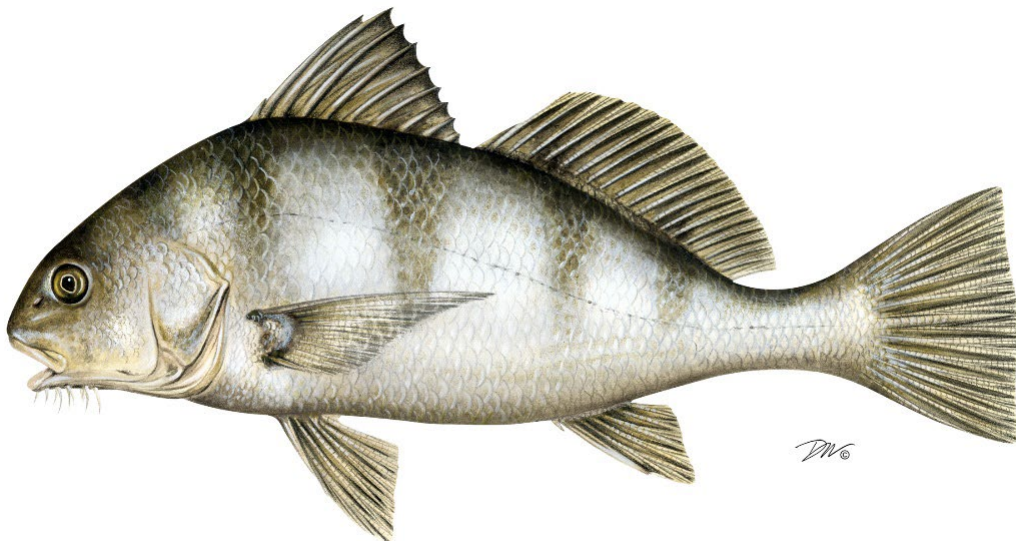


ATLANTIC STATES MARINE FISHERIES COMMISSION
REVIEW OF THE INTERSTATE FISHERY MANAGEMENT PLAN

FOR BLACK DRUM
(Pogonias cromis)

2021 FISHING YEAR



Prepared by the Plan Review Team
Approved October 2022



Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Table of Contents

I.	Status of the Fishery Management Plan.....	1
II.	Status of the Stocks	2
III.	Status of the Fishery.....	2
IV.	Status of Assessment Advice	3
V.	Status of Research and Monitoring	4
VI.	Status of Management Measures and Issues	4
VII.	Implementation of FMP Compliance Requirements for 2021	4
VIII.	Recommendations of the Plan Review Team	4
IX.	References	5
X.	Figures.....	6
XI.	Tables	8

I. Status of the Fishery Management Plan

Date of FMP Approval: Original FMP – June 2013

Addendum: Addendum I – May 2018

Management Areas: The entire Atlantic coast distribution of the resource from New Jersey through the east coast of Florida

Active Boards/Committees: Sciaenids Management Board; Black Drum Technical Committee; Stock Assessment Subcommittee; Plan Review Team; South Atlantic Species Advisory Panel

The Atlantic States Marine Fisheries Commission (ASMFC) adopted an [interstate Fishery Management Plan \(FMP\) for Black Drum in 2013](#). Prior to the FMP, management was state-specific, from no regulations in North Carolina to various combinations of size limits, possession limits, commercial trip limits, and/or annual commercial quotas from New Jersey to Florida. While the Maryland portion of the Chesapeake Bay was closed to commercial fishing in 1998, it was reopened in 2019 via Addendum 1 which was approved in 2018.

The FMP requires all states with a declared interest in the species to have established a maximum possession limit and minimum size limit of at least 12 inches total length (TL) by January 1, 2014, and to have increased the minimum size limit to at least 14 inches TL by January 1, 2016. The FMP also includes a management framework to adaptively respond to future concerns or changes in the fishery or population.

There are four plan objectives:

- 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 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.

The management unit for black drum under the FMP is defined as the range of the species within U.S. waters of the northwest Atlantic Ocean, from the estuaries eastward to the offshore boundaries of the Exclusive Economic Zone (EEZ).

In 2018, [Addendum I](#) allowed Maryland to reopen their commercial fishery in the Chesapeake Bay, starting in the 2019 fishing year (ASMFC 2018). Prior to this addendum, a commercial moratorium

was in place for these waters due to the FMP's requirement that states maintain measures in place at the time of the FMP's approval.

II. Status of the Stocks

In the 2015 Black Drum Benchmark Stock Assessment (ASMFC 2015), the Stock Assessment Subcommittee (SAS) selected the Depletion-Based Stock Reduction Analysis (DB-SRA; Dick and McCall 2011) as the preferred method for estimating catch reference points. The SAS considered the Depletion-Corrected Average Catch (DCAC; McCall 2009) analysis, but ultimately rejected this method. DCAC did not incorporate removals into a population dynamics process, and uncertainty existed over how changes in the exploitation rate time series may impact the sustainable yield relative to the current stock condition.

Based on the DB-SRA results, black drum life history, indices of abundance, and history of exploitation, the black drum stock is not overfished and not experiencing overfishing (ASMFC 2015). Median biomass exhibited slow and steady decline from 135.2 million pounds in 1900 to 90.78 million pounds in 2012, though the median biomass estimate in 2012 is still well above the necessary level to produce maximum sustainable yield (B_{MSY} ; 47.26 million pounds) (Figure 1). The median maximum sustainable yield (MSY) estimate is 2.12 million pounds and provides an annual catch target that can be used to sustainably manage the fishery. The median overfishing limit (OFL) estimate is 4.12 million pounds and provides a catch threshold that indicates overfishing when exceeded. The OFL is the maximum exploitation rate at the current biomass that does not lead to overfishing.

NOTE: In 2018, the Marine Recreational Information Program transitioned from estimating effort using the Coastal Household Telephone Survey (CHTS) to the mail-based Fishing Effort Survey (FES). The 2015 stock assessment used CHTS data to estimate recreational harvest. However, as black drum is not managed by a quota and to accommodate the transition, recreational harvest estimates based on the FES data or calibration are shown in this report. Due to differing estimation methodologies, these harvest data should not be compared to reference points from the 2015 stock assessment. Harvest estimates based on either effort survey can be compared at: <https://www.st.nmfs.noaa.gov/st1/recreational/queries/>.

III. Status of the Fishery

Total black drum landings from New Jersey through the east coast of Florida are estimated at 6.0 million pounds in 2021, a 5% increase from total harvest in 2020 (Tables 2 and 3; Figure 2). The 2021 harvest is slightly above the previous ten-year (2011-2020) average. The commercial and recreational fisheries harvested 4% and 96% of the 2021 total, respectively.

Commercial landings of black drum in 2021 spanned from New York through Florida, but have been recorded as far north as Rhode Island in the past. Although landings from outside the management unit (i.e., north of New Jersey) were less than 1% of the coastwide total, commercial landings in states north of the management unit have increased marginally in the last 8-10 years and black

drum have been observed spawning in areas northward of Great Bay, NJ. Coastwide commercial landings show no particular temporal trends, ranging from approximately 82,000 pounds in 1985 to 556,000 pounds in 2002 annually since 1981 (Figure 2). Black drum commercial landings in 2021 were 243,290 pounds, a 35% increase from 2020. North Carolina led commercial harvest with 54% of the landings, followed by Virginia with 26% (Table 2).

Recreational harvest of black drum peaked by weight in 2008 at 10.7 million pounds (Table 3) and by numbers of fish in 2003 at 2.9 million (Table 4). Overall, landings have ranged between 650 thousand pounds in 1988 and 10.7 million pounds in 2008, and numbers of fish have fluctuated between 260 thousand in 1989 and 2.9 million fish in 2003 (Figures 3 and 4).

The 2021 recreational harvest (880 thousand fish or 5.7 million pounds) represents a 30% decrease in numbers and a 4% increase in pounds from 2020. Florida anglers landed the largest share of the coastwide recreational harvest in numbers (66%), followed by North Carolina (14%) and South Carolina (10%). Recreational catch was recorded in New York for the first time in 2021.

Since the beginning of the time series (1981), recreational anglers have released increasing percentages of black drum, with percentages of fish released exceeding 70% seven times in the past eight years. In 2021, 73% (2.3 million fish) of the recreational catch was released (Figure 3; Table 5). It is worth noting that release rates increased substantially after 2013, when the FMP established minimum sizes in every state and required that undersized drum be released for the first time. Recent high release rates can be attributed to these measures, as well as encouragement of catch and release practices.

IV. Status of Assessment Advice

Current stock status information comes from the 2015 benchmark stock assessment (ASMFC 2015) completed by the ASMFC Black Drum Stock Assessment Subcommittee and Technical Committee, peer reviewed by an independent panel of experts, and approved by the South Atlantic State-Federal Fisheries Management Board for use in management decisions.

The stock assessment could be improved by applying a more complex, data-rich assessment method such as a statistical catch-at-age model. Data limitations that need to be addressed to successfully make this transition are biological sampling (length and age) of recreational and commercial fisheries and a fishery-independent survey to track abundance and age structure of the mature stock. Additionally, information about commercial discards and movement of fish along coast and between water depths would improve the assessment.

A benchmark stock assessment is currently underway using the recalibrated MRIP data. This benchmark assessment will provide updated reference points and is on schedule to be completed in late 2022.

V. Status of Research and Monitoring

There are no monitoring or research programs required annually of the states except for the submission of a compliance report. The following fishery-dependent (other than catch and effort data) and fishery-independent monitoring programs were reported in the 2021 reports. Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, and National Marine Fisheries Service have fishery-dependent monitoring for black drum. States that encounter fish through fishery-independent monitoring include New Jersey, Delaware, Maryland, North Carolina, South Carolina, Georgia, and Florida.

VI. Status of Management Measures and Issues

Fishery Management Plan

The Black Drum FMP required all states with a declared interest in the species to have established a maximum possession limit and minimum size limit of at least 12 inches TL by January 1, 2014, and to have increased the minimum size limit to no less than 14 inches TL by January 1, 2016.

De Minimis

The black drum FMP allows states to request *de minimis* status if, for the preceding three years for which data are available, their average combined commercial and recreational landings (by weight) constitute less than 1% of the average coastwide commercial and recreational landings for the same three-year period. A state that qualifies for *de minimis* will qualify for exemption in both their commercial and recreational fisheries.

De Minimis Requests

No state requested *de minimis* status through the annual reporting process.

Recent Changes to State Management

None in 2021.

VII. Implementation of FMP Compliance Requirements for 2021

The PRT found no inconsistencies between state compliance reports and requirements of the Fishery Management Plan.

VIII. Recommendations of the Plan Review Team

Research recommendations can be found in the [2015 Benchmark Stock Assessment and Peer Review Report](#), and updated recommendations will be available once the 2022 benchmark assessment is complete.

Management and Regulatory Recommendations

- Begin or continue biological sampling to collect age and size composition from both recreational and commercial fisheries as well as fecundity data. Data gaps include size and age of discards, catch and release mortality, age and size-specific fecundity, spawning frequency, and spawning behaviors by region.
- Continue and expand current tagging programs to obtain mortality and growth information and movement at size data, and consider conducting a high reward tagging program to obtain improved return rate estimates. Tagging studies that utilize implanted radio tracking tags compatible with coastal tracking arrays along the Atlantic coast in order to track movement and migration of adults and juveniles would also help fill the data needs.

IX. References

ASMFC. 2013. Interstate Fishery Management Plan for Black Drum. Arlington, VA. 72 p.

ASMFC. 2015. Black Drum Stock Assessment for Peer Review. Atlantic States Marine Fisheries Commission, Stock Assessment Report. 352 p.

ASMFC. 2018. Addendum I to the Black Drum Interstate Fishery Management Plan. Arlington, VA. 4 p.

Dick, E. J. and MacCall, A. D. 2011. Depletion-Based Stock Reduction Analysis: A catch-based method for determining sustainable yields for data-poor fish stocks. *Fisheries Research*, 110: 331-341

MacCall, A. D. 2009. Depletion-Corrected Average Catch: a simple formula for estimating sustainable yields in data-poor situations. *ICES Journal of Marine Science*, 66: 2267-2271.

X. Figures

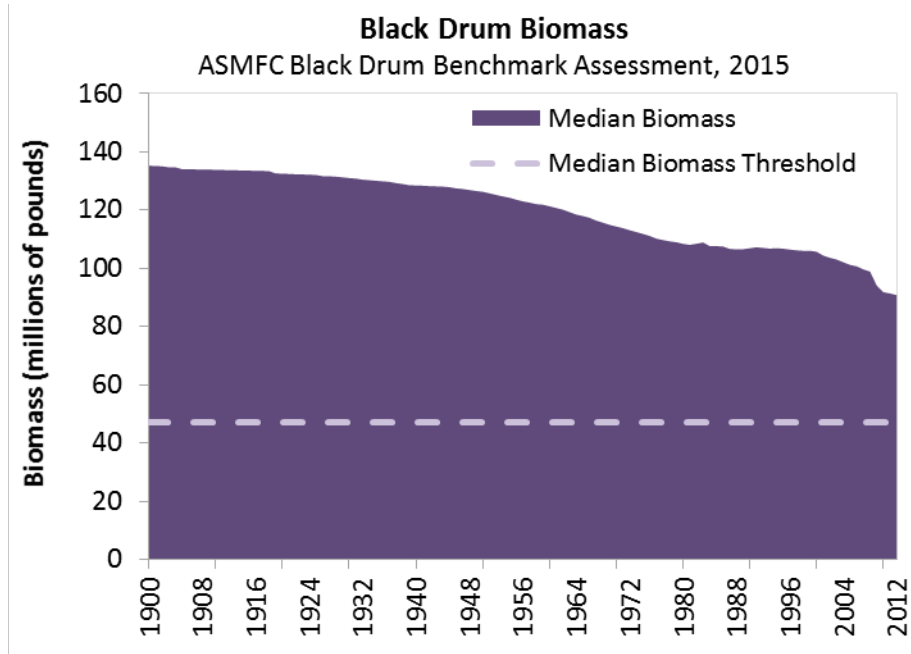


Figure 1. DB-SRA estimates of Median biomass and threshold 1900-2012 (Source: ASMFC 2015).

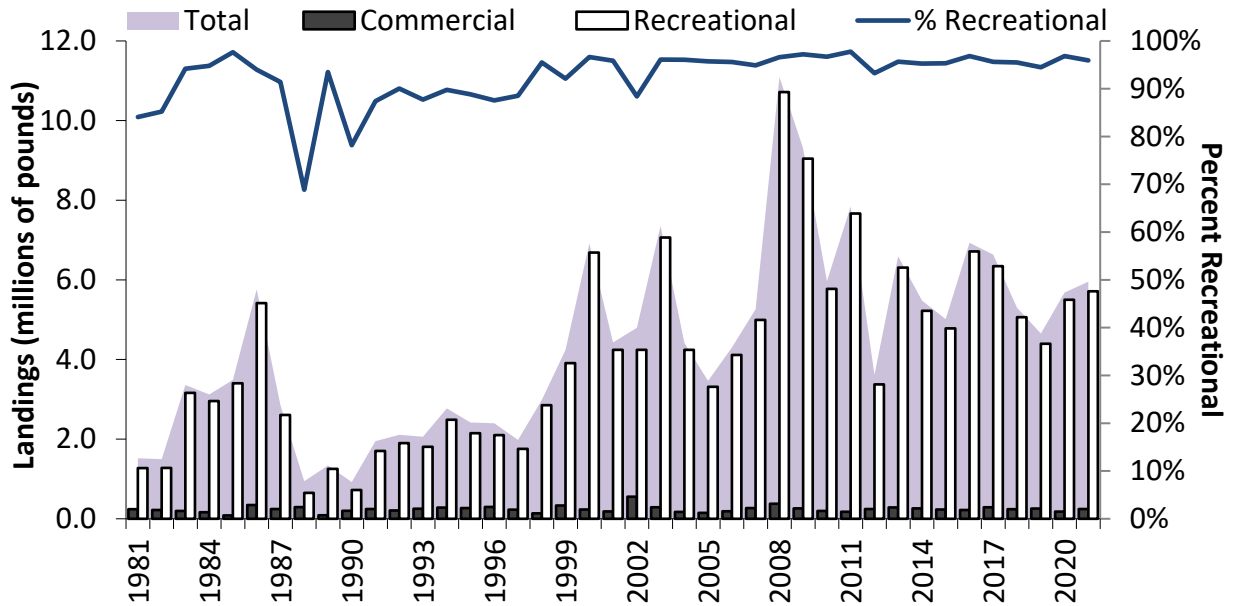


Figure 2. Commercial and recreational landings (pounds) of black drum, 1981-2021. See Tables 2 and 3 for values and data sources.

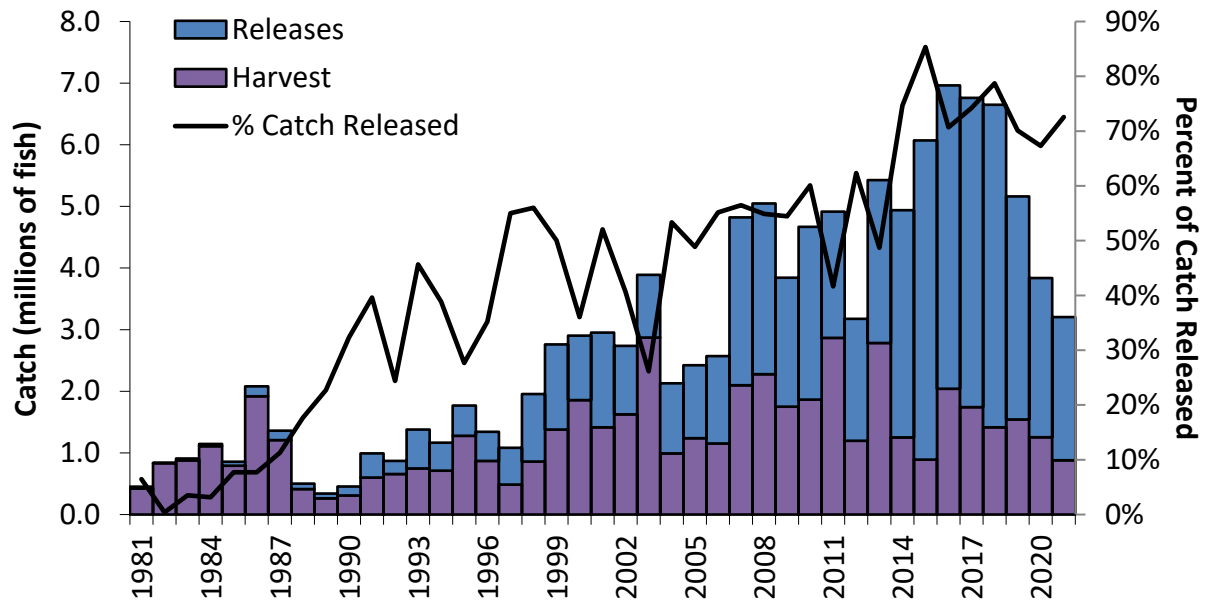


Figure 3. Recreational catch (harvest and live releases) of black drum (numbers) and the proportion of catch that is released, 1981-2021. See Tables 4 and 5 for values and data sources.

XI. Tables

Table 1. Black drum regulations for 2021. The states of New Jersey through Florida are required to meet the requirements in the FMP. All size limits are total length.

State	Recreational		Commercial			Notes
	Size limit	Bag limit	Size limit	Trip Limit	Annual Quota	
ME - NY	-	-	-	-	-	
NJ	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
DE	16" min	3/person/day	16" min	10,000 lbs	65,000 lbs	
MD	16" min	1/person/day 6/vessel	16" min (ATL) 28" min (Bay)	10/vessel/day (Bay)	1,500 lbs (ATL)	
PRFC	16" min	1/person/day	16" min	1 fish possession		
VA	16" min	1/person/day	16" min	1/person/day*	120,000 lbs	*without Black Drum Harvesting and Selling Permit
NC	14" min - 25" max; 1 fish > 25" may be retained	10/person/day	14" min - 25" max; 1 fish > 25" may be retained	500 lbs/trip		
SC	14" min - 27" max	5/person/day	14" min - 27" max	5/person/day		Commercial fishery primarily bycatch
GA	14" min	15/person/day	14" min	15/person/day		
FL	14" min - 24" max; 1 fish >24" may be retained	5/person/day	14" min - 24" max	500 lbs/day		

Table 2. Commercial landings (pounds) of black drum by state, 2012-2021. (Totals include coastwide landings outside of the management area, NJ-FL. Sources: 2022 state compliance reports for 2021 fishing year; for years prior to 2021, personal communication with ACCSP, Arlington, VA)

Year	NJ	DE	MD	PRFC	VA
2012	19,017	10,943	571	C	104,234
2013	16,251	24,640	2,145	C	87,235
2014	9,270	C	C	C	88,402
2015	6,478	39,282	C	C	87,011
2016	2,210	49,109	C	C	49,832
2017	21,248	699	423	C	42,695
2018	C	32,375	734	C	76,337
2019	C	6,030	8,025	C	129,556
2020	C	C	4,767	C	50,318
2021	1,057	C	821	0	63,340
	NC	SC	GA	FL	Total
2012	94,352	C	C	14,302	243,527
2013	127,170	C	C	28,460	286,413
2014	51,217	C	C	91,587	259,650
2015	51,073	C	C	50,477	234,727
2016	90,715	C	C	26,978	219,350
2017	182,882	C	C	41,280	289,431
2018	109,757	C	C	19,465	239,124
2019	80,036	C	C	21,954	256,051
2020	98,118	C	C	26,895	180,208
2021	131,724	C	C	45,300	243,290

C: Confidential landings

Table 3. Recreational harvest (pounds) of black drum by state and coastwide average weight, 2012-2021. (Sources: 2022 state compliance reports for 2021 fishing year; for years prior to 2021, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2012	37,076	2,844	0	36,195	879,401
2013	94,636	15,668	0	112,139	2,709,269
2014	11,476	22,070	18,684	97,043	230,834
2015	443,907	16,992	16,575	25,216	780,876
2016	159,589	2,180	8,924	77,672	1,322,547
2017	406,068	22,998	3,001	81,275	856,081
2018	814,965	179,071	53,599	29,120	428,273
2019	172,735	8,117	59,912	101,535	404,452
2020	535,249	90,950	53,825	251,724	612,932
2021	1,851	14,659	80,563	345,108	359,481
	SC	GA	FL		Total
2012	321,734	211,618	1,885,164		3,374,032
2013	413,455	149,094	2,813,673		6,307,934
2014	238,616	249,118	4,353,686		5,221,527
2015	82,484	88,698	3,325,410		4,780,158
2016	623,449	226,558	4,292,398		6,713,317
2017	681,976	187,698	4,105,686		6,344,783
2018	652,179	392,380	2,511,235		5,060,822
2019	899,976	557,714	2,191,274		4,395,715
2020	493,001	298,894	3,163,767		5,500,342
2021	345,225	178,803	4,386,989		5,712,731

Table 4. Recreational harvest (numbers) of black drum by state, 2012-2021. (Sources: 2022 state compliance reports for 2021 fishing year; for years prior to 2021, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2012	1,368	110	0	7,555	556,482
2013	11,083	1,851	0	6,170	1,511,995
2014	482	1,052	1,690	10,676	109,307
2015	10,793	462	1,091	1,600	276,126
2016	6,008	138	250	5,807	459,078
2017	18,435	1,214	828	16,700	355,544
2018	40,153	9,211	1,262	3,721	134,624
2019	7,506	931	4,897	6,600	156,401
2020	27,594	5,207	14,092	17,000	213,320
2021	382	1,115	2,724	17,607	121,454
	SC	GA	FL		Total
2012	91,318	42,826	496,537		1,196,196
2013	143,662	64,533	1,044,490		2,783,784
2014	96,967	47,807	983,582		1,251,563
2015	37,186	48,229	514,606		890,093
2016	256,158	96,351	1,217,913		2,041,703
2017	241,832	64,240	1,044,752		1,743,545
2018	185,648	114,263	925,794		1,414,676
2019	344,933	265,364	755,638		1,542,270
2020	198,239	100,973	678,484		1,254,909
2021	92,232	65,955	577,906		879,468

Table 5. Recreational alive releases (numbers) of black drum by state, 2012-2021. (Sources: 2022 state compliance reports for 2021 fishing year; for years prior to 2021, personal communication with NOAA Fisheries, Fisheries Statistics Division)

Year	NJ	DE	MD	VA	NC
2012	17,092	1,653	89,193	22,236	397,155
2013	0	57,091	15,868	52,417	497,334
2014	37,364	11,243	0	269,648	1,964,749
2015	545,613	17,109	25,115	164,322	1,791,758
2016	9,399	361	114	46,494	2,530,596
2017	111,739	3,689	2,809	137,987	2,336,352
2018	51,148	15,249	27,849	169,204	1,450,855
2019	1,953	29,878	6,346	151,074	756,749
2020	10,474	8,301	1,997	142,394	704,357
2021	41,807	19,517	92,542	168,208	681,121
	SC	GA	FL		Total
2012	153,799	52,722	1,246,585		1,980,435
2013	330,528	35,034	1,654,129		2,642,401
2014	335,600	21,581	1,047,833		3,688,018
2015	1,483,956	55,773	1,096,185		5,179,831
2016	1,268,667	54,266	1,012,670		4,922,567
2017	692,616	85,365	1,648,030		5,018,587
2018	1,087,536	167,974	2,265,550		5,235,365
2019	998,869	339,599	1,333,745		3,618,213
2020	678,836	239,371	797,425		2,583,155
2021	304,632	94,097	922,962		2,324,886