carolina commercial fish house and Marine Recreational Information Program recreational samples, 1994–2023.

Year	Commercial				Recreational			
	Mean Length	Minimum Length	Maximum Length	Total Number Measured	Mean Length	Minimum Length	Maximum Length	Total Number Measured
1994	14	9	17	43	15	9	32	121
1995	10	8	42	209	11	7	30	390
1996	13	8	26	223	12	7	25	339
1997	15	8	23	102	15	9	33	144
1998	17	6	24	76	12	7	26	167
1999	14	7	47	673	13	8	31	248
2000	15	7	29	878	15	8	24	178
2001	15	7	36	432	11	8	25	173
2002	14	7	46	2,151	14	8	30	219
2003	16	7	49	609	11	7	52	198
2004	15	8	47	276	14	8	27	127
2005	14	4	44	314	11	7	34	89
2006	13	6	47	1,510	13	9	33	104
2007	13	7	50	2,086	11	7	20	191
2008	14	7	49	2,863	12	7	48	363
2009	15	7	47	1,072	11	8	25	191
2010	16	8	48	619	11	7	29	258
2011	12	7	32	1,467	10	7	24	567
2012	14	5	37	1,096	13	7	26	237
2013	15	5	35	806	13	7	26	154
2014	17	10	47	369	15	7	24	33
2015	18	9	43	299	17	11	25	75
2016	17	10	47	777	17	10	28	116
2017	17	10	29	494	16	9	27	162
2018	19	14	45	397	16	8	26	128
2019	17	12	43	421	16	10	44	106
2020	17	10	31	437	16	10	44	215
2021	16	8	27	579	16	9	46	155
2022	16	12	29	500	19	13	37	122
2023	16	8	45	657	17	9	36	133

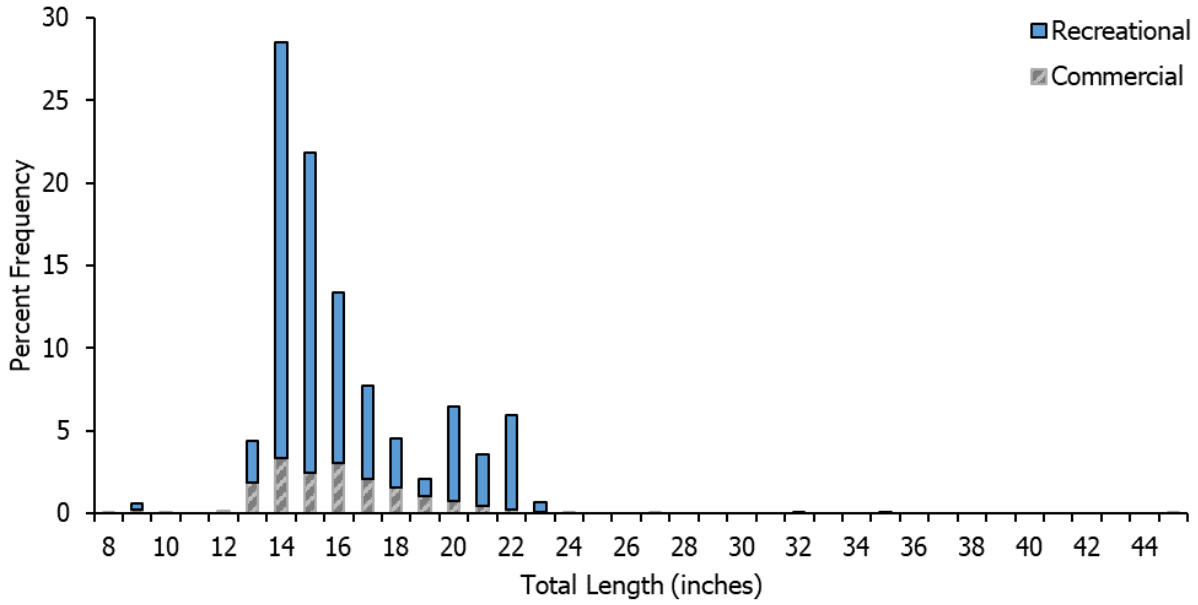

Figure 5. Commercial and recreational length frequency (total length, inches) of black drum harvested in 2023.

Table 3. Summary of black drum age samples collected from both dependent (commercial and recreational fisheries) and independent (surveys) sources from 2011–2023. Samples collected from partial carcasses were not included.

Year	Modal Age	Minimum Age	Maximum Age	Total Number Aged
2011	0	0	60	235
2012	1	0	3	324
2013	2	0	4	190
2014	1	0	31	407
2015	0	0	2	397
2016	1	0	13	667
2017	1	0	42	742
2018	1	0	46	429
2019	1	0	32	444
2020	1	1	4	104
2021	1	0	5	415
2022	1	0	4	367
2023	1	0	31	485

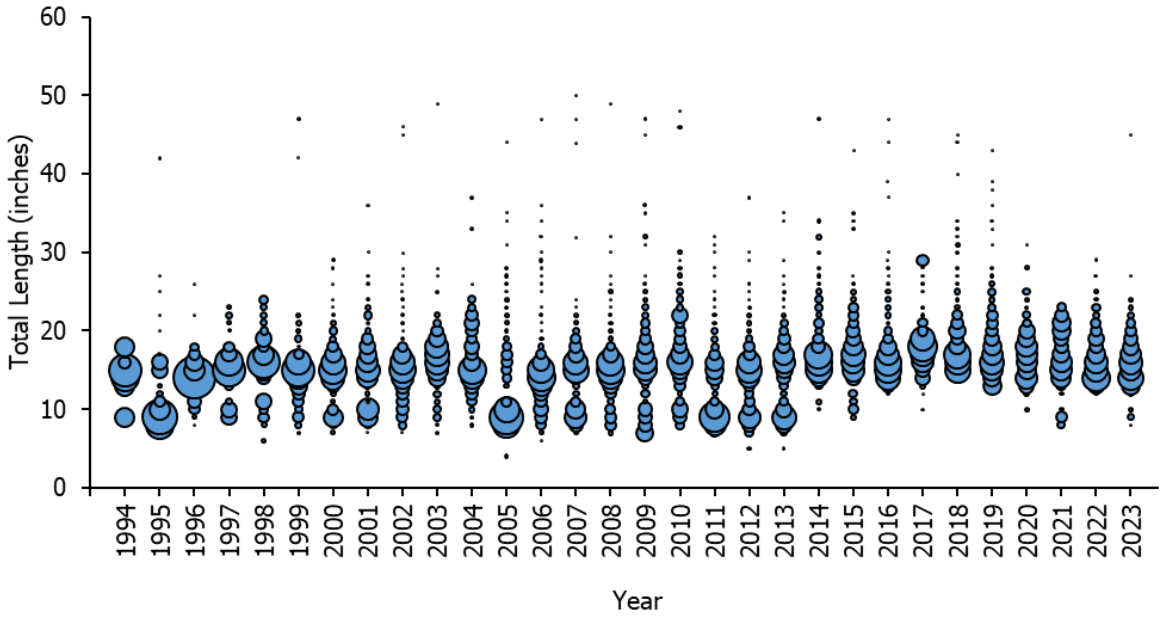

Figure 6. Commercial length frequency (total length, inches) of black drum harvested from 1994 to 2023. Bubbles represent fish at length and the bubble size is proportional to the number of fish at that length.

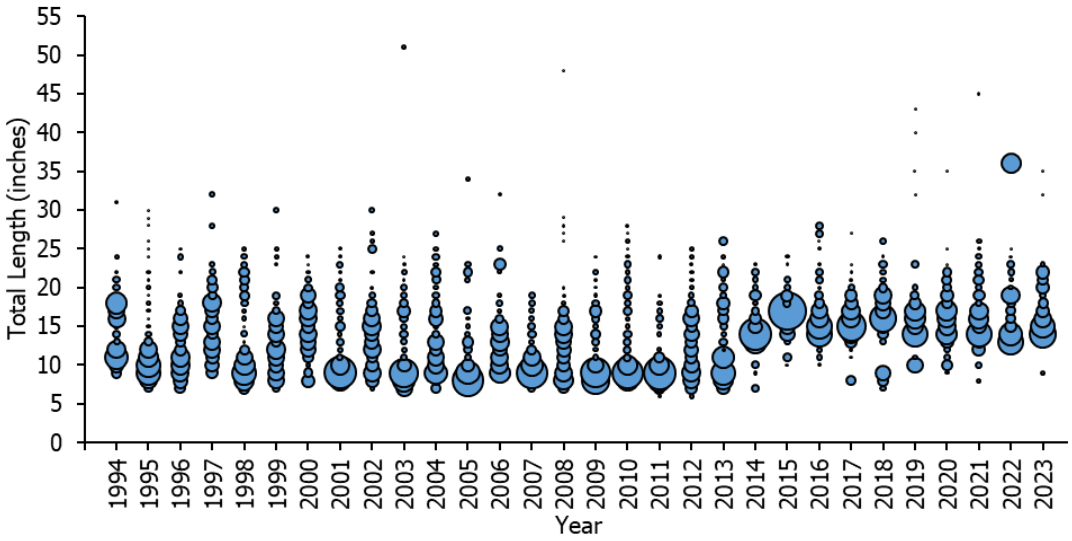

Figure 7. Recreational length frequency (total length, inches) of black drum harvested from 1994 to 2023. Bubbles represent fish at length and the bubble size is proportional to the number of fish at that length.

Fishery-Independent Monitoring

A fishery-independent gill net survey (Program 915) was initiated by the DMF in May of 2001. The survey utilizes a stratified random sampling scheme designed to characterize the size and age distribution for key estuarine species in Pamlico Sound and the Neuse, Pamlico, and Pungo rivers. By continuing a long-term database of age composition and developing a relative index of abundance for black drum this survey will help managers assess the black drum stocks without relying solely on commercial and recreational fishery dependent data. Additionally, data collected

is used to help improve bycatch estimates, evaluate the success of management measures, and look at habitat usage. Sampling in this program was suspended in February 2020 due to COVID-19 restrictions and protected species interactions but resumed July 2021.

The annual weighted black drum relative index of abundance from the independent gill net survey has ranged from a high of 1.12 in 2016 to a low of 0.32 in 2013 (Figure 8). Proportional Standard Error (PSE) has ranged from 10 to 36. In 2023, the relative index of abundance was 0.57, below the time-series average (0.64 black drum per set). Survey data from the Pamlico Sound and Neuse, Pamlico, and Pungo river systems is used in the 2023 ASMFC benchmark stock assessment for black drum as annual index of relative abundance for sub-adult and adult black drum.

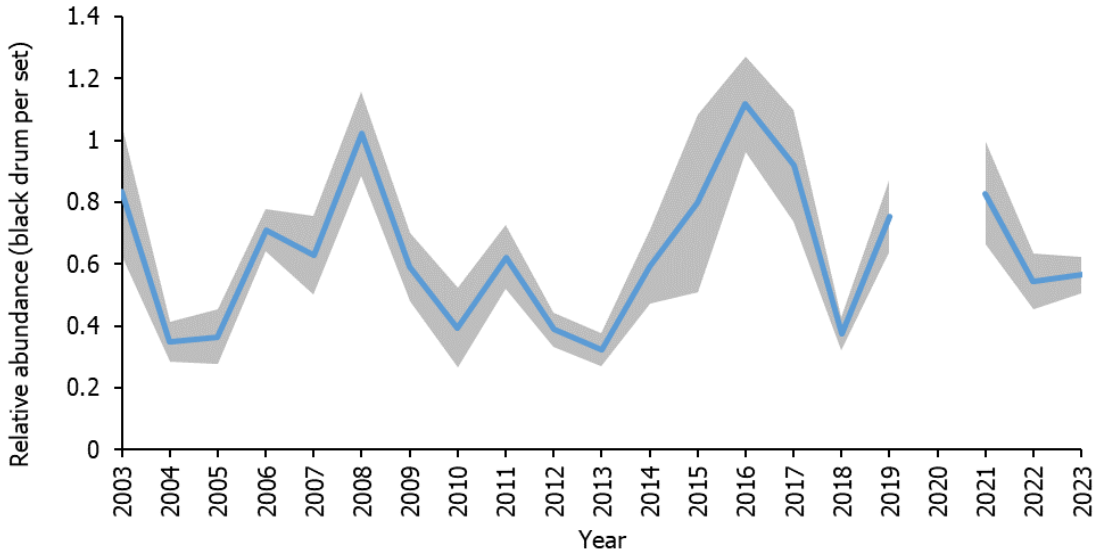

Figure 8. Annual weighted black drum index of relative abundance (number per set) from the DMF Independent Gill Net Survey (Program 915) in the Pamlico Sound and Neuse, Pamlico, and Pungo river systems from 2003–2023. Shaded area represents + one standard error. Sampling in this program was suspended in February 2020 due to COVID-19 restrictions and protected species interactions but resumed July 2021.

Black drum age structures are collected from various fishery independent (scientific surveys) and dependent (fisheries) sources throughout the year. In 2023, 485 black drum were aged. Ages ranged from 0 to 31 years (Table 3). The oldest black drum harvested in North Carolina was age-60. Beyond age 3, there is significant overlap in the length at age for black drum (Figure 9).

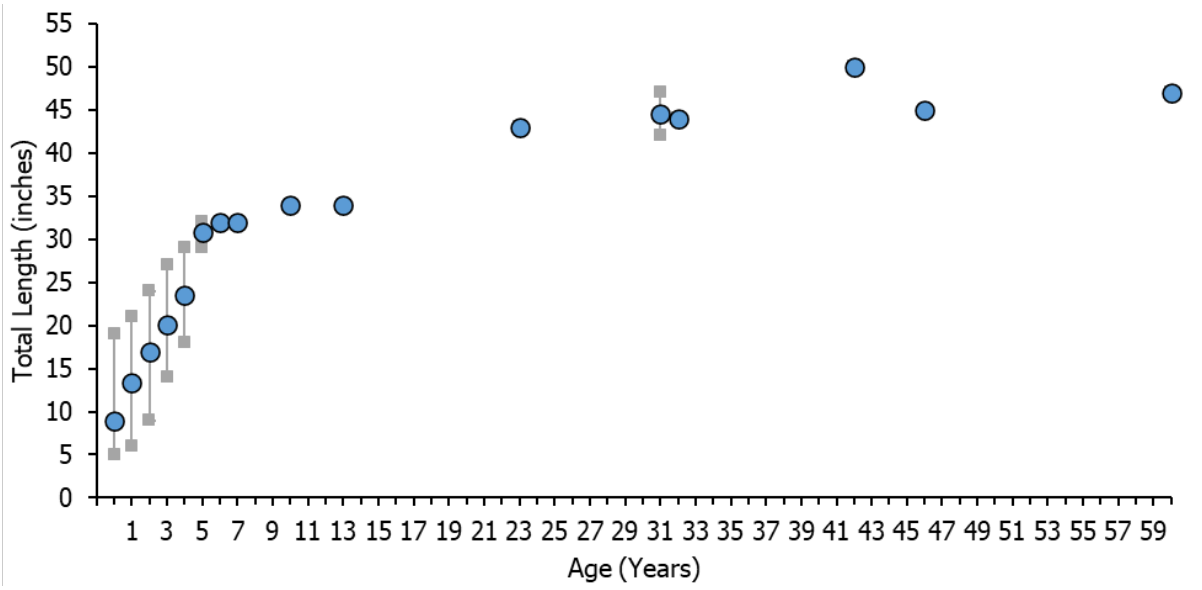

Figure 9. Black drum length (total length, inches) at age based on all age samples collected from 2011 to 2023. Blue circles represent the mean size at a given age while the grey squares represent the minimum and maximum observed size for each age. Samples collected from partial carcasses were not included.

RESEARCH NEEDS

The 2023 Benchmark Stock Assessment Report (ASMFC 2023a) recommends a new benchmark stock assessment be completed by 2027. However, if stock indicators identify any concerning trends an expedited assessment should be completed before 2027. The research recommendations identified in the 2023 assessment include:

High Priority

- Develop fishery-independent adult surveys. Consider purse seine and long line surveys with bait and sampling areas appropriate to target black drum. Collect age samples, especially in states where maximum size regulations preclude the collection of adequate adult ages. long-term
- Conduct a high reward tagging program to obtain return rate estimates. Continue and expand current tagging programs to obtain total mortality, catch and release mortality, and growth information and movement-at-size data. long-term
- Increase biological sampling in commercial fisheries, particularly gill nets in Virginia, to better characterize size and age composition of commercial landings. These data would help improve data sets for selectivity estimates and eventual extensions to length/age-structured assessment approaches. long-term
- Increase biological sampling in recreational fisheries, particularly harvest in the Mid-Atlantic region and releases coastwide, to better characterize size and age composition of recreational catch. These data would help improve data sets for selectivity estimates and eventual extensions to length/age-structured assessment approaches. long-term
- Continue all current fishery-independent surveys recommended as stock indicators for black drum and collect biological samples for black drum on all surveys. long-term
- Evaluate use of MRIP site-use weighting factors to improve CPUE estimates. short-term

- Evaluate data the use of data poor models as annual indicators to show current relationships between stock and removals (Itarget) and the ongoing trend of relative *F* (Skate). short-term
- A process should be developed for appropriately combining MRIP and supplemental recreational sampling program data for characterizing the size structure of the recreational harvest. The process needs to consider spatial information, as there are likely spatial effects within states' supplemental sampling programs (e.g., VMRC Freezer Program representing Eastern Shore harvest). short-term

Medium Priority

- Age otoliths that have been collected and archived (≈500 sub-adults samples from GA). *short-term*
- Improve sampling of concentrated, targeted nighttime fisheries in the Mid-Atlantic region (e.g., Delaware Bay). Although the MRIP APAIS design changed to expand to nighttime sampling, data are too limited (e.g., only four potential nighttime black drum intercepts in Delaware's APAIS data) to evaluate whether this change was sufficient for black drum fisheries. *long-term*
- The recreation released alive trend and harvest trend provided a mixed signal. In order to identify which factor, a change in stock abundance vs. a change in fishing behavior, drove the mixed signal, we analyzed the released alive data by breaking them down by wave. However, such an analysis may provide limited information on fishing behavior change, therefore, we recommend to directly collect such information via a one-time pilot study (≈three years) during existing creel surveys (e.g., MRIP APAIS). For example, anglers may report if they know where, when, and how to catch legal black drum (potentially increasing catch rate) meanwhile deliberately avoiding catching sublegal fish (potentially decreasing released alive quantity). Anglers don't need to share their specific skills during the creel survey by simply checking a box before "When", "Where", and "How" along with targeted species data currently collected. Such information may potentially provide better information to understand drivers of these trends in the future stock assessment. *short-term*
- Conduct tagging study to determine survival, migration, and contribution of YOY fish spawned in the Mid-Atlantic to the overall sub-adult stock. *long-term*

Low Priority

- Expand simulation-based power analysis to other index data sets used for stock indicators of black drum. *short-term*
- Conduct reproductive studies that provide updated estimates and an expanded spatial coverage, including age and size-specific fecundity, spawning frequency, spawning behaviors by region, and movement and site fidelity of spawning adults. *long-term*
- There is uncertainty about selectivity between gill net types fished (anchor and drift) in Virginia and the appropriateness of combining these gears into a fleet. There are no composition data collected from drift gill nets, so this remains an uncertainty that should be researched in the future. *short-term*

Partially Addressed

- Collect genetic material (i.e., create "genetic tags") over a long time span to obtain information on movement and population structure, and potentially estimate population size.
- Obtain better estimates of harvest from the black drum recreational fishery (especially in states with short seasons). *MRIP changes were generally seen as improvements to*

catch estimates, though the exception remains nighttime fishery sampling identified as a moderate research recommendation above.

- Collect information on the magnitude and sizes of commercial discards. Obtain better estimates of bycatch of black drum in other fisheries, especially juvenile fish in south Atlantic states. *An ongoing observer program now provides monitoring of the primary suspected commercial black drum discard fishery. Recent estimates have been small in comparison to total fishery removals, but this source of catch should continue to be monitored in future stock assessments for signs of increase. South Atlantic shrimp trawl fishery observer data were also reviewed during this assessment and do not indicate these fisheries are a significant source of black drum fishery removals.*

MANAGEMENT

The management strategies currently in place for black drum have resulted in a stock that has met ongoing management targets (Table 6). Each year the ASMFC Black Drum Plan Review Team monitors each states' compliance with the FMP during its annual review. States must demonstrate the compliance criteria of the FMP are satisfied and submit an annual report concerning its fisheries and management programs. Following the review of the 2022 fishing year, the PRT determined all states were compliant with the FMP (ASMFC 2023b).

Table 6. Summary of ASMFC management strategies and their implementation status for Black Drum Fishery Management Plan.

Management Strategy	Implementation Status
Harvest Management	
Implement a maximum possession limit and size limit (of no less than 12 inches) by January 1, 2014	Accomplished (other states)
Implement a maximum possession limit and size limit (of no less than 14 inches) by January 1, 2016	Proclamation FF-73-2013
Implement a 10 fish and 28-inch minimum size limit for Maryland's commercial fishery by February 25, 2019	Accomplished (Maryland)

In October 2023, the ASMFC Black Drum Technical Committee (TC) reviewed the stock indicators developed to monitor the stock with an additional two years of data through 2022. The indicators included abundance (young-of-year, age 0-1, subadult, and exploitable abundance), range expansion, recreational live releases and harvest, and commercial landings. Overall, there were mixed signs of stability and declines in some of the indicators, but the two additional years of data were within the historical range of the times series. While the TC did not believe the two additional years of data were enough to determine a definitive trend of decline in the stock, it was noted that the young-of-year and sub-adult fishery-independent indicators should be closely monitored. The ASMFC Sciaenid Board recommendation to not change the current stock assessment schedule. The next black drum stock assessment is tentatively scheduled for 2027.

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