

STATE MANAGED SPECIES – RED DRUM

FISHERY MANAGEMENT PLAN UPDATE RED DRUM AUGUST 2026

STATUS OF THE FISHERY MANAGEMENT PLAN

Fishery Management Plan History

Original FMP Adoption:	March 2001	
Amendments:	Amendment 1	November 2008
Revisions:	None	
Supplements:	None	
Information Updates:	2024	
Schedule Changes:	None	
Comprehensive Review:	2025	

Red Drum (*Sciaenops ocellatus*) in North Carolina are currently managed under Amendment 1 to the North Carolina Red Drum Fishery Management Plan (FMP; NCDMF 2008). When Amendment 1 was developed, the 2007 stock assessment indicated overfishing was not occurring in North Carolina (Takade and Paramore 2007). As a result, no new harvest restrictions for either the commercial or recreational fisheries were required when this amendment was adopted in 2008. Amendment 1 did implement regulations requiring circle hooks along with fixed weights and short leaders in the summer adult Red Drum recreational fishery in Pamlico Sound; and expanded gill net attendance requirements originally implemented as part of the 2001 North Carolina Red Drum FMP (NCDMF 2001) to reduce the impact of discard mortality.

Prior to Amendment 1, restrictive harvest measures due to overfishing were implemented through the 2001 North Carolina Red Drum FMP. These measures were first implemented in October of 1998, as interim measures, while the full plan was developed. Harvest restrictions included: restricting all harvest to fish between 18 and 27 in total length (TL; previously allowed one fish over 27 in TL); implemented a one fish recreational bag limit (previously a five-fish bag limit); implemented a daily trip limit for the commercial fishery that is set by the North Carolina Division of Marine Fisheries (DMF) director (previously no daily limit); and maintained the existing 250,000-lb annual commercial cap. The trip limit was designed to reduce harvest and to deter targeting Red Drum commercially. The original FMP also implemented seasonal small mesh gill net attendance requirements to reduce discard mortality of Red Drum. Final approval of the North Carolina Red Drum FMP occurred in March 2001, and interim measures implemented in October of 1998 were maintained. Stock assessments conducted since adoption of the 2001 FMP have all indicated management measures have been effective at preventing overfishing in the Northern stock (Takade and Paramore 2007; SAFMC 2009; ASMFC 2017; ASMFC 2024).

In addition to the state FMP, Red Drum in North Carolina fall under Amendment 2 to the Atlantic States Marine Fisheries Commission (ASMFC) Red Drum FMP (ASMFC 2002). Adopted in 2002, Amendment 2 required all states to implement management measures projected to result in a 40% static spawning potential ratio (sSPR). Each state was required to implement these measures no later than January 2003. Further, the plan also continues to require that states maintain management strategies that ensure overfishing is not occurring and that optimum yield (OY) in the Red Drum fishery can be obtained. Amendment 2 compliance requirements for the states include:

- Implementing bag and size limits projected by bag and size limit analysis to achieve the minimum 40% sSPR.
- Establishing a maximum size limit of 27 in TL or less in all Red Drum fisheries.

STATE MANAGED SPECIES – RED DRUM

- Maintaining current or more restrictive commercial fishery regulations.
- Requires any commercial cap overages from one fishing year to be subtracted from the subsequent year's commercial cap.

The management measures already in place through the 2001 North Carolina Red Drum FMP were deemed sufficient to meet all requirements when Amendment 2 to the ASMFC plan was passed. Since that time, the 2009, 2017, and 2024 assessments for Red Drum have indicated the current management strategy developed under Amendment 2 to the ASMFC plan have been sufficient to meet targets (SAFMC 2009; ASMFC 2017, ASMFC 2024).

To ensure compliance with interstate requirements, North Carolina also includes Red Drum as part of 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

Amendment 1 to the North Carolina Red Drum FMP applies to all joint and coastal waters throughout North Carolina, while the interjurisdictional plan through ASMFC applies to all states from Florida to Maine. Under the ASMFC plan, the management unit for Red Drum along the Atlantic coast is divided into a northern and southern stock. North Carolina and all areas north along the Atlantic coast represent the northern stock.

Goal and Objectives

The goal of Amendment 1 to the North Carolina Red Drum FMP is to prevent overfishing in the Red Drum stocks by allowing the long-term sustainable harvest in the Red Drum fishery. To achieve this goal, the FMP lists the following objectives:

- Achieve and maintain a minimum overfishing threshold where the rate of juvenile escapement to the adult stock is sufficient to maintain the long-term sustainable harvest in the fishery.
- Establish a target spawning potential ratio to provide the optimum yield from the fishery in order to maintain a state FMP that is in compliance with the requirements of the ASMFC Red Drum FMP.
- Continue to develop an information program to educate the public and elevate their awareness of the causes and nature of problems in the Red Drum stock, its habitat and fisheries, and explain the rationale for management efforts to solve these problems.
- Develop regulations that while maintaining sustainable harvest from the fishery, consider the needs of all user groups and provides adequate resource protection.
- Promote harvest practices that minimize the mortality associated with regulatory discards of Red Drum.
- In a manner consistent with the Coastal Habitat Protection Plan, restore, improve and protect essential Red Drum habitat and environmental quality to increase growth, survival, and reproduction of Red Drum.
- Improve our understanding of Red Drum population dynamics and ecology through the continuation of current studies and the development of better data collection methods, as well as, through the identification and encouragement of new research.

STATE MANAGED SPECIES – RED DRUM

- Initiate, enhance, and continue studies to collect and analyze the socio-economic data needed to properly monitor and manage the Red Drum fishery.

DESCRIPTION OF THE STOCK

Biological Profile

Red Drum are estuarine-dependent members of the drum family, which also includes Atlantic Croaker, Spot, Black Drum, Weakfish, and Spotted Seatrout. Their range extends from Florida to Massachusetts along the Atlantic coast, with the greatest abundance occurring between Virginia and Florida. Red Drum, also known as channel bass or redfish, are common throughout the coastal waters of North Carolina and are designated as the state's official saltwater fish.

Large adult Red Drum, reaching weights of up to 90 lb, occupy coastal waters year-round and are frequently observed in the surf during spring and fall migrations. Adults are also commonly found in Pamlico Sound during the summer months. Spawning occurs in the fall near coastal inlets and within Pamlico Sound. Larval and juvenile Red Drum utilize shallow estuarine habitats in coastal sounds and rivers during their first several years of life. Upon reaching maturity at approximately age 4 and 32 in in length, individuals emigrate from estuarine habitats to offshore waters where they join the adult spawning stock.

Red Drum are a long-lived species, commonly exceeding 40 years of age. The oldest documented Red Drum, captured in North Carolina, was 62 years old. Feeding habits vary with age and habitat use. Juvenile Red Drum primarily consume small crabs and shrimp, while adults continue to feed on crustaceans but also incorporate a variety of finfish species into their diet (Takade and Paramore 20027; ASMFC 2024).

Stock Status

The 2017 benchmark stock assessment conducted by the Atlantic States Marine Fisheries Commission determined that the northern Red Drum stock, which includes North Carolina, was not experiencing overfishing. However, the overfished status could not be determined because of uncertainty surrounding estimates of adult stock size (ASMFC 2017).

A subsequent benchmark assessment completed in 2024, using data through fishing year 2021, concluded that the Northern stock was neither overfished nor undergoing overfishing (ASMFC 2024). These results indicate that current management measures are maintaining fishing mortality rates below established biological thresholds.

Stock Assessment

The threshold (below which the stock is experiencing overfishing) and the target fishing mortality rates correspond to those rates that achieve 30% and 40% static spawning potential ratio (SPR). Static spawning potential ratio is a measure of spawning stock biomass survival rates when fished at the current year's fishing mortality rate relative to the spawning stock biomass survival rates if no fishing mortality occurred; more detailed methodologies are available in the full stock assessment reports (ASMFC 2017, [ASMFC 2024](#)). Based on results of the 2017 benchmark assessment, the static spawning potential ratio was at or above target levels and the northern stock was neither overfished nor experiencing overfishing (ASMFC 2017).

The 2024 assessment showed divergent SPRs between the previous statistical catch-at-age (SCA) model using calendar year and the new stock synthesis (SS) model using fishing year (Sept-Aug). For the northern stock, the traffic light analysis (TLA) was comparable to the SS model in making spawning stock biomass status determinations and can outperform SS when characterizing recruitment condition. A TLA approach can also be used during interim periods between formal assessments to update stock status for management advice (ASMFC 2024).

STATE MANAGED SPECIES – RED DRUM

The TLA framework used in the assessment was previously developed and peer reviewed for the simulation assessment (ASMFC 2022). The TLA uses colors like that of a traffic light to represent the state of a fishery based on appropriate indicators (i.e., an index or time-series of relevant data). Three key characteristics were analyzed including recruitment, adult abundance, and fishery performance (Figure 1). Abundance and recruitment indicators were developed from fishery-independent surveys (DMF longline; DMF seine survey). Fishery performance was defined as the relative harvest fishing mortality which was calculated by dividing the harvest by an appropriate survey derived index of slot-sized fish for each year (MRIP, N.C. commercial gill net/N.C. gill net survey). Stock status determinations are made from the TLA results according to the following scenarios: If fishery performance is red in any of the past 3 years, overfishing is occurring. If adult abundance is red in any of the past 3 years, the stock is overfished (ASMFC 2024).

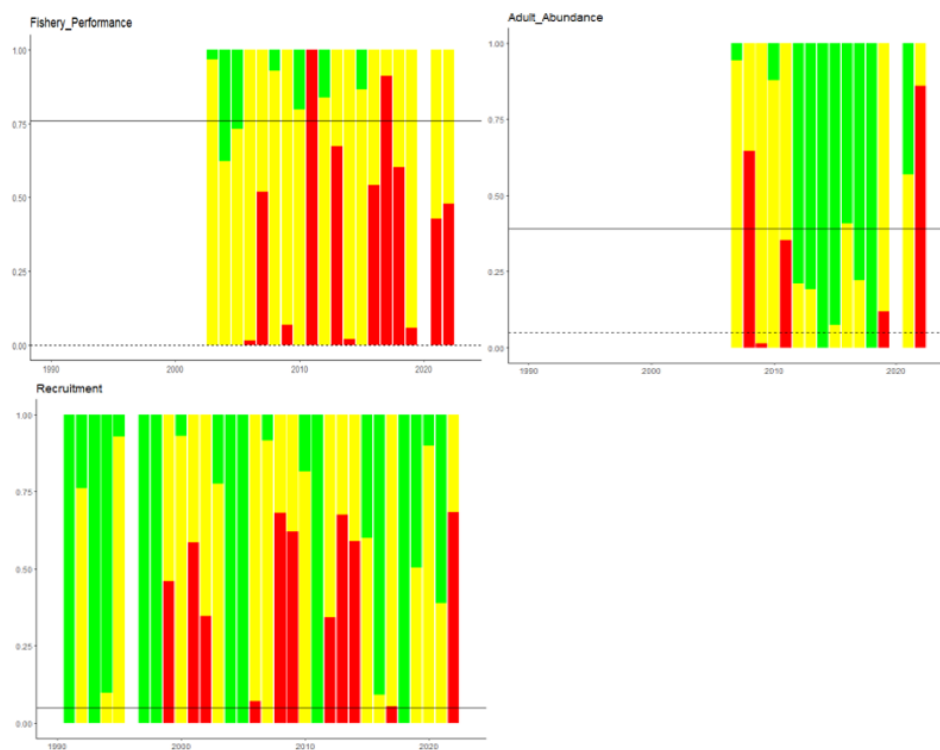


Figure 1. Northern region (including North Carolina) annual traffic light analysis (TLA results for each selected characteristic as of fishing year 2022. Threshold values are represented by the solid horizontal line. The color at the threshold is the color determination for that year. Fishery performance metric updated in 2026 to account for all northern states MRIP harvest, N.C. commercial gill net harvest, and N.C. independent gill net index through terminal fishing year 2022.

DESCRIPTION OF THE FISHERY

Current Regulations

All harvest is limited to Red Drum between an 18-in TL minimum size and 27-in TL maximum size for both the recreational and commercial fisheries. The recreational bag limit is one fish per person per day. A daily commercial bycatch allowance and an annual cap of 250,000 lb, with payback of any overage, constrain the commercial harvest. The commercial annual cap is monitored from September 1 to August 31. Within a fishing year, 150,000 lb is allocated to the period between September 1 and April 30, and the remainder is allocated to the period of May 1 to August 31. Harvest of Red Drum is limited to bycatch where the weight of the combined catch of flounder, Bluefish, Black Drum and/or Striped Mullet must

STATE MANAGED SPECIES – RED DRUM

exceed the daily weight of Red Drum landed ([Proclamation F-33-2022](#)). Check with the DMF for the most recent proclamation on Red Drum harvest limits including trip limits and bycatch requirements ([Proclamations](#)).

Commercial Fishery

Commercial landings of Red Drum in North Carolina totaled 182,716 lb for all months combined in 2025, representing a slight decrease from 2024 landings of 184,788 lb (Table 1; Figure 2A). Despite this minor decline, 2025 landings remained above the 10-year average of 140,825 lb. Since 1991, commercial landings have fluctuated annually with no consistent long-term increasing or decreasing trend.

Table 1. Red Drum recreational harvest and number released (Marine Recreational Information Program) and commercial harvest (North Carolina Trip Ticket Program), 1991–2025.

Year	Recreational			Commercial	Total Weight Landed (lb)
	Number Landed	Number Released	Weight Landed (lb)	Weight Landed (lb)	
1991	111,787	336,524	345,911	96,045	441,956
1992	48,099	140,866	233,100	128,497	361,597
1993	107,235	442,230	538,175	238,099	776,274
1994	72,245	185,906	349,317	142,169	491,486
1995	151,145	373,695	692,063	248,122	940,185
1996	90,177	97,663	391,364	113,338	504,702
1997	22,829	426,993	98,079	52,502	150,581
1998	164,693	388,288	843,571	294,366	1,137,937
1999	151,062	633,951	701,002	372,942	1,073,944
2000	127,165	443,747	655,251	270,953	926,204
2001	57,929	538,370	290,901	149,616	440,517
2002	127,559	1,515,679	571,102	81,370	652,472
2003	73,202	215,277	359,181	90,525	449,706
2004	58,543	369,326	245,163	54,086	299,249
2005	103,275	967,892	470,914	128,770	599,684
2006	127,412	1,042,564	569,699	169,206	738,905
2007	157,577	818,037	789,430	243,658	1,033,088
2008	112,938	1,510,133	523,607	229,809	753,416
2009	214,317	1,238,158	1,028,339	200,296	1,228,635
2010	179,828	1,670,693	835,143	231,828	1,066,971
2011	156,484	587,369	737,853	91,980	829,833
2012	152,005	4,939,534	648,342	66,519	714,861
2013	520,758	1,892,171	2,214,045	371,949	2,585,994
2014	324,303	1,086,967	1,674,595	90,650	1,765,245
2015	143,876	1,308,072	567,730	80,388	648,118
2016	169,195	3,203,452	633,496	77,101	710,597
2017	353,716	2,165,656	1,475,852	187,039	1,662,891
2018	299,577	1,729,260	1,452,358	144,647	1,597,005
2019	97,186	2,976,601	436,219	56,419	492,638
2020	413,419	2,686,150	1,758,789	165,666	1,924,455
2021	325,662	2,545,371	1,479,550	200,825	1,680,375
2022	336,280	2,160,742	1,615,108	175,090	1,790,198
2023	232,133	1,439,370	1,120,661	186,465	1,307,126
2024	322,307	1,809,302	1,354,244	184,788	1,539,032
2025	226,822	1,783,796	1,027,623	182,716	1,210,339
Mean	180,935	1,304,852	820,794	165,670	986,463

STATE MANAGED SPECIES – RED DRUM

The North Carolina Red Drum FMP (2001) maintained the 250,000-lb annual commercial landings cap but shifted the commercial fishing year to September 1 through August 31. Since that time, North Carolina's commercial landings during this fishing year have averaged 152,926 lb. The 2007/2008, 2009/2010, and 2013/2014 fishing years had cap overages (Table 2). All overages were deducted from the following year's cap allowance. The 2024/2025 fishing year resulted in 213,432 lb of Red Drum landings, well below the 250,000-lb annual cap.

Table 2. North Carolina's annual commercial harvest based on a fishing year beginning September 1 and ending August 31. September 1 fishing year began through FMP in 2001/2002 fishing year.

Fishing Year	Landings (lb)	Annual Cap
2001/2002	61,504	250,000
2002/2003	105,704	250,000
2003/2004	70,175	250,000
2004/2005	61,838	250,000
2005/2006	159,379	250,000
2006/2007	172,166	250,000
2007/2008	326,211	250,000
2008/2009*	134,161	173,789
2009/2010	275,924	250,000
2010/2011**	126,185	224,142
2011/2012	94,298	250,000
2012/2013	134,372	250,000
2013/2014	262,756	250,000
2014/2015***	140,887	237,244
2015/2016	64,150	250,000
2016/2017	109,954	250,000
2017/2018	198,648	250,000
2018/2019	105,818	250,000
2019/2020	54,175	250,000
2020/2021	207,694	250,000
2021/2022	216,528	250,000
2022/2023	189,013	250,000
2023/2024	185,259	250,000
2024/2025	213,432	250,000
Mean	152,926	

* Adjusted to pay back overage in 2007/2008 fishing year

** Adjusted to pay back overage in 2009/2010 fishing year

*** Adjusted to pay back overage in 2013/2014 fishing year

STATE MANAGED SPECIES – RED DRUM

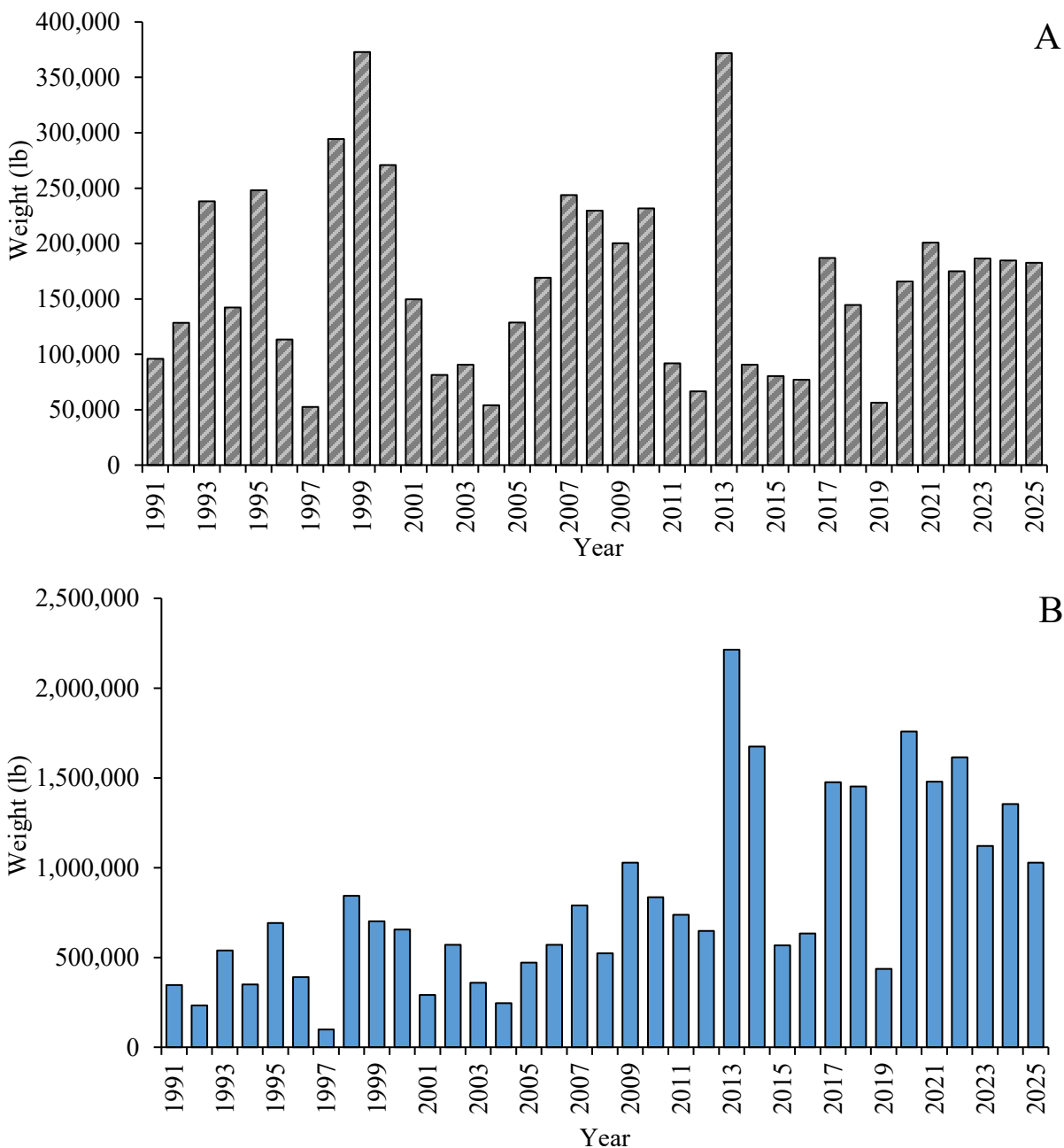


Figure 2. Annual commercial (A) and recreational (B) landings for Red Drum in North Carolina, 1991–2025.

Recreational Fishery

Recreational fishing activity is monitored through the Marine Recreational Information Program. For information on MRIP methodology see <https://www.fisheries.noaa.gov/topic/recreational-fishing-data>. Recreational landings of Red Drum in 2025 totaled 1,027,623 lb, which was below both the 10-year average of 1,235,390 lb and 2024 landings of 1,354,244 lb (Table 1; Figure 2B).

Recreational releases were estimated at 1,783,796 fish in 2025, also below the 10-year average of 2,249,970 fish. Despite lower release estimates in 2025, recreational releases have shown a substantial long-term increase over time. From 1991 through 1998, releases averaged approximately 300,000 fish annually,

STATE MANAGED SPECIES – RED DRUM

whereas releases during the most recent 10-year period have averaged more than 2 million fish per year. This increase likely reflects greater participation in catch-and-release fishing practices, as well as continued management measures aimed at conserving the spawning stock.

The DMF offers award citations for exceptional catches of Red Drum. Red Drum captured and released that measure greater than 40 in TL are eligible for an award citation. Since 1991, award citations for Red Drum have steadily increased from just over 300 awarded in 1991 to a time-series high of 4,018 awarded in 2025 (Figure 3).

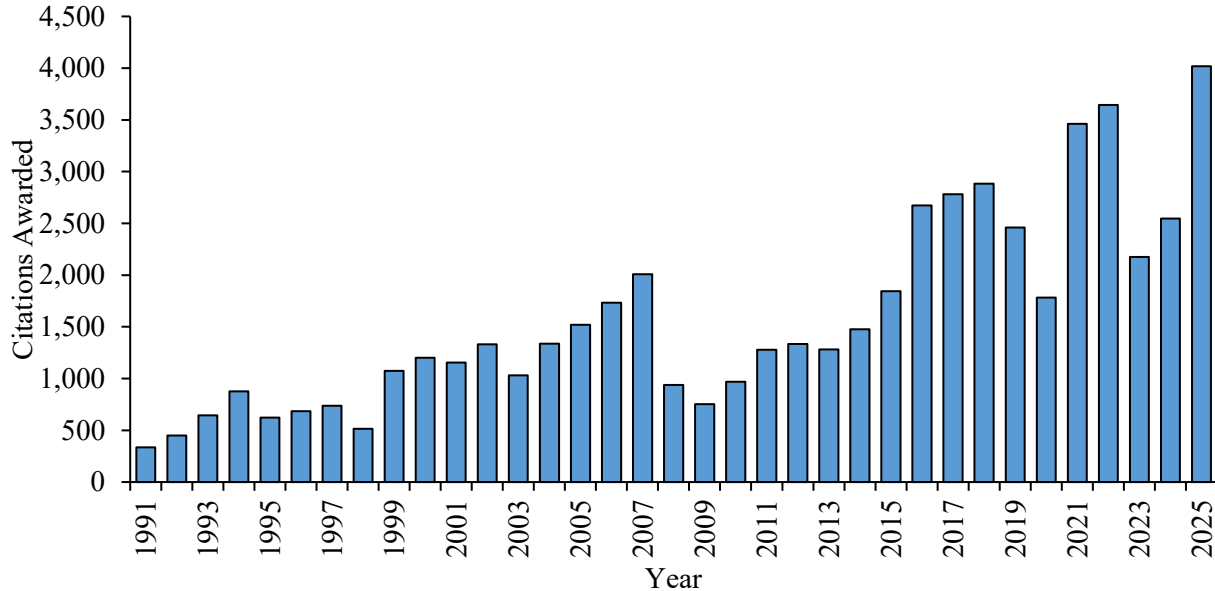


Figure 3. North Carolina Saltwater Fishing Tournament citations awarded for Red Drum, 1991–2025. Citations are awarded for Red Drum greater than 40 in TL. Prior to 1998, citations were awarded for either a Red Drum released (≥ 40 in TL) or harvested (≥ 40 lb). Since 1998, all citations are for released fish only.

MONITORING PROGRAM DATA

Fishery-Dependent Monitoring

Commercial fishing activity for Red Drum is monitored through fishery-dependent sampling conducted by DMF since 1982. Data collected through this program allows the size and age composition of Red Drum harvests to be characterized by gear type and fishery. Historically, the primary commercial fisheries targeting Red Drum have included estuarine gill nets, long haul seine/swipe nets, pound nets, and beach haul seines.

Over the past decade gill nets have been the dominant gear used for Red Drum, accounting for >90% of the overall commercial harvest. In 2025, 92% of the Red Drum commercial harvest was taken in gill nets, followed by pound nets with 8% (Figure 4). In 2025, 208 Red Drum were measured from the commercial fishery, with most samples collected from run-around and large-mesh set gill nets (Table 3). The average size in 2025 was 22 in fork length (FL). Average size has varied little over time ranging from 17 to 23 in FL since 1989.

Because both the commercial and recreational fisheries are managed under an 18- to 27-in TL slot limit, harvested fish from the two sectors are generally similar in size (Figure 5). In the commercial fishery, a noticeable shift in harvested fish size occurred between 1991 and 1992 following implementation of an increased minimum size limit from 14 to 18 in TL (Figure 6). Additionally, regulations implemented during

STATE MANAGED SPECIES – RED DRUM

the 1990s prohibited the harvest of larger fish, resulting in Red Drum greater than 27 in TL now being rarely observed in landings. Under the current slot limit regulations, nearly all harvested fish in both fisheries consist primarily of age-1 and age-2 individuals.

In 2025, 134 Red Drum were measured from the recreational harvest. The average size of harvested recreational fish was 22 in FL (Table 4). Similar to the commercial fishery, average harvested size in the recreational fishery has varied little from 1989 through 2025, remaining generally between 17- and 23-in FL. However, annual length-frequency distributions in the recreational fishery have shown greater year-to-year variability compared to those observed in the commercial fishery (Figures 6 and 7).

Table 3. Red Drum length (FL, in) data from commercial fish house samples, 1989–2025.

Year	Mean Length	Minimum Length	Maximum Length	Total Number Measured
1989	22	11	51	123
1990	17	13	46	516
1991	17	12	48	183
1992	21	11	49	387
1993	22	16	45	602
1994	22	12	41	142
1995	22	16	31	496
1996	23	16	26	120
1997	20	10	37	272
1998	18	12	37	1,082
1999	21	13	30	1,008
2000	22	16	29	725
2001	22	17	27	419
2002	21	9	26	483
2003	21	17	27	387
2004	22	17	28	326
2005	21	14	27	811
2006	21	16	29	1,295
2007	21	16	28	1,502
2008	22	13	29	1,214
2009	21	14	35	1,168
2010	22	14	28	1,134
2011	22	17	27	647
2012	20	17	28	361
2013	20	5	27	1,677
2014	23	18	28	444
2015	22	17	28	429
2016	21	16	27	681
2017	21	17	28	673
2018	22	13	27	561
2019	22	14	29	174
2020	21	17	27	657
2021	22	13	27	764
2022	22	17	27	551
2023	22	15	29	523
2024	22	17	27	521
2025	22	17	27	208

STATE MANAGED SPECIES – RED DRUM

Table 4. Red Drum length (FL, in) data from Marine Recreational Information Program recreational samples, 1989–2025.

Year	Mean Length	Minimum Length	Maximum Length	Total Number Measured
1989	18	10	44	101
1990	17	11	43	73
1991	18	6	46	101
1992	22	13	43	42
1993	22	10	46	117
1994	21	12	45	90
1995	21	8	47	240
1996	20	13	46	114
1997	19	8	44	30
1998	23	9	42	534
1999	22	14	29	199
2000	23	16	28	130
2001	23	16	47	73
2002	22	16	36	86
2003	23	18	31	52
2004	21	16	27	38
2005	22	14	26	48
2006	21	14	30	79
2007	23	17	27	71
2008	22	16	27	90
2009	22	18	28	136
2010	22	11	27	193
2011	22	17	29	147
2012	21	14	41	132
2013	22	17	28	335
2014	23	17	28	319
2015	21	14	27	101
2016	20	12	28	106
2017	21	8	27	293
2018	23	17	28	206
2019	21	13	27	87
2020	21	10	38	419
2021	22	17	27	430
2022	22	14	28	266
2023	23	17	27	203
2024	22	17	27	154
2025	22	15	26	134

STATE MANAGED SPECIES – RED DRUM

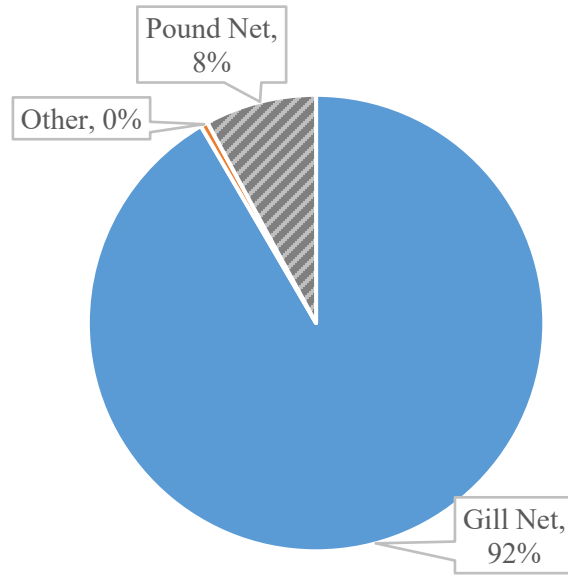


Figure 4. Red Drum commercial harvest in 2025 by gear type.

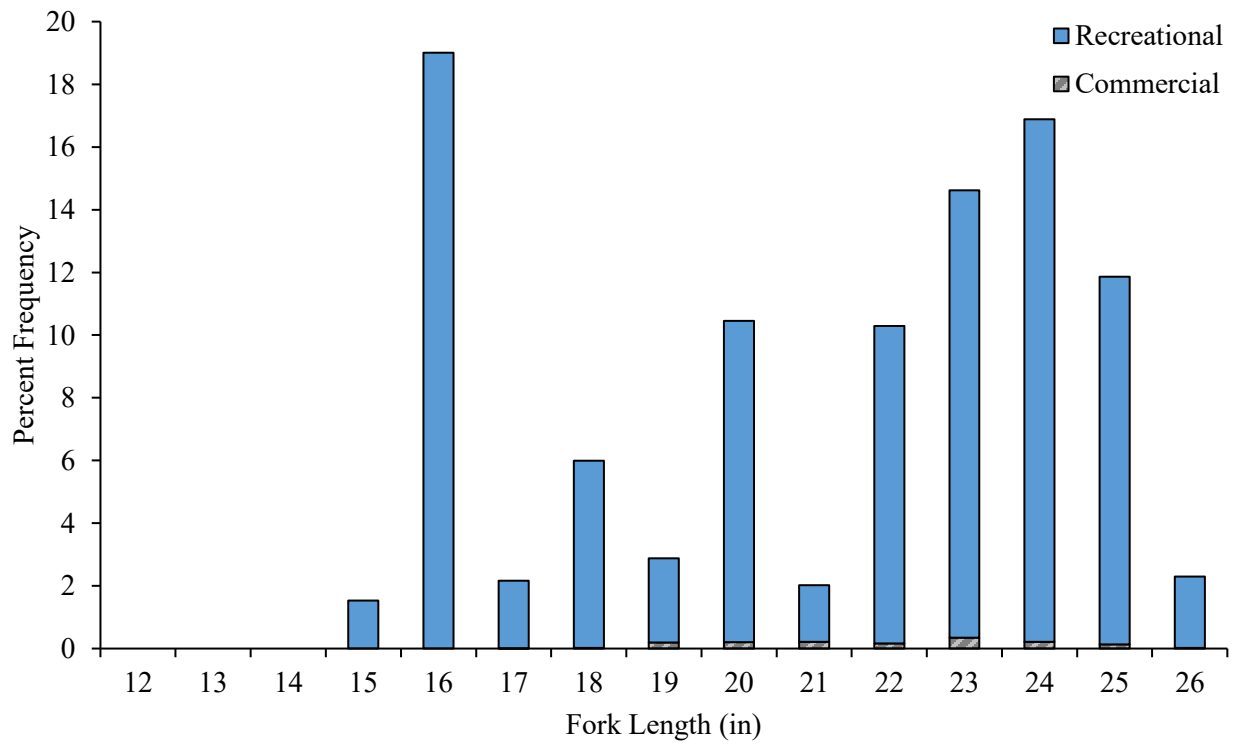


Figure 5. Commercial and recreational length frequency distribution from Red Drum harvested in 2025.

STATE MANAGED SPECIES – RED DRUM

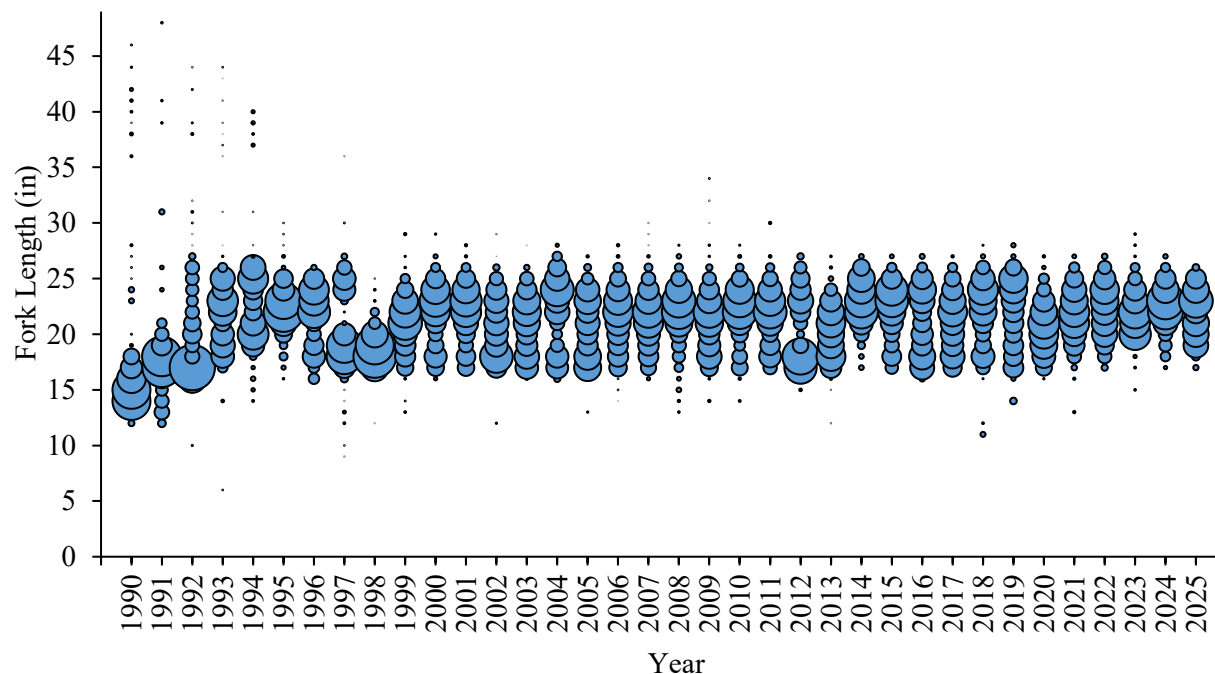


Figure 6. Commercial length frequency of harvested Red Drum, 1990–2025. Bubbles represent fish at length and the bubble size is proportional to the number of fish at that length.

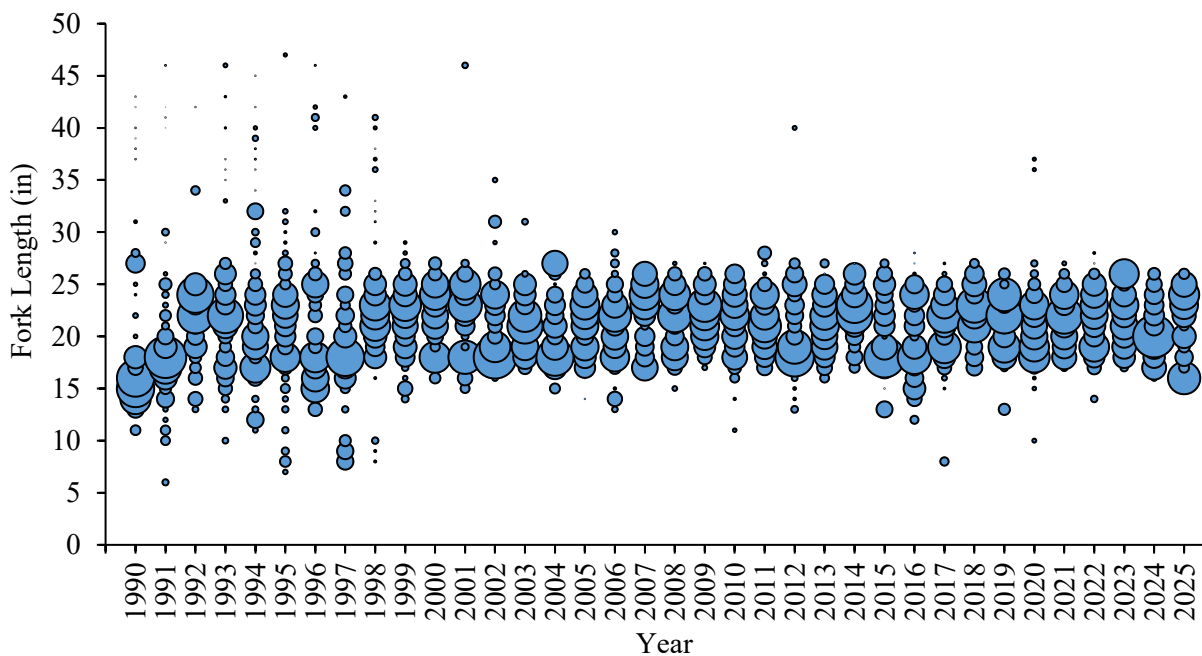


Figure 7. Recreational length frequency of harvested Red Drum, 1990–2025. Bubbles represent fish at length and the bubble size is proportional to the number of fish at that length.

Fishery-Independent Monitoring

The NCDMF has conducted a juvenile Red Drum seine survey annually since 1991 sampling the Outer Banks, Pamlico/Pungo River, Neuse River, White Oak River, and New River. The seine survey provides an index of abundance for juvenile (age-0) Red Drum. Fixed station sampling occurred from September through November (1991-2023) at 120 stations annually (6 regions bi-weekly sampling).

Relative abundance estimates derived from fixed sampling stations have exhibited substantial interannual variability, with both periods of high and low juvenile abundance observed in recent years (Figure 8). This variability in recruitment is characteristic of estuarine-dependent species and may reflect changing environmental conditions, spawning success, and juvenile survival rates.

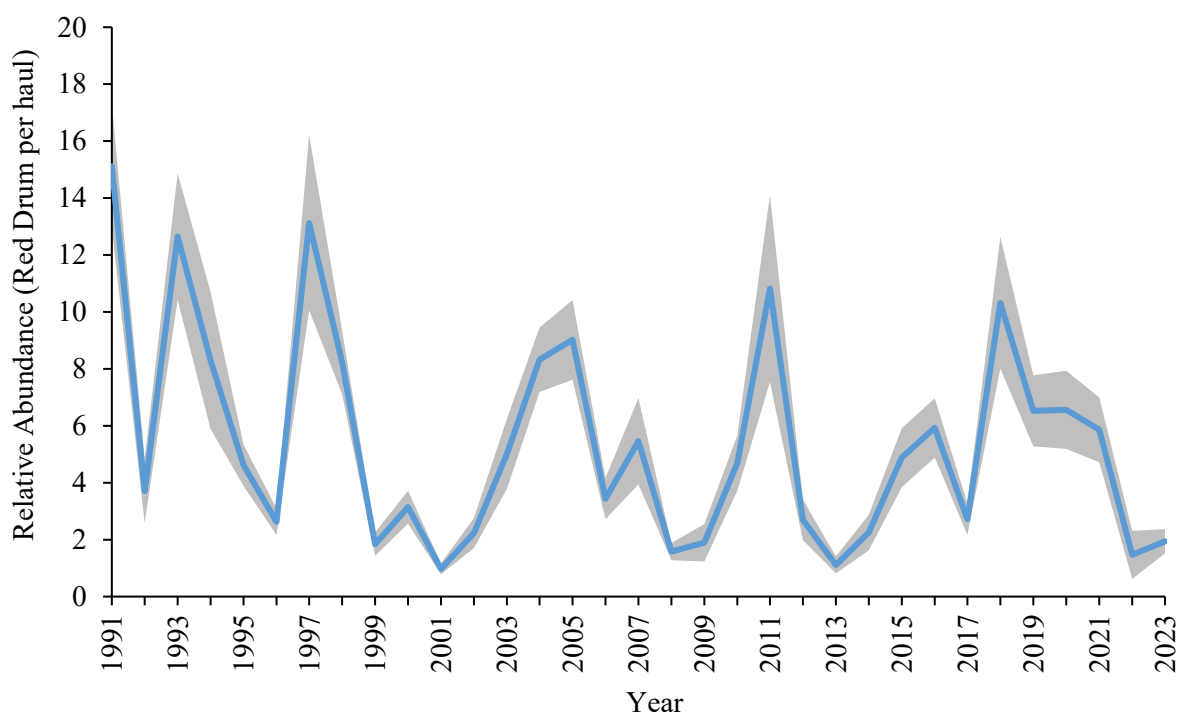


Figure 8. The annual juvenile (age-0) abundance index from fixed stations with SE shaded in gray from the North Carolina Red Drum Juvenile Seine Survey, 1991–2023. Fixed stations have not been sampled since 2023.

In 2016, DMF updated the juvenile Red Drum seine survey by incorporating an additional 126 randomly selected sampling grids throughout the sampling regions. These grids were chosen based on habitat characteristics that promoted consistent beach seine efficiency, including suitable bottom topography and areas with a high likelihood of juvenile Red Drum occurrence.

The addition of random sampling grids addressed limitations associated with fixed-station surveys, which can be subject to sampling bias caused by temporal changes in fish spatial distribution. Incorporating a partial replacement survey design, where random samples supplemented fixed stations, helped reduce bias and improve the accuracy of annual abundance estimates.

Following a DMF program evaluation completed in 2023, the survey design was further modified beginning in 2024 to rely exclusively on random grid sampling. The partial replacement approach implemented in 2016 successfully reduced potential biases associated with fixed stations while preserving continuity with the historical survey. Comparisons of juvenile abundance indices (JAI) calculated from fixed and random stations demonstrated close alignment in both overall scale and long-term trends. Results from the

STATE MANAGED SPECIES – RED DRUM

evaluation supported transitioning to a fully randomized survey design capable of effectively tracking annual recruitment patterns.

Under the revised methodology, 126 stations continue to be sampled annually while maintaining the original spatial and temporal structure of the program. In 2025, the relative abundance of juvenile Red Drum from random grid sampling was 1.81 fish per haul (Figure 9). This value was below both the random-grid time-series average of 3.92 fish per haul (2016–2025) and the 2024 estimate of 3.60 fish per haul.

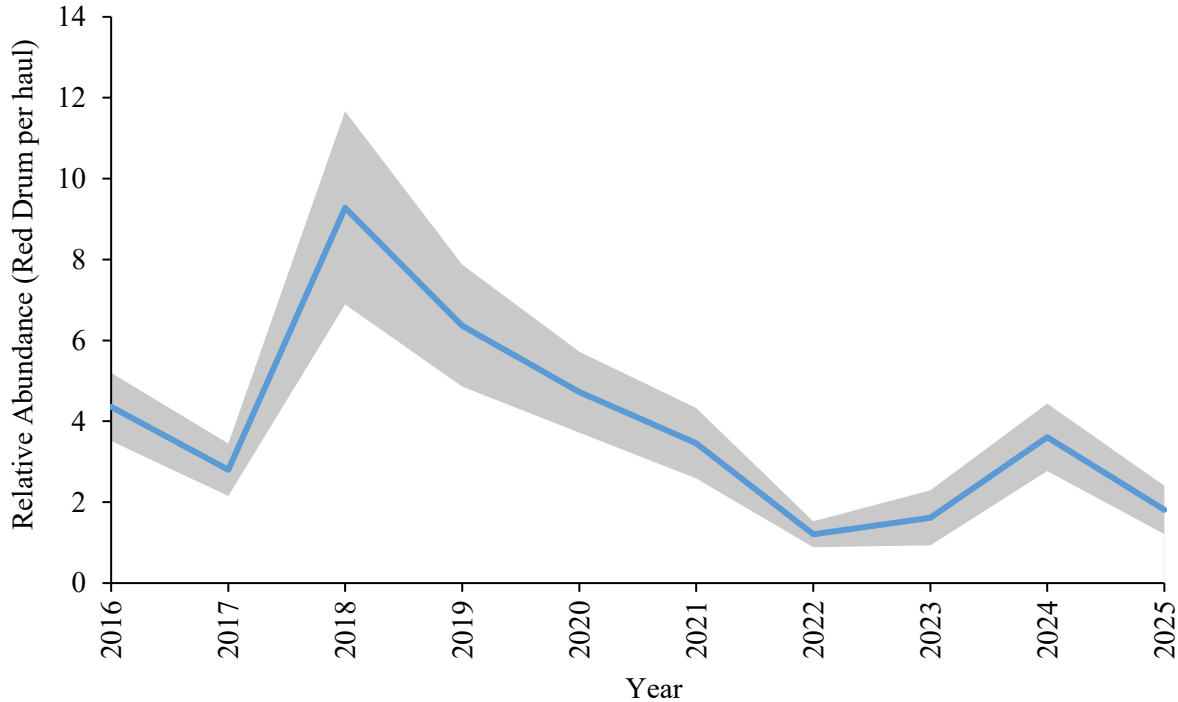


Figure 9. The annual juvenile (age-0) abundance index from random grids with SE shaded in gray from the North Carolina Red Drum Juvenile Seine Survey, 2016–2025.

A fishery-independent gill net survey was initiated by DMF in May 2001. The survey employs a stratified random sampling design to characterize the size and age composition of estuarine species within Pamlico Sound, including Red Drum.

By maintaining a long-term dataset on age and length composition and generating an annual index of abundance, the survey provides fishery-independent information that allows managers to evaluate stock status without relying exclusively on commercial gill net and fishery-dependent data. The survey has been incorporated into ASMFC Atlantic coast Red Drum stock assessments as the only fishery-independent index of relative abundance for sub-adult Red Drum in the northern stock (NC-NJ).

It should be noted that sampling within this program was suspended in February 2020 due to COVID-19 restrictions and concerns regarding protected species interactions. Survey operations resumed in July 2021, during which 168 sets were completed.

In 2025, the overall Red Drum index from the Pamlico Sound region, weighted by depth strata, was 1.66 Red Drum per set. This value was below both the 2024 index of 2.04 Red Drum per set and the long-term time-series average of 2.94 Red Drum per set (Figure 10).

STATE MANAGED SPECIES – RED DRUM

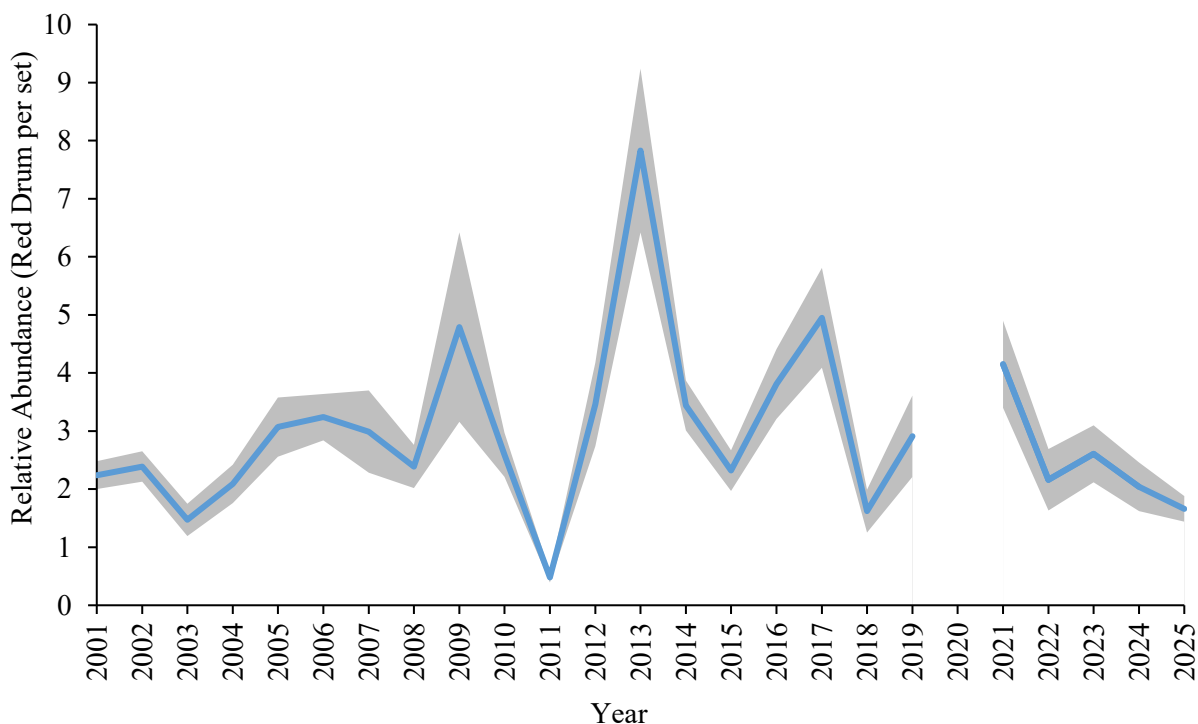


Figure 10. Annual weighted Red Drum index (number captured ages combined) with SE shaded in gray from the North Carolina Pamlico Sound Independent Gill Net Survey, 2001–2025. Survey was not conducted in 2020 due to COVID pandemic and resumed July 2021 (168 sets for the year).

North Carolina initiated an adult Red Drum longline survey in 2007 to provide a fishery-independent index of abundance for adult Red Drum occurring in state waters. The survey employs a standardized, stratified random sampling design conducted annually from July through October throughout Pamlico Sound and the mouth of the Neuse River.

Following programmatic evaluations conducted in 2023 and 2024, several modifications were made to improve survey efficiency. In 2023, two regions that had consistently produced the lowest Red Drum catches in recent years were removed from the sampling universe. Additional protocol adjustments were implemented in 2024, including shortening the mainline to 805 m and reducing hook spacing to 15-m intervals, resulting in 50 hooks per set. Although adult Red Drum catches have declined in recent years, comparisons of catch per unit effort (CPUE; Red Drum caught per hook) indicated little change associated with the reduction in hook number.

Annual adult abundance in 2025 was 0.03 Red Drum per hook, which was above the 2024 index of 0.025 Red Drum per hook and below the long-term time-series average of 0.05 Red Drum per hook (5.0 Red Drum per 100-hook set (2007-2023; Figure 11)).

The survey time series has experienced several disruptions in recent years. Sampling during 2019 was negatively affected by Hurricane Dorian, which impacted the North Carolina coast during the peak sampling period. Sampling did not occur in 2020 because of the COVID-19 pandemic. In 2022, sampling efforts were limited to August and September due to mechanical issues with survey gear, while staffing limitations reduced sampling effort during October 2023. Sampling effort in 2024 was additionally reduced as a result of the updated programmatic changes.

STATE MANAGED SPECIES – RED DRUM

Despite these interruptions and modifications, the survey continues to provide an important fishery-independent index of adult Red Drum abundance and is incorporated into Atlantic States Marine Fisheries Commission Atlantic coast Red Drum stock assessments.

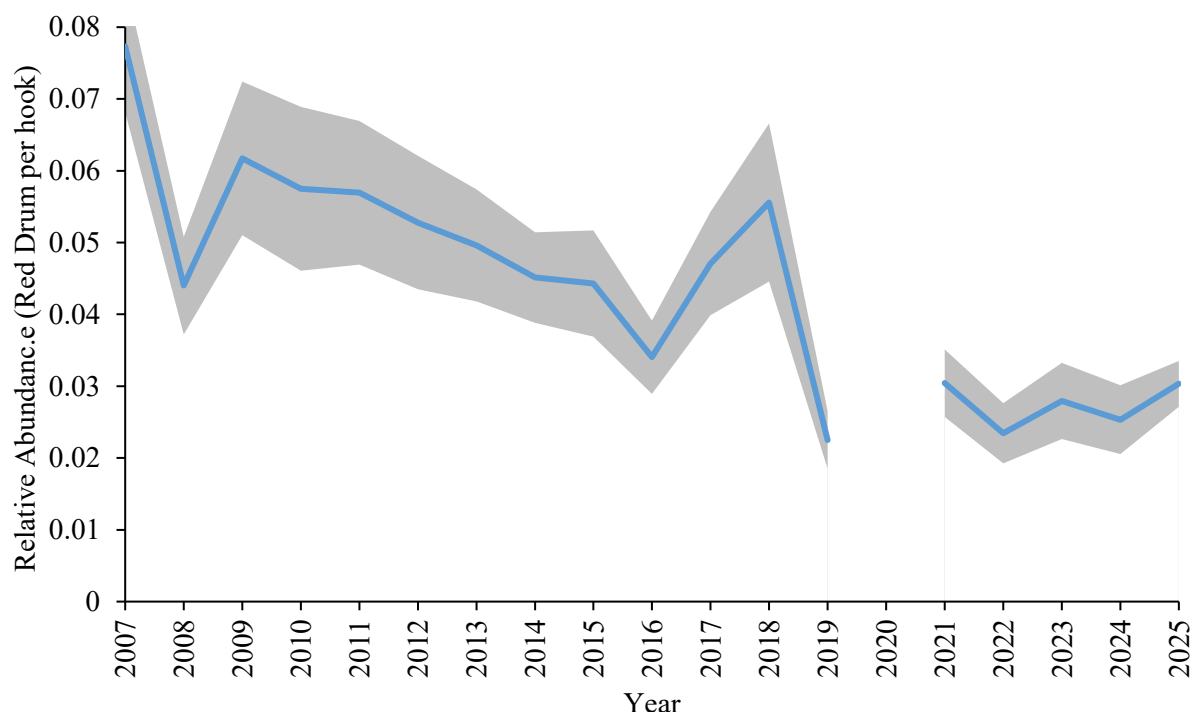


Figure 11. Annual adult Red Drum index (number captured for ages combined) with SE shaded in gray from the North Carolina Red Drum Longline Survey, 2007–2025.

To characterize the age and growth trends of Red Drum harvests and fishery indices, age structures are collected annually from both fishery-independent surveys and fishery-dependent commercial and recreational fisheries. In 2025, a total of 618 Red Drum age structures were processed, representing fish ranging from age 0 to 43 years old (Table 5). Because harvested Red Drum in North Carolina are managed under an 18- to 27-in TL slot limit, most fish sampled from commercial and recreational fisheries are age-1 or age-2 individuals.

Red Drum larger than 27 in TL are protected from harvest under current regulations, a management measure intended to conserve the spawning stock component of the population. As a result, age samples from larger and older fish are obtained almost exclusively through fishery-independent sampling programs.

Red Drum are a long-lived species, with the oldest documented individual in North Carolina aged at 62 years. Growth in length is relatively rapid during the first several years of life but slows considerably as fish approach maturity. Nearly all Red Drum are mature by age 4 and approximately 32 in TL. Beyond age 4, the relationship between length and age becomes increasingly variable, with substantial overlap in age among fish of similar lengths (Figure 12).

STATE MANAGED SPECIES – RED DRUM

Table 5. Summary of Red Drum age samples collected from both dependent (commercial and recreational fisheries) and independent (surveys) sources, 1989–2025. Age sampling was limited in 2020 due to the adult long line survey not being conducted.

Year	Modal Age	Minimum Age	Maximum Age	Total Number Aged
1989	1	0	56	312
1990	1	0	52	345
1991	1	0	48	259
1992	1	0	56	440
1993	1	0	62	428
1994	1	0	41	297
1995	1	0	47	482
1996	1	0	54	383
1997	1	0	56	465
1998	1	0	31	612
1999	1	0	26	530
2000	1	0	17	470
2001	1	0	41	466
2002	1	0	24	361
2003	1	0	28	262
2004	1	0	25	342
2005	1	0	34	484
2006	1	0	32	641
2007	1	0	37	495
2008	1	0	35	574
2009	1	0	36	644
2010	1	0	37	516
2011	1	0	38	256
2012	1	0	39	605
2013	1	0	41	721
2014	1	0	41	560
2015	1	0	42	428
2016	1	0	38	653
2017	1	0	39	726
2018	1	0	42	594
2019	1	0	33	722
2020	1	0	16	315
2021	1	0	43	998
2022	2	0	43	773
2023	1	0	32	831
2024	1	0	36	760
2025	1	0	43	618

STATE MANAGED SPECIES – RED DRUM

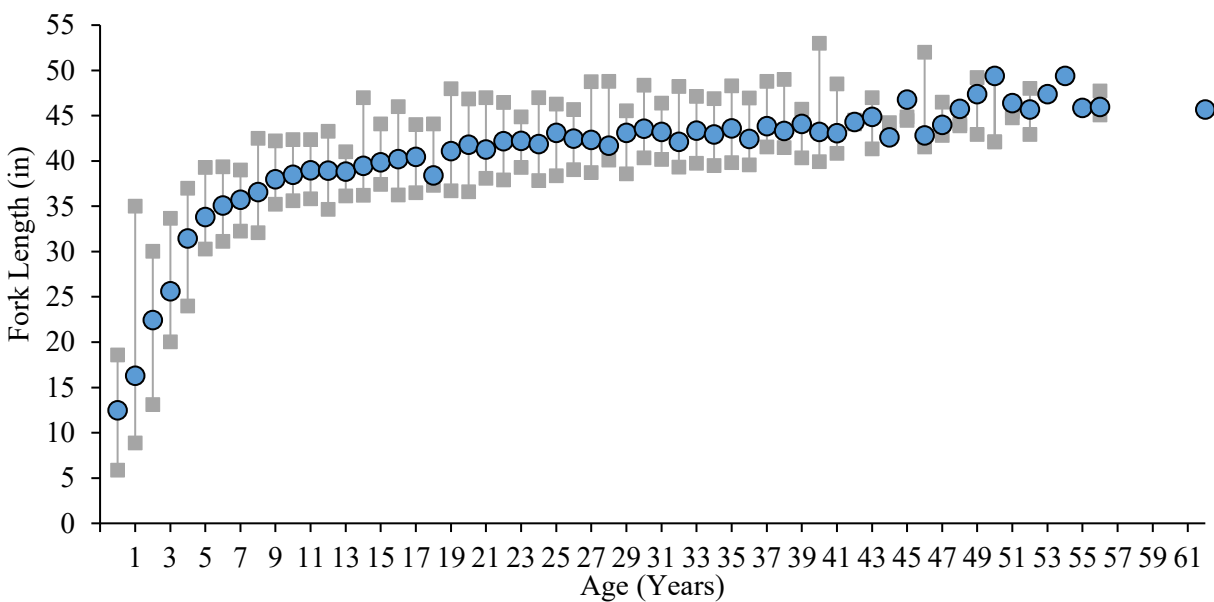


Figure 12. Red Drum length-at-age based on all age samples collected from fishery-independent and dependent sources, 1989–2025. Blue circles represent the mean size at a given age while the grey squares represent the minimum and maximum observed size for each age.

Tagging Program

In 2014, a mark-recapture tagging program was initiated utilizing both volunteer anglers and DMF staff throughout the state. Red Drum under 27 in TL are tagged with an internal anchor tag, and Red Drum over 27 in TL are tagged with a stainless-steel dart tag. The total number of Red Drum tagged in 2025 was 753 that resulted in 164 recaptures (Table 6; Figure 13). The time series average was 246 days at large with an average distance travelled of 16 mi (Table 7). Most recaptures occur within the state of North Carolina, however, the maximum distance travelled was 230 mi into New Jersey waters (Figure 14). The maximum days between release and recapture was 3,214 days or just over 8 years (Table 7). Information gathered from this survey is being considered as an input parameter in future ASMFC Atlantic coast Red Drum stock assessments.

Table 6. Total number of Red Drum fish tagged by NCDMF staff and others with recapture numbers and rate in the DMF Multi-Species Tagging Program from 2014–2025.

Year	DMF Tagged	Other Tagged	Other Recaptured	DMF Recaptured	Total Tagged	Total Recaptured	Recapture Rate
2014	343	810	15	0	1,153	15	1.30
2015	957	872	108	11	1,829	119	6.50
2016	1,293	901	175	10	2,194	185	8.40
2017	1,397	744	252	4	2,141	256	11.9
2018	668	728	181	1	1,396	182	13.0
2019	819	275	94	10	1,094	104	9.50
2020	807	137	236	2	944	238	25.2
2021	787	181	176	4	968	180	18.6
2022	622	252	150	2	874	152	17.3
2023	659	275	167	1	934	168	17.9
2024	673	216	157	8	889	165	18.5
2025	483	270	154	10	753	164	21.7
Mean	792	471	155	5	1,264	161	14.2

STATE MANAGED SPECIES – RED DRUM

Table 7. Tagged Red Drum movement rates including average and maximum days out, average and maximum distance travelled in the DMF Multi-Species Tagging Program from 2014–2025.

Year	Average Days Out	Maximum Days Out	Average Distance (mi)	Maximum Distance (mi)	Number of Red Drum
2014	326	3,192	32	174	1,184
2015	290	3,214	23	230	1,882
2016	273	2,059	16	208	2,200
2017	279	2,407	17	137	2,155
2018	256	2,340	19	135	1,397
2019	319	1,850	15	141	1,108
2020	235	2,033	12	126	945
2021	232	1,463	13	111	975
2022	226	1,248	13	153	874
2023	222	855	12	132	934
2024	191	624	10	102	922
2025	94	276	10	123	756
Mean	246	3214	16	230	1,277

STATE MANAGED SPECIES – RED DRUM

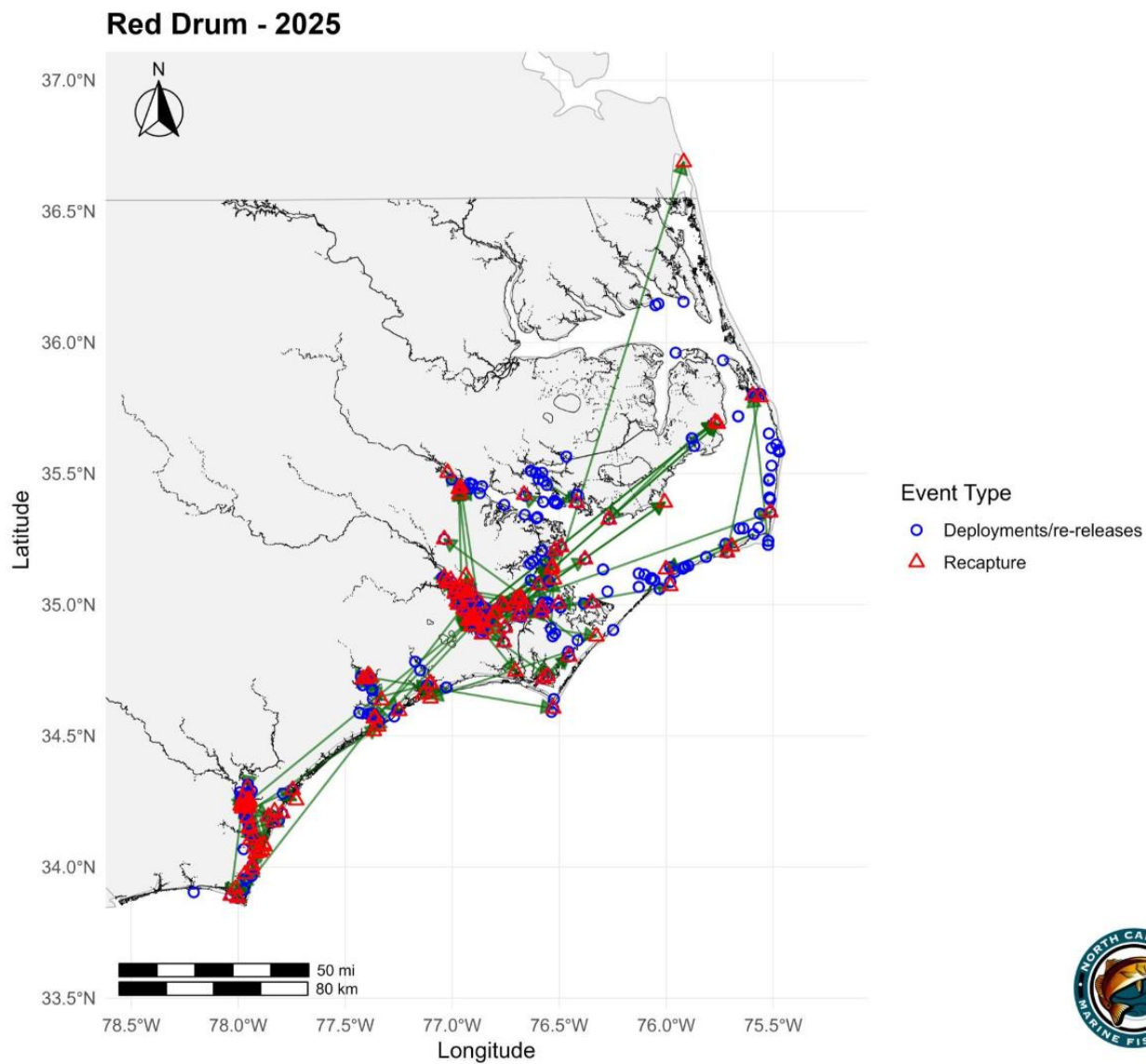


Figure 13. Red Drum tagging in 2025 from the DMF Multi-Species Tagging Program.

STATE MANAGED SPECIES – RED DRUM

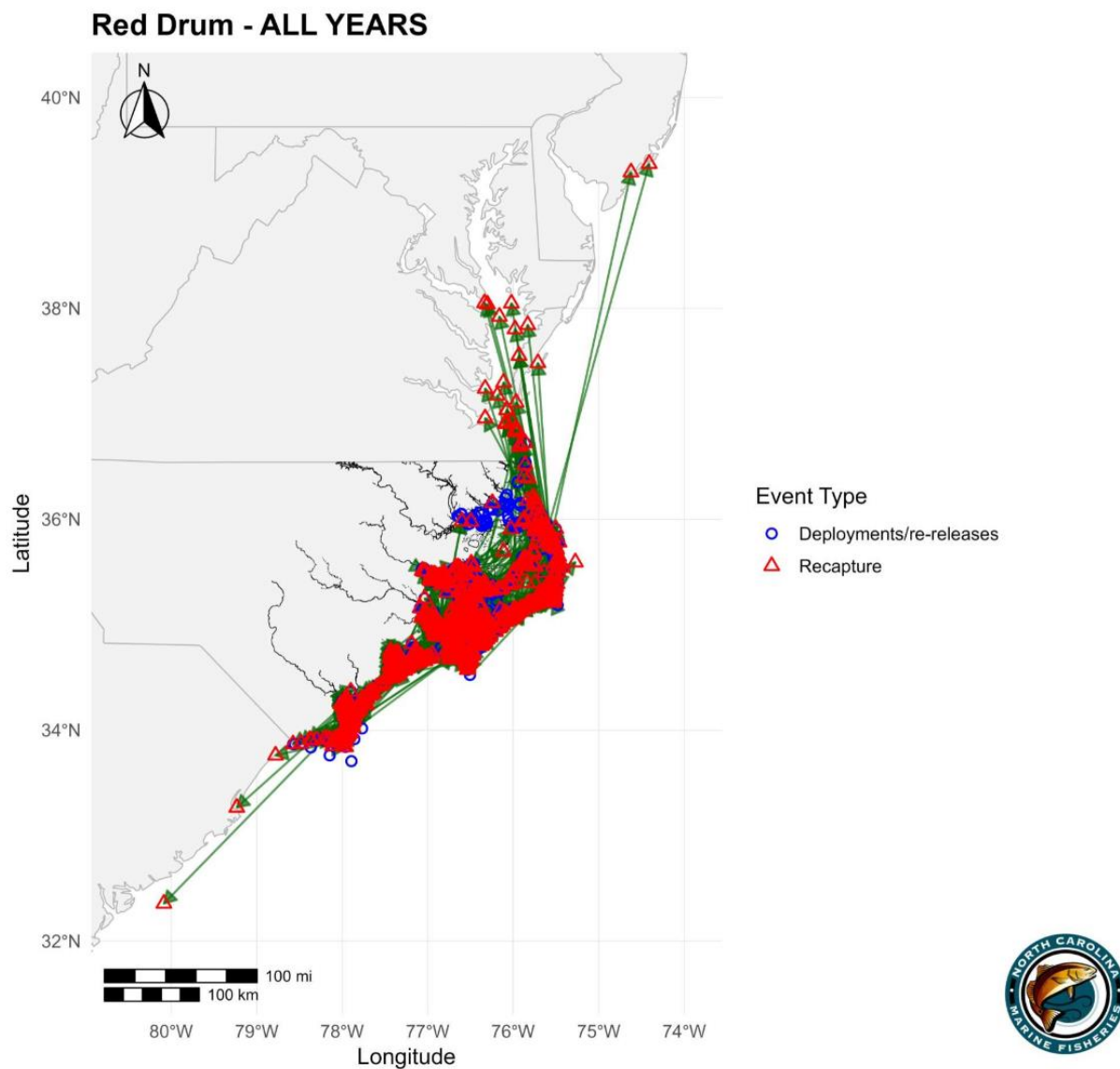


Figure 14. Red Drum tagging 2014-2024 from the DMF Multi-Species Tagging Program.

STATE MANAGED SPECIES – RED DRUM

RESEARCH NEEDS

The following management and research needs are summarized from [Amendment 1 to the North Carolina Red Drum FMP](#), the [N.C. Red Drum FMP Update 2017](#) and the [2024 Atlantic States Red Drum Stock Assessment](#) :

High Priority

- Improve recreational fishery catch and effort estimates, particularly for the adult Red Drum fishery, and assess the size distribution and release mortality of recreational discards.
- Identify coastal wetlands and other habitats utilized by juvenile Red Drum and evaluate relationships between recruitment success and changes in habitat conditions. Evaluate whether formal designation of spawning areas is warranted and whether additional habitat protection measures should be implemented.
- Collect movement data for sub-adult Red Drum in inshore waters and adult Red Drum in offshore and nearshore waters to support development of a multi-area stock assessment model.

Medium Priority

- Assess the cumulative impacts of large-scale beach nourishment and inlet dredging projects on Red Drum and other demersal fishes that utilize surf-zone habitats. Additionally, determine whether navigational dredging activities conducted between August and October significantly affect spawning activity.
- Collect biological data necessary to estimate batch fecundity and age composition of adult female spawning Red Drum.

MANAGEMENT

Red Drum in North Carolina are managed under Amendment 1 to the North Carolina Red Drum FMP and Addendum II to Amendment 2 to the ASMFC Red Drum FMP. Both plans have management thresholds and management targets (30% and 40% static spawning potential ratio) determined by a formal, peer reviewed stock assessment. Amendment 2 to the ASMFC Red Drum FMP requires specific compliance criteria, including harvest restrictions designed to achieve the management target. Amendment 1 to the North Carolina Red Drum FMP maintained measures for compliance and implemented measures to reduce losses from discards in both the recreational and commercial fisheries (Table 8).

Table 8. Table of Red Drum management requirements set by ASMFC and compliance measures established by NCDMF.

Management Strategy	ASMFC	NCDMF	N.C. Implementation
<i>Recreational</i>			2001 Fishery Management Plan
Bag limit	All states must implement an appropriate bag and size limit which will attain the management goal of 40% Spawning Potential Ratio (SPR)	One fish per person per day	(15A NCAC 03M .0501)
Slot size	No Red Drum larger than 27" TL shall be harvested.	Slot limit of 18"-27" TL	(15A NCAC 03M .0501(c))

STATE MANAGED SPECIES – RED DRUM

Management Strategy	ASMFC	NCDMF	N.C. Implementation
Gear		Red Drum cannot be taken by any boat hook, gaff, spear, gig, or similar device	(15A NCAC 03M .0501(b))
		From Jul 1–Sep 30, 7 p.m.–7 a.m., in the internal coastal waters of Pamlico Sound and its tributaries south of the Albemarle Sound Management Areas, hooks with natural bait must be a 4/0 or smaller unless using a circle hook with a compressed bard and fixed sinker 2 oz or larger, not more than 6 in away from the hook	(15A NCAC 03J .0306)
Commercial			2001 Fishery Management Plan
Slot size	No Red Drum larger than 27" TL shall be harvested.	Slot limit of 18”-27” TL	(15A NCAC 03M .0501(c))
Trip limits	States which currently have a commercial fishery landings cap for Red Drum may reduce their trip limits in order to remain below their cap within any given fishing year.	No more than seven fish per day per commercial operation	(FF-33-2022)
Catch cap	States shall maintain their current commercial landings cap but may implement more restrictive limits.	Annual harvest limit of 250,000 lb	(15A NCAC 03M .0501(e)(1)),
	States with a commercial fishery landings cap for Red Drum shall implement a pay-back regulation whereby any overage incurred in a fishing year shall be subtracted from the amount available in the fishing year immediately following the overage.	Annual harvest split seasonally: Sep-Apr: 150,000 lb May-Aug: 100,000 lb	(15A NCAC 03M .0501(e)(2))
	Any underage in a given year shall not be rolled over.	Overages must be paid back and underage may not be rolled over	(15A NCAC 03M .0501(e)(4))
Bycatch status	In order to avoid the establishment of any	Red Drum must be landed with either, flounder, Bluefish, Black	(FF-33-2022)

STATE MANAGED SPECIES – RED DRUM

Management Strategy	ASMFC	NCDMF	N.C. Implementation
	new commercial fisheries for Red Drum, all states shall maintain their current level of restrictions (i.e., no relaxation of current commercial fisheries management measures).	Drum, or Striped Mullet caught on the same day	
		The landed catch of flounder, Bluefish, Black Drum or Striped Mullet must exceed the weight of Red Drum landed	(FF-33-2022)
Gear		Red Drum cannot be removed from a net with any boat hook, gaff, spear, gig, or similar device	(15A NCAC 03M .0501(a))
		Small mesh gill net attendance	2001 Fishery Management Plan

MANAGEMENT PERFORMANCE AND FISHERY MANAGEMENT PLAN SCHEDULE RECOMMENDATIONS

Current management measures for Red Drum have effectively controlled fishing mortality at levels sufficient to achieve established management targets. However, achieving the target spawning potential ratio (SPR) represents only the initial step in maintaining a sustainable and healthy fishery. Long-term stock health depends on consistently maintaining the management goal of 40% SPR through time.

To ensure continued stock sustainability, any future increases in harvest rates or relaxation of current management regulations should only be considered if they are not expected to reduce the static spawning potential ratio below the 40% management target. Maintaining SPR at or above this level is necessary to preserve adequate spawning stock biomass, support successful recruitment, and sustain the long-term viability of the fishery.

The most recent Red Drum stock assessment was completed in 2024. Although the northern stock was determined to not be experiencing overfishing, several concerning trends in fishery performance (harvest/slot-sized abundance indices) were identified. Under the TLA framework, overfishing status is triggered when fishery performance receives a red designation in any of the three terminal years (2019–2021). While the northern stock did not meet this threshold, there have been increasing proportions of red TLA metrics since the mid-2000s, and all three terminal years were classified as yellow. A yellow designation indicates declining performance and triggers moderate management action aimed at preventing further declines. These actions may include enhanced monitoring efforts and a review of existing creel and size limits.

The ASMFC Sciaenid’s Management Board adopted Addendum II to Amendment 2 to the Interstate Fishery Management Plan for Red Drum in October 2025. Changes to northern stock management included standardizing regulations across the Chesapeake Bay region, encompassing Maryland, the Potomac River Fisheries Commission (PRFC), and Virginia. The revised regulations established a recreational bag limit of three fish per person per day and a slot limit of 18–26 in TL. These measures were intended to provide greater consistency among jurisdictions while contributing to minor reductions in fishing mortality.

Comprehensive review of the North Carolina Red Drum FMP began in July 2025 to accommodate 2024 stock assessment results and any potential recommended ASMFC management changes. It should be noted that any changes to the state FMP must consider compliance requirements of the ASMFC plan.

STATE MANAGED SPECIES – RED DRUM

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