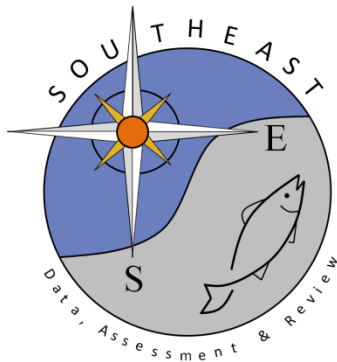


# Headboat Data for Black Sea Bass in the Southeast US Atlantic

Robin T. Cheshire and Matthew E. Green

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2026-06-11

## Contents

|          |                               |           |
|----------|-------------------------------|-----------|
| <b>1</b> | <b>Survey Description</b>     | <b>1</b>  |
| <b>2</b> | <b>Methods</b>                | <b>2</b>  |
| 2.1      | Landings . . . . .            | 2         |
| 2.2      | Discards . . . . .            | 3         |
| 2.3      | Uncertainty . . . . .         | 3         |
| 2.4      | Effort . . . . .              | 4         |
| 2.5      | Biological Samples . . . . .  | 4         |
| <b>3</b> | <b>Results and Discussion</b> | <b>4</b>  |
| 3.1      | Landings . . . . .            | 4         |
| 3.2      | Discards . . . . .            | 4         |
| 3.3      | Confidentiality . . . . .     | 4         |
| 3.4      | Uncertainty . . . . .         | 4         |
| 3.5      | Effort . . . . .              | 5         |
| 3.6      | Biological Samples . . . . .  | 5         |
| <b>4</b> | <b>Tables</b>                 | <b>6</b>  |
| <b>5</b> | <b>Figures</b>                | <b>26</b> |
|          | <b>References</b>             | <b>34</b> |

## 1 Survey Description

The Southeast Region Headboat Survey (SRHS) estimates landings and effort for headboats in the U.S. South Atlantic and Gulf of America. The survey began in 1972 in North Carolina and South Carolina. It expanded to northeast Florida (Nassau-Indian River counties) and Georgia in 1976, followed by southeast Florida (St. Lucie-Monroe counties) in 1978 (Chester et al. 1984; Grimes and Hollingsworth 1979; Huntsman 1976; Huntsman, Colby, and Dixon 1978). The SRHS was implemented in the Gulf of America in 1986, extending from Naples, FL, to South Padre Island, TX.

Annually, the survey includes approximately 70-80 participating vessels in each region (Table 1). Headboat data are considered confidential and cannot be publicly distributed if fewer than three vessels contribute to a data product.

The SRHS implemented mandatory electronic logbook reporting in the South Atlantic and Gulf of America as of January 1, 2013. Headboat operators now report trip information via a website or mobile application. A review of the headboat data methodology and validity was conducted in 2015 for the Atlantic waters of the Southeastern U.S. (Fitzpatrick et al. 2017; SEDAR 2015). Panelists concluded that the SRHS data products represent the best available information for regional headboat data and recommended their use in stock assessments. This conclusion also applies to the Gulf of America, as the data collection methodology is identical.

Paper logbook forms varied by region and year, primarily due to space limitations in the survey's early years. The predominant species listed on these forms varied by region, and the number of species listed generally increased over time. All forms included blank lines to write in species not explicitly listed. Since the transition to electronic logbooks in 2013, a comprehensive list of all species is available to users.

Reporting of discards was added to the logbook form in 2004. Due to confusion regarding the condition of released fish, only total discards have been reported since 2013. For consistency, data from 2004 to 2012, which originally distinguished between live and dead releases, are typically combined to represent total discards.

The area definitions for the SRHS were modified in 2013, primarily to remove the inshore-offshore distinction for the Carolinas and to create state-specific areas for the Gulf of America. A few other areas were collapsed in the Florida Keys and on the west coast of Florida (Figures 1 and 2).

For this assessment, state defined based on headboat areas is used to define regions rather than actual states. The Southeast Florida (areas 11, 12, and 17) data are confidential but have been provided to the assessment analysts separately. Georgia/Northeast Florida and Southeast Florida were combined for this public document (GFL). The assignment of SRHS areas to subregions is as follows:

- **North Carolina (NC):** Areas 2, 3, 9, 10
- **South Carolina (SC):** Areas 4, 5
- **Georgia/Florida (GFL):** Areas 6, 7, 8, 11, 12, 17

The SRHS dockside sampling was suspended in March 2020 due to the COVID-19 pandemic, and no biological samples were collected during this time. However, port agents continued to monitor reporting compliance to ensure captains submitted trip-level catch and effort data via electronic logbooks. Consequently, reported catch and effort data were used to estimate 2020 landings and effort with no disruption. To convert landings from number of fish to weight, mean weights from 2019 were applied to the 2020 landings numbers. Port agents maintained QA/QC checks and database validations for their areas of responsibility and provided outreach to captains regarding new for-hire reporting requirements. Biological sampling did not resume until the NMFS/SEFSC approved new safety measures in July 2021, though some port agents supported by state agencies returned to dockside sampling earlier.

## 2 Methods

### 2.1 Landings

The SRHS uses a two-component system to estimate catch and effort:

**1. Logbook Reporting:** Vessel personnel complete a logbook for each trip, reporting total catch and effort. Port agents identify missing trip reports by contacting the vessel's captain or office, through personal observations, by reviewing weekly compliance reports, and using other methods. If trips are not reported, the monthly catch estimated for the vessel is increased by the proportion of trips missing. In the early

years of the survey, when compliance was low, catch from another similarly sized vessel from the same area was adjusted based on the observed number of trips and substituted when vessels failed to report landings. Reporting compliance has been near 100% since permits were linked to reporting requirements in 2008. The proportion of trips reported is the primary information used to develop a proxy for uncertainty estimates.

**2. Dockside Sampling:** Port samplers collect fish size data dockside, measuring fish to the nearest millimeter (mm) and weighing them to the nearest 0.01 kg. These data are used to calculate mean weights by species, area, and month, which are then used to convert reported landings from number of fish to total weight.

Prior to 1987 black sea bass and bank sea bass were combined and were the only species reported in weight instead of number. For previous SEDAR assessments, black sea bass landings were reduced by 0.95 prior to 1987 to account for the inclusion of bank sea bass. The proportion was not documented but matches the 3 year average of the proportion of black sea bass to the combined black sea bass and bank sea bass for 1987 to 1989.

## 2.2 Discards

In 2004, the SRHS logbook was modified to collect self-reported discards, categorized as “released alive” or “released dead.” Captains were instructed that a fish is “released alive” if it can swim away on its own and “released dead” if it floats or is obviously unable to swim. As of January 1, 2013, with the transition to electronic reporting, the logbook was simplified to collect only the total number of fish released, regardless of condition.

Some under-reporting and misunderstanding of the requested data were identified in the initial years of discard data collection (2004-2007). Annual catch rates from the at-sea headboat observer program can be compared to logbook catch rates to evaluate the validity of logbook discard data from this period. Starting in January 2023, two fields were added to the logbook form: number of discards descended and number vented. These will be used to quantify the prevalence and effectiveness of fish descending devices and venting tools, which are required on board in both the South Atlantic and Gulf of America.

## 2.3 Uncertainty

Uncertainty estimates for headboat landings were initially developed for the SEDAR 68 scamp research track assessment (Nuttall et al. 2020). While statistically valid, the approach used the uncertainty of reported landings (across areas, months, and vessels) as a proxy for uncertainty in total landings estimates, which produced unrealistic coefficients of variation (CVs) in some years. For example, some years with only 60% of vessels reporting had CVs of approximately 0.05. As an alternative, a proxy CV method was developed for the SEDAR 74 red snapper research track data workshop. This method relies on the proportion of reported trips (N) to total estimated trips (n) and adds a buffer of 0.05 to prevent the CV from reaching zero.

$$proxyCV = 1 - \frac{N}{n} + 0.05 \text{ (SEDAR 2022)}$$

This proxy CV method was refined for the SEDAR 82 gray triggerfish research track data workshop to account for spatial variability in species abundance and reporting compliance. To address concerns that high CVs could be estimated for strata with low overall compliance even if compliance was high in the areas with the most catch, compliance rates are now weighted by the associated landings estimates:

$$proxyCV_i = 1 - \sum_j \left( \frac{n_{i,j}}{N_{i,j}} \cdot \frac{L_{i,j}}{\sum_j L_{i,j}} \right) + 0.05$$

where n is the number of reported trips, N is the number of estimated trips, and L is the landings in number or weight for year i and subregion j.

## 2.4 Effort

Catch and effort data were reported on paper logbooks until 2012 and electronically since 2013. After each trip, the owner, captain, or a designated crew member enters the total number of all species landed and discarded. Effort is reported as the number of anglers per trip and is standardized into **angler-day** by multiplying the number of anglers by a trip-length factor (e.g., 40 anglers on a half-day trip yields  $40 \times 0.5 = 20$  angler-days).

As with landings, effort is expanded to account for missing trips. Area 1 (NC North of Cape Hatteras, NC) was excluded for the black sea bass stock assessment.

**Angler-day** is considered the best practice unit of effort for headboat data. **Angler-trip** is calculated to match units for general recreational effort from the Marine Recreational Information Program (MRIP) for the purpose of combining effort across sectors if required. There are some caveats with the method because it does not account for all effort expansions in the standard estimation or the duration of the trip.

## 2.5 Biological Samples

Length data have been collected by SRHS dockside samplers since the survey's inception. Weights are typically collected for the same fish measured during dockside sampling. Other biological samples (scales, otoliths, spines, stomachs, gonads) and data (sex determination) are collected routinely for ageing, diet, and maturity studies. Port agents are provided with lists of priority species, but no specific sampling quotas are assigned. As in previous stock assessments for black sea bass, area 1 (NC North of Cape Hatteras, NC) was excluded.

# 3 Results and Discussion

## 3.1 Landings

Landings in number are given by subregion (Table 2, Figure 3). Landings in pounds are shown by subregion (Table 3, Figure 4). The landings have declined over the time series but more dramatically prior to the early 1990s (Table 2).

## 3.2 Discards

Discards are primarily from South Carolina since 2010. There was an increase in discards from Georgia and Florida around 2010 but a decline since. (Table 4, Figure 5). There is no information within the SRHS on the size of these fish with which to convert the discards in number to weight.

## 3.3 Confidentiality

Headboat landings and discards are confidential if fewer than three vessels contributed logbook records for any strata. The number of vessels reporting annually are given in tables 5 - 6. For black sea bass, there were several years with less than 3 vessels reporting in South Florida (areas 11, 12, and 17). These areas were combined with Georgia-Northeast Florida for this public document.

## 3.4 Uncertainty

Unweighted proxy CV estimates by subregion and overall are provided in tables 7 - 8. Annual proxy CV values weighted by regional landings in number and weight are provided in tables 9 and 10. The weighted proxy CVs should provide the best estimate for uncertainty.

### 3.5 Effort

Total estimated headboat angler days and angler trips decreased from the mid 1980s until about 2010 followed by an increase until 2015 (driven by South Florida) after which it has been relatively constant (Tables 11 - 12). The finer scale effort estimates by show the pattern observed in effort is fairly consistent across s (Tables 13 - 14, Figure 6). Reports from industry staff, captains or owners, and port agents indicated fuel prices, the economy and fishing regulations are the factors that most affected the amount of trips, number of passengers, and overall decrease in fishing effort through 2010.

### 3.6 Biological Samples

Annual numbers of black sea bass measured for natural total length in the headboat fleet by and region are given in table 15. The number of trips from which black sea bass were measured are summarized in Table 16. Mean total lengths (mm) and weight (g) and associated CVs for the headboat fishery are tabulated by in Table 17. Patterns in length and weight by year are shown in Figure 7. The annual sample sizes adequate annual headboat length compositions based on the SEDAR best practice minimum sample sizes for compositions development (30 fish and 10 trips).

## 4 Tables

Table 1: Number of vessels in the SRHS by year and region (Gulf - SW Florida to Texas, Atlantic - North Carolina to SE Florida).

| year | Atlantic | Gulf |
|------|----------|------|
| 1980 | 89       |      |
| 1981 | 92       |      |
| 1982 | 89       |      |
| 1983 | 86       |      |
| 1984 | 90       |      |
| 1985 | 89       |      |
| 1986 | 94       | 87   |
| 1987 | 94       | 79   |
| 1988 | 94       | 72   |
| 1989 | 95       | 95   |
| 1990 | 93       | 88   |
| 1991 | 94       | 80   |
| 1992 | 105      | 80   |
| 1993 | 95       | 81   |
| 1994 | 95       | 84   |
| 1995 | 89       | 82   |
| 1996 | 90       | 73   |
| 1997 | 92       | 70   |
| 1998 | 89       | 73   |
| 1999 | 86       | 69   |
| 2000 | 89       | 72   |
| 2001 | 84       | 72   |
| 2002 | 77       | 61   |
| 2003 | 68       | 65   |
| 2004 | 81       | 65   |
| 2005 | 76       | 74   |
| 2006 | 76       | 70   |
| 2007 | 78       | 69   |
| 2008 | 84       | 71   |
| 2009 | 80       | 76   |
| 2010 | 84       | 78   |
| 2011 | 75       | 73   |
| 2012 | 75       | 71   |
| 2013 | 73       | 68   |
| 2014 | 73       | 68   |
| 2015 | 70       | 68   |
| 2016 | 73       | 69   |
| 2017 | 63       | 71   |
| 2018 | 63       | 72   |
| 2019 | 62       | 72   |
| 2020 | 64       | 68   |
| 2021 | 60       | 70   |
| 2022 | 60       | 68   |
| 2023 | 59       | 68   |
| 2024 | 60       | 68   |
| 2025 | 61       | 64   |

Table 2: Black sea bass landings by state in number.

| year | NC     | SC     | GFL    | Total   |
|------|--------|--------|--------|---------|
| 1981 | 181151 | 850365 | 209502 | 1241018 |
| 1982 | 145299 | 763500 | 325229 | 1234028 |
| 1983 | 120873 | 757031 | 399094 | 1276997 |
| 1984 | 98231  | 632873 | 361075 | 1092179 |
| 1985 | 112670 | 669346 | 260001 | 1042017 |
| 1986 | 113908 | 635860 | 307471 | 1057239 |
| 1987 | 84635  | 708887 | 364957 | 1158479 |
| 1988 | 77012  | 600169 | 352831 | 1030012 |
| 1989 | 47026  | 484320 | 233728 | 765074  |
| 1990 | 69384  | 319172 | 270029 | 658585  |
| 1991 | 39234  | 319002 | 148112 | 506348  |
| 1992 | 32564  | 258076 | 95370  | 386010  |
| 1993 | 33537  | 137899 | 42316  | 213752  |
| 1994 | 27155  | 144750 | 36168  | 208073  |
| 1995 | 22639  | 120867 | 46781  | 190287  |
| 1996 | 48446  | 127695 | 35961  | 212102  |
| 1997 | 41394  | 124206 | 42137  | 207737  |
| 1998 | 54297  | 110243 | 32587  | 197127  |
| 1999 | 68500  | 104514 | 52756  | 225770  |
| 2000 | 67552  | 81337  | 29183  | 178072  |
| 2001 | 58472  | 102377 | 38585  | 199434  |
| 2002 | 48124  | 76654  | 27241  | 152019  |
| 2003 | 45716  | 76929  | 32199  | 154844  |
| 2004 | 52154  | 106962 | 91544  | 250660  |
| 2005 | 62725  | 79691  | 78051  | 220467  |
| 2006 | 38353  | 122548 | 70542  | 231443  |
| 2007 | 35155  | 76570  | 52595  | 164320  |
| 2008 | 25426  | 33583  | 33777  | 92786   |
| 2009 | 20392  | 44718  | 83915  | 149025  |
| 2010 | 45814  | 82527  | 136306 | 264647  |
| 2011 | 30510  | 61668  | 108906 | 201084  |
| 2012 | 31023  | 40836  | 31239  | 103098  |
| 2013 | 28921  | 27741  | 29011  | 85673   |
| 2014 | 25059  | 24684  | 27012  | 76755   |
| 2015 | 26550  | 17416  | 15689  | 59655   |
| 2016 | 19655  | 16578  | 13079  | 49312   |
| 2017 | 19691  | 13799  | 8264   | 41754   |
| 2018 | 20186  | 19596  | 5809   | 45591   |
| 2019 | 13327  | 16741  | 5324   | 35392   |
| 2020 | 10546  | 11976  | 1987   | 24509   |
| 2021 | 11644  | 14577  | 1314   | 27535   |
| 2022 | 8598   | 14351  | 1537   | 24486   |
| 2023 | 10300  | 11720  | 1048   | 23068   |
| 2024 | 7273   | 8198   | 744    | 16215   |
| 2025 | 7686   | 12814  | 1279   | 21779   |

Table 3: Black sea bass landings by state in pounds.

| year | NC     | SC     | GFL    | Total  |
|------|--------|--------|--------|--------|
| 1981 | 122144 | 395454 | 160658 | 678255 |
| 1982 | 117365 | 361367 | 222632 | 701364 |
| 1983 | 94522  | 341510 | 254295 | 690326 |
| 1984 | 90739  | 326625 | 243705 | 661069 |
| 1985 | 75895  | 322765 | 169439 | 568099 |
| 1986 | 67786  | 299706 | 169305 | 536797 |
| 1987 | 52073  | 363898 | 230544 | 646515 |
| 1988 | 49805  | 350726 | 234691 | 635222 |
| 1989 | 30222  | 241760 | 206049 | 478030 |
| 1990 | 45814  | 162164 | 171595 | 379573 |
| 1991 | 33074  | 165901 | 87264  | 286239 |
| 1992 | 23660  | 135890 | 56327  | 215877 |
| 1993 | 27751  | 90860  | 24416  | 143026 |
| 1994 | 23468  | 88445  | 20528  | 132441 |
| 1995 | 23081  | 71090  | 33454  | 127625 |
| 1996 | 45820  | 76002  | 24721  | 146543 |
| 1997 | 33918  | 87613  | 26210  | 147742 |
| 1998 | 46316  | 79128  | 17061  | 142504 |
| 1999 | 64255  | 91361  | 36953  | 192569 |
| 2000 | 62490  | 58884  | 23215  | 144590 |
| 2001 | 54782  | 91342  | 25900  | 172025 |
| 2002 | 43901  | 59367  | 20007  | 123275 |
| 2003 | 42764  | 64914  | 26432  | 134111 |
| 2004 | 55060  | 97904  | 84622  | 237586 |
| 2005 | 60539  | 56525  | 62596  | 179660 |
| 2006 | 35647  | 84809  | 53610  | 174066 |
| 2007 | 39605  | 74462  | 48003  | 162070 |
| 2008 | 31565  | 36120  | 31626  | 99311  |
| 2009 | 26068  | 48996  | 83216  | 158279 |
| 2010 | 57777  | 86444  | 138485 | 282706 |
| 2011 | 37456  | 71874  | 116930 | 226260 |
| 2012 | 40791  | 48059  | 34008  | 122858 |
| 2013 | 39152  | 39605  | 34659  | 113416 |
| 2014 | 33939  | 32926  | 33816  | 100681 |
| 2015 | 35066  | 20929  | 20451  | 76446  |
| 2016 | 26374  | 21786  | 16373  | 64533  |
| 2017 | 25075  | 16399  | 11306  | 52780  |
| 2018 | 25005  | 24139  | 7105   | 56249  |
| 2019 | 17426  | 20027  | 6018   | 43470  |
| 2020 | 15070  | 13203  | 2151   | 30424  |
| 2021 | 10072  | 12577  | 1155   | 23805  |
| 2022 | 10663  | 20661  | 1857   | 33181  |
| 2023 | 13754  | 14637  | 1335   | 29726  |
| 2024 | 10709  | 10127  | 890    | 21726  |
| 2025 | 9852   | 16096  | 1757   | 27705  |

Table 4: Black sea bass discards by state in number of fish.

| year | NC    | SC     | GFL    | Total  |
|------|-------|--------|--------|--------|
| 2004 | 10486 | 58801  | 22673  | 91960  |
| 2005 | 12511 | 37903  | 16023  | 66437  |
| 2006 | 21276 | 78957  | 49556  | 149789 |
| 2007 | 16876 | 82167  | 18401  | 117444 |
| 2008 | 36883 | 89999  | 40503  | 167385 |
| 2009 | 32100 | 96653  | 110214 | 238967 |
| 2010 | 35129 | 117037 | 182640 | 334806 |
| 2011 | 44069 | 205531 | 296089 | 545689 |
| 2012 | 60139 | 337002 | 278269 | 675410 |
| 2013 | 52512 | 301026 | 147307 | 500845 |
| 2014 | 67819 | 285232 | 117822 | 470873 |
| 2015 | 68358 | 310011 | 84566  | 462935 |
| 2016 | 49709 | 335554 | 59497  | 444760 |
| 2017 | 44172 | 256169 | 33349  | 333690 |
| 2018 | 33293 | 241973 | 25781  | 301047 |
| 2019 | 21240 | 314184 | 22671  | 358095 |
| 2020 | 17814 | 192581 | 14796  | 225191 |
| 2021 | 22091 | 304097 | 12763  | 338951 |
| 2022 | 19906 | 254860 | 12486  | 287252 |
| 2023 | 22610 | 206915 | 8327   | 237852 |
| 2024 | 10648 | 178792 | 5527   | 194967 |
| 2025 | 9559  | 232554 | 5673   | 247786 |

Table 5: Black sea bass number of vessels by state contributing to landings estimates. Strata with less than 3 vessels reporting are considered confidential.

| year | NC | SC | GFL |
|------|----|----|-----|
| 1981 | 7  | 17 | 14  |
| 1982 | 7  | 19 | 17  |
| 1983 | 6  | 16 | 19  |
| 1984 | 7  | 18 | 26  |
| 1985 | 7  | 19 | 31  |
| 1986 | 7  | 21 | 23  |
| 1987 | 7  | 21 | 27  |
| 1988 | 9  | 17 | 24  |
| 1989 | 8  | 14 | 19  |
| 1990 | 9  | 14 | 13  |
| 1991 | 9  | 17 | 11  |
| 1992 | 9  | 24 | 28  |
| 1993 | 9  | 22 | 22  |
| 1994 | 7  | 21 | 21  |
| 1995 | 9  | 18 | 26  |
| 1996 | 11 | 18 | 22  |
| 1997 | 15 | 19 | 23  |
| 1998 | 15 | 20 | 19  |
| 1999 | 11 | 17 | 16  |
| 2000 | 13 | 20 | 19  |
| 2001 | 11 | 17 | 17  |
| 2002 | 10 | 14 | 15  |
| 2003 | 11 | 15 | 15  |
| 2004 | 11 | 18 | 17  |
| 2005 | 11 | 15 | 17  |
| 2006 | 10 | 18 | 16  |
| 2007 | 7  | 21 | 15  |
| 2008 | 10 | 23 | 24  |
| 2009 | 8  | 21 | 28  |
| 2010 | 7  | 20 | 27  |
| 2011 | 7  | 21 | 27  |
| 2012 | 8  | 21 | 32  |
| 2013 | 8  | 18 | 30  |
| 2014 | 7  | 18 | 23  |
| 2015 | 6  | 17 | 22  |
| 2016 | 6  | 19 | 23  |
| 2017 | 6  | 17 | 20  |
| 2018 | 6  | 18 | 20  |
| 2019 | 4  | 19 | 19  |
| 2020 | 5  | 18 | 17  |
| 2021 | 5  | 17 | 16  |
| 2022 | 5  | 17 | 16  |
| 2023 | 4  | 19 | 16  |
| 2024 | 5  | 19 | 12  |

Table 6: Black sea bass number of vessels annually contributing to landings estimates. Strata with less than 3 vessels reporting are considered confidential.

| year | n_vessel |
|------|----------|
| 1981 | 38       |
| 1982 | 43       |
| 1983 | 41       |
| 1984 | 51       |
| 1985 | 57       |
| 1986 | 51       |
| 1987 | 55       |
| 1988 | 50       |
| 1989 | 41       |
| 1990 | 36       |
| 1991 | 37       |
| 1992 | 61       |
| 1993 | 53       |
| 1994 | 49       |
| 1995 | 53       |
| 1996 | 51       |
| 1997 | 57       |
| 1998 | 54       |
| 1999 | 44       |
| 2000 | 52       |
| 2001 | 45       |
| 2002 | 39       |
| 2003 | 41       |
| 2004 | 46       |
| 2005 | 43       |
| 2006 | 44       |
| 2007 | 43       |
| 2008 | 57       |
| 2009 | 57       |
| 2010 | 54       |
| 2011 | 55       |
| 2012 | 61       |
| 2013 | 56       |
| 2014 | 48       |
| 2015 | 45       |
| 2016 | 48       |
| 2017 | 43       |
| 2018 | 44       |
| 2019 | 42       |
| 2020 | 40       |
| 2021 | 38       |
| 2022 | 38       |
| 2023 | 39       |
| 2024 | 36       |

Table 7: Unweighted proxy CV values by state. These values are based on logbook reporting compliance and are consistent across species.

| year | NC    | SC    | GFL   |
|------|-------|-------|-------|
| 1981 | 0.514 | 0.204 | 0.278 |
| 1982 | 0.344 | 0.124 | 0.489 |
| 1983 | 0.337 | 0.097 | 0.385 |
| 1984 | 0.611 | 0.230 | 0.595 |
| 1985 | 0.619 | 0.226 | 0.592 |
| 1986 | 0.640 | 0.145 | 0.507 |
| 1987 | 0.579 | 0.186 | 0.514 |
| 1988 | 0.608 | 0.225 | 0.565 |
| 1989 | 0.869 | 0.275 | 0.610 |
| 1990 | 0.826 | 0.245 | 0.611 |
| 1991 | 0.663 | 0.339 | 0.643 |
| 1992 | 0.335 | 0.156 | 0.400 |
| 1993 | 0.474 | 0.077 | 0.350 |
| 1994 | 0.393 | 0.113 | 0.486 |
| 1995 | 0.401 | 0.118 | 0.458 |
| 1996 | 0.359 | 0.060 | 0.645 |
| 1997 | 0.425 | 0.076 | 0.467 |
| 1998 | 0.431 | 0.088 | 0.485 |
| 1999 | 0.458 | 0.099 | 0.636 |
| 2000 | 0.459 | 0.057 | 0.688 |
| 2001 | 0.478 | 0.091 | 0.667 |
| 2002 | 0.588 | 0.068 | 0.717 |
| 2003 | 0.425 | 0.161 | 0.710 |
| 2004 | 0.300 | 0.089 | 0.743 |
| 2005 | 0.542 | 0.055 | 0.745 |
| 2006 | 0.499 | 0.257 | 0.743 |
| 2007 | 0.540 | 0.187 | 0.659 |
| 2008 | 0.101 | 0.185 | 0.256 |
| 2009 | 0.219 | 0.160 | 0.121 |
| 2010 | 0.083 | 0.171 | 0.079 |
| 2011 | 0.112 | 0.107 | 0.074 |
| 2012 | 0.131 | 0.082 | 0.114 |
| 2013 | 0.057 | 0.079 | 0.119 |
| 2014 | 0.066 | 0.056 | 0.053 |
| 2015 | 0.050 | 0.054 | 0.066 |
| 2016 | 0.057 | 0.060 | 0.199 |
| 2017 | 0.050 | 0.057 | 0.059 |
| 2018 | 0.050 | 0.060 | 0.058 |
| 2019 | 0.050 | 0.061 | 0.057 |
| 2020 | 0.050 | 0.050 | 0.056 |
| 2021 | 0.050 | 0.050 | 0.050 |
| 2022 | 0.050 | 0.050 | 0.098 |
| 2023 | 0.050 | 0.051 | 0.068 |
| 2024 | 0.050 | 0.051 | 0.063 |
| 2025 | 0.061 | 0.053 | 0.068 |

Table 8: Unweighted proxy CV values by year. These values are based on logbook reporting compliance and are consistent across species.

| year | cv    |
|------|-------|
| 1981 | 0.277 |
| 1982 | 0.450 |
| 1983 | 0.358 |
| 1984 | 0.557 |
| 1985 | 0.553 |
| 1986 | 0.472 |
| 1987 | 0.478 |
| 1988 | 0.527 |
| 1989 | 0.590 |
| 1990 | 0.589 |
| 1991 | 0.614 |
| 1992 | 0.372 |
| 1993 | 0.324 |
| 1994 | 0.442 |
| 1995 | 0.419 |
| 1996 | 0.579 |
| 1997 | 0.408 |
| 1998 | 0.416 |
| 1999 | 0.556 |
| 2000 | 0.589 |
| 2001 | 0.571 |
| 2002 | 0.615 |
| 2003 | 0.631 |
| 2004 | 0.620 |
| 2005 | 0.652 |
| 2006 | 0.650 |
| 2007 | 0.560 |
| 2008 | 0.233 |
| 2009 | 0.134 |
| 2010 | 0.100 |
| 2011 | 0.084 |
| 2012 | 0.108 |
| 2013 | 0.110 |
| 2014 | 0.054 |
| 2015 | 0.064 |
| 2016 | 0.172 |
| 2017 | 0.058 |
| 2018 | 0.058 |
| 2019 | 0.058 |
| 2020 | 0.054 |
| 2021 | 0.050 |
| 2022 | 0.085 |
| 2023 | 0.063 |
| 2024 | 0.060 |
| 2025 | 0.064 |

Table 9: Annual proxy CV values weighted by state landings of black sea bass in number.

| year | cv    |
|------|-------|
| 1981 | 0.262 |
| 1982 | 0.246 |
| 1983 | 0.209 |
| 1984 | 0.385 |
| 1985 | 0.360 |
| 1986 | 0.304 |
| 1987 | 0.318 |
| 1988 | 0.370 |
| 1989 | 0.414 |
| 1990 | 0.456 |
| 1991 | 0.453 |
| 1992 | 0.231 |
| 1993 | 0.193 |
| 1994 | 0.215 |
| 1995 | 0.235 |
| 1996 | 0.227 |
| 1997 | 0.225 |
| 1998 | 0.248 |
| 1999 | 0.333 |
| 2000 | 0.313 |
| 2001 | 0.316 |
| 2002 | 0.349 |
| 2003 | 0.353 |
| 2004 | 0.372 |
| 2005 | 0.438 |
| 2006 | 0.445 |
| 2007 | 0.414 |
| 2008 | 0.188 |
| 2009 | 0.146 |
| 2010 | 0.108 |
| 2011 | 0.090 |
| 2012 | 0.106 |
| 2013 | 0.085 |
| 2014 | 0.058 |
| 2015 | 0.056 |
| 2016 | 0.096 |
| 2017 | 0.054 |
| 2018 | 0.055 |
| 2019 | 0.056 |
| 2020 | 0.051 |
| 2021 | 0.050 |
| 2022 | 0.053 |
| 2023 | 0.051 |
| 2024 | 0.051 |
| 2025 | 0.057 |

Table 10: Annual proxy CV values weighted by state landings of black sea bass in weight.

| year | cv    |
|------|-------|
| 1981 | 0.278 |
| 1982 | 0.277 |
| 1983 | 0.236 |
| 1984 | 0.417 |
| 1985 | 0.387 |
| 1986 | 0.322 |
| 1987 | 0.335 |
| 1988 | 0.381 |
| 1989 | 0.457 |
| 1990 | 0.480 |
| 1991 | 0.469 |
| 1992 | 0.239 |
| 1993 | 0.201 |
| 1994 | 0.221 |
| 1995 | 0.258 |
| 1996 | 0.252 |
| 1997 | 0.225 |
| 1998 | 0.247 |
| 1999 | 0.322 |
| 2000 | 0.332 |
| 2001 | 0.301 |
| 2002 | 0.358 |
| 2003 | 0.353 |
| 2004 | 0.371 |
| 2005 | 0.460 |
| 2006 | 0.456 |
| 2007 | 0.413 |
| 2008 | 0.181 |
| 2009 | 0.149 |
| 2010 | 0.108 |
| 2011 | 0.091 |
| 2012 | 0.107 |
| 2013 | 0.084 |
| 2014 | 0.058 |
| 2015 | 0.056 |
| 2016 | 0.094 |
| 2017 | 0.054 |
| 2018 | 0.055 |
| 2019 | 0.056 |
| 2020 | 0.050 |
| 2021 | 0.050 |
| 2022 | 0.053 |
| 2023 | 0.051 |
| 2024 | 0.051 |
| 2025 | 0.057 |

Table 11: Estimates of total effort in angler - days by year.

| year | Angler_Day |
|------|------------|
| 1981 | 377287     |
| 1982 | 387611     |
| 1983 | 367426     |
| 1984 | 385173     |
| 1985 | 378230     |
| 1986 | 415472     |
| 1987 | 447108     |
| 1988 | 420664     |
| 1989 | 418250     |
| 1990 | 423286     |
| 1991 | 388940     |
| 1992 | 367489     |
| 1993 | 344216     |
| 1994 | 342703     |
| 1995 | 312748     |
| 1996 | 289928     |
| 1997 | 270612     |
| 1998 | 254082     |
| 1999 | 251147     |
| 2000 | 253891     |
| 2001 | 244433     |
| 2002 | 221614     |
| 2003 | 204565     |
| 2004 | 251418     |
| 2005 | 238448     |
| 2006 | 257332     |
| 2007 | 246881     |
| 2008 | 188388     |
| 2009 | 193253     |
| 2010 | 185426     |
| 2011 | 191933     |
| 2012 | 205476     |
| 2013 | 223145     |
| 2014 | 256625     |
| 2015 | 253415     |
| 2016 | 256600     |
| 2017 | 179720     |
| 2018 | 171864     |
| 2019 | 173462     |
| 2020 | 129690     |
| 2021 | 184432     |
| 2022 | 156376     |
| 2023 | 154662     |
| 2024 | 151864     |
| 2025 | 143594     |

Table 12: Estimates of total effort in angler - trips by year.

| year | Angler_Trip |
|------|-------------|
| 1981 | 392582      |
| 1982 | 492606      |
| 1983 | 440260      |
| 1984 | 563371      |
| 1985 | 582528      |
| 1986 | 613712      |
| 1987 | 629483      |
| 1988 | 566307      |
| 1989 | 576728      |
| 1990 | 596940      |
| 1991 | 568273      |
| 1992 | 535684      |
| 1993 | 477228      |
| 1994 | 500800      |
| 1995 | 456414      |
| 1996 | 449817      |
| 1997 | 395596      |
| 1998 | 354069      |
| 1999 | 375615      |
| 2000 | 406838      |
| 2001 | 363286      |
| 2002 | 330417      |
| 2003 | 345668      |
| 2004 | 394368      |
| 2005 | 392462      |
| 2006 | 419239      |
| 2007 | 342745      |
| 2008 | 283299      |
| 2009 | 284591      |
| 2010 | 279878      |
| 2011 | 291437      |
| 2012 | 323358      |
| 2013 | 348897      |
| 2014 | 414316      |
| 2015 | 414454      |
| 2016 | 417173      |
| 2017 | 277766      |
| 2018 | 263061      |
| 2019 | 265774      |
| 2020 | 192588      |
| 2021 | 279797      |
| 2022 | 240569      |
| 2023 | 236118      |
| 2024 | 215999      |
| 2025 | 226858      |

Table 13: Estimates of total effort in angler - days by state.

| year | NC    | SC    | GFL    |
|------|-------|-------|--------|
| 1981 | 19374 | 59030 | 298883 |
| 1982 | 26939 | 67539 | 293133 |
| 1983 | 23830 | 65733 | 277863 |
| 1984 | 28865 | 67314 | 288994 |
| 1985 | 31384 | 66001 | 280845 |
| 1986 | 31187 | 67227 | 317058 |
| 1987 | 35261 | 78806 | 333041 |
| 1988 | 42421 | 76468 | 301775 |
| 1989 | 38678 | 62708 | 316864 |
| 1990 | 43240 | 57151 | 322895 |
| 1991 | 40936 | 67982 | 280022 |
| 1992 | 41176 | 61790 | 264523 |
| 1993 | 42786 | 64457 | 236973 |
| 1994 | 36691 | 63231 | 242781 |
| 1995 | 40295 | 61739 | 210714 |
| 1996 | 35142 | 54929 | 199857 |
| 1997 | 37189 | 60150 | 173273 |
| 1998 | 37399 | 61342 | 155341 |
| 1999 | 31596 | 55499 | 164052 |
| 2000 | 31351 | 40291 | 182249 |
| 2001 | 31779 | 49265 | 163389 |
| 2002 | 27601 | 42467 | 151546 |
| 2003 | 22998 | 36556 | 145011 |
| 2004 | 27255 | 48763 | 175400 |
| 2005 | 31573 | 34036 | 172839 |
| 2006 | 25736 | 56074 | 175522 |
| 2007 | 29002 | 60729 | 157150 |
| 2008 | 17158 | 47287 | 123943 |
| 2009 | 15914 | 40919 | 136420 |
| 2010 | 16813 | 44951 | 123662 |
| 2011 | 14796 | 44645 | 132492 |
| 2012 | 16774 | 41003 | 147699 |
| 2013 | 16503 | 40963 | 165679 |
| 2014 | 18710 | 42025 | 195890 |
| 2015 | 18734 | 39702 | 194979 |
| 2016 | 17733 | 42207 | 196660 |
| 2017 | 16680 | 36914 | 126126 |
| 2018 | 13693 | 37611 | 120560 |
| 2019 | 12280 | 41470 | 119712 |
| 2020 | 11605 | 34080 | 84005  |
| 2021 | 16157 | 47908 | 120367 |
| 2022 | 12639 | 38748 | 104989 |
| 2023 | 13175 | 35814 | 105673 |
| 2024 | 9999  | 32529 | 109336 |
| 2025 | 10817 | 34874 | 97903  |

Table 14: Estimates of total effort in angler - trips by state.

| year | NC    | SC     | GFL    |
|------|-------|--------|--------|
| 1981 | 23236 | 84252  | 285093 |
| 1982 | 30016 | 93651  | 368939 |
| 1983 | 26254 | 92332  | 321674 |
| 1984 | 28101 | 102171 | 433099 |
| 1985 | 30138 | 105945 | 446445 |
| 1986 | 31157 | 103743 | 478813 |
| 1987 | 31967 | 121679 | 475837 |
| 1988 | 38650 | 121209 | 406448 |
| 1989 | 32154 | 97509  | 447065 |
| 1990 | 36733 | 89899  | 470308 |
| 1991 | 39724 | 102160 | 426389 |
| 1992 | 40004 | 94480  | 401200 |
| 1993 | 44312 | 95647  | 337269 |
| 1994 | 33949 | 93563  | 373288 |
| 1995 | 37666 | 90161  | 328588 |
| 1996 | 37243 | 76408  | 336166 |
| 1997 | 36906 | 83275  | 275415 |
| 1998 | 40456 | 85320  | 228293 |
| 1999 | 36054 | 76416  | 263145 |
| 2000 | 38531 | 79269  | 289037 |
| 2001 | 36618 | 71318  | 255351 |
| 2002 | 38772 | 65474  | 226171 |
| 2003 | 32010 | 69131  | 244527 |
| 2004 | 35808 | 71872  | 286688 |
| 2005 | 41262 | 55633  | 295567 |
| 2006 | 33776 | 88459  | 297004 |
| 2007 | 33576 | 87596  | 221574 |
| 2008 | 19948 | 74182  | 189170 |
| 2009 | 17128 | 68785  | 198678 |
| 2010 | 18795 | 74256  | 186827 |
| 2011 | 16885 | 73343  | 201209 |
| 2012 | 18611 | 71169  | 233578 |
| 2013 | 17649 | 68979  | 262269 |
| 2014 | 19410 | 70707  | 324198 |
| 2015 | 20696 | 66010  | 327748 |
| 2016 | 19653 | 71615  | 325905 |
| 2017 | 18703 | 59788  | 199276 |
| 2018 | 14731 | 61598  | 186732 |
| 2019 | 13016 | 67068  | 185691 |
| 2020 | 11972 | 55054  | 125562 |
| 2021 | 17552 | 79755  | 182490 |
| 2022 | 14051 | 64004  | 162514 |
| 2023 | 14519 | 57483  | 164116 |
| 2024 | 11203 | 49766  | 155030 |
| 2025 | 12220 | 58265  | 156374 |

Table 15: Black sea bass number of fish lengths sampled by state.

| year | NC   | SC   | GFL  |
|------|------|------|------|
| 1973 |      | 1    |      |
| 1974 | 474  | 663  |      |
| 1975 | 209  | 823  |      |
| 1976 | 325  | 323  | 294  |
| 1977 | 437  | 2234 | 540  |
| 1978 | 416  | 965  | 951  |
| 1979 | 190  | 921  | 543  |
| 1980 | 788  | 1144 | 486  |
| 1981 | 524  | 1721 | 780  |
| 1982 | 870  | 1372 | 1444 |
| 1983 | 1098 | 2011 | 2620 |
| 1984 | 849  | 2582 | 2656 |
| 1985 | 998  | 2152 | 2692 |
| 1986 | 1396 | 2704 | 2450 |
| 1987 | 1782 | 2624 | 2037 |
| 1988 | 1160 | 1748 | 1345 |
| 1989 | 768  | 1367 | 1701 |
| 1990 | 465  | 3026 | 2281 |
| 1991 | 467  | 3219 | 1694 |
| 1992 | 465  | 3377 | 1335 |
| 1993 | 579  | 2584 | 778  |
| 1994 | 302  | 3046 | 865  |
| 1995 | 208  | 2569 | 548  |
| 1996 | 475  | 2316 | 377  |
| 1997 | 699  | 1906 | 1054 |
| 1998 | 862  | 1889 | 1610 |
| 1999 | 1284 | 1221 | 1610 |
| 2000 | 1285 | 778  | 1356 |
| 2001 | 1466 |      | 1517 |
| 2002 | 529  | 474  | 957  |
| 2003 | 771  | 1213 | 1283 |
| 2004 | 1328 | 655  | 2253 |
| 2005 | 1132 | 171  | 2516 |
| 2006 | 691  | 1466 | 2921 |
| 2007 | 300  | 1160 | 1600 |
| 2008 | 506  | 622  | 885  |
| 2009 | 626  | 726  | 1547 |
| 2010 | 962  | 836  | 2760 |
| 2011 | 1267 | 352  | 1624 |
| 2012 | 1091 | 179  | 405  |
| 2013 | 1100 | 308  | 822  |
| 2014 | 946  | 298  | 655  |
| 2015 | 1070 | 275  | 562  |
| 2016 | 646  | 272  | 423  |
| 2017 | 781  | 263  | 287  |
| 2018 | 565  | 510  | 161  |
| 2019 | 71   | 271  | 162  |
| 2020 | 20   | 86   | 37   |
| 2021 |      |      | 1    |
| 2022 | 115  | 126  | 17   |
| 2023 | 387  | 138  | 23   |
| 2024 | 87   | 204  | 18   |
| 2025 | 204  | 321  | 36   |

Table 16: Black sea bass number of trips sampled by state.

| year | NC  | SC  | GFL |
|------|-----|-----|-----|
| 1973 |     | 1   |     |
| 1974 | 71  | 72  |     |
| 1975 | 65  | 82  |     |
| 1976 | 70  | 58  | 48  |
| 1977 | 79  | 149 | 100 |
| 1978 | 69  | 73  | 185 |
| 1979 | 35  | 56  | 110 |
| 1980 | 81  | 92  | 103 |
| 1981 | 69  | 136 | 182 |
| 1982 | 116 | 133 | 190 |
| 1983 | 155 | 161 | 308 |
| 1984 | 164 | 215 | 316 |
| 1985 | 155 | 150 | 333 |
| 1986 | 186 | 188 | 309 |
| 1987 | 284 | 237 | 266 |
| 1988 | 213 | 156 | 176 |
| 1989 | 128 | 109 | 190 |
| 1990 | 77  | 200 | 204 |
| 1991 | 93  | 161 | 137 |
| 1992 | 90  | 183 | 126 |
| 1993 | 106 | 149 | 132 |
| 1994 | 71  | 153 | 125 |
| 1995 | 62  | 123 | 98  |
| 1996 | 93  | 115 | 68  |
| 1997 | 103 | 122 | 150 |
| 1998 | 119 | 121 | 220 |
| 1999 | 127 | 82  | 193 |
| 2000 | 110 | 60  | 163 |
| 2001 | 138 |     | 191 |
| 2002 | 58  | 61  | 186 |
| 2003 | 70  | 132 | 203 |
| 2004 | 124 | 64  | 215 |
| 2005 | 113 | 21  | 208 |
| 2006 | 71  | 153 | 219 |
| 2007 | 48  | 142 | 138 |
| 2008 | 68  | 97  | 116 |
| 2009 | 85  | 121 | 190 |
| 2010 | 105 | 103 | 270 |
| 2011 | 102 | 43  | 139 |
| 2012 | 71  | 18  | 52  |
| 2013 | 113 | 69  | 159 |
| 2014 | 130 | 58  | 177 |
| 2015 | 109 | 48  | 127 |
| 2016 | 99  | 61  | 127 |
| 2017 | 86  | 63  | 95  |
| 2018 | 73  | 117 | 72  |
| 2019 | 19  | 71  | 62  |
| 2020 | 1   | 15  | 11  |
| 2021 |     |     | 1   |
| 2022 | 27  | 38  | 10  |
| 2023 | 42  | 40  | 16  |
| 2024 | 25  | 58  | 14  |
| 2025 | 21  | 71  | 18  |

Table 17: Black sea bass mean total length in mm by state.

| year | NC  | SC  | GFL |
|------|-----|-----|-----|
| 1973 |     | 307 |     |
| 1974 | 300 | 297 |     |
| 1975 | 317 | 278 |     |
| 1976 | 292 | 300 | 274 |
| 1977 | 290 | 252 | 291 |
| 1978 | 307 | 258 | 286 |
| 1979 | 286 | 259 | 286 |
| 1980 | 260 | 246 | 280 |
| 1981 | 278 | 239 | 288 |
| 1982 | 284 | 241 | 268 |
| 1983 | 279 | 240 | 270 |
| 1984 | 296 | 254 | 273 |
| 1985 | 268 | 239 | 268 |
| 1986 | 262 | 238 | 261 |
| 1987 | 260 | 240 | 265 |
| 1988 | 280 | 250 | 266 |
| 1989 | 269 | 250 | 272 |
| 1990 | 279 | 242 | 276 |
| 1991 | 283 | 246 | 269 |
| 1992 | 283 | 253 | 258 |
| 1993 | 286 | 271 | 262 |
| 1994 | 296 | 268 | 263 |
| 1995 | 309 | 261 | 271 |
| 1996 | 289 | 260 | 268 |
| 1997 | 275 | 278 | 259 |
| 1998 | 285 | 283 | 248 |
| 1999 | 295 | 298 | 274 |
| 2000 | 294 | 293 | 272 |
| 2001 | 289 |     | 269 |
| 2002 | 289 | 298 | 273 |
| 2003 | 295 | 296 | 287 |
| 2004 | 296 | 294 | 294 |
| 2005 | 298 | 292 | 299 |
| 2006 | 296 | 291 | 292 |
| 2007 | 336 | 315 | 307 |
| 2008 | 333 | 328 | 310 |
| 2009 | 333 | 329 | 315 |
| 2010 | 336 | 330 | 319 |
| 2011 | 338 | 337 | 328 |
| 2012 | 348 | 340 | 328 |
| 2013 | 356 | 351 | 337 |
| 2014 | 356 | 359 | 342 |
| 2015 | 358 | 351 | 348 |
| 2016 | 353 | 360 | 346 |
| 2017 | 352 | 347 | 342 |
| 2018 | 347 | 348 | 340 |
| 2019 | 352 | 349 | 349 |
| 2020 | 353 | 351 | 374 |
| 2021 |     |     | 328 |
| 2022 | 347 | 358 | 338 |
| 2023 | 349 | 358 | 352 |
| 2024 | 349 | 360 | 349 |
| 2025 | 349 | 355 | 342 |

Table 18: Black sea bass total length CV in mm by state.

| year | NC   | SC   | GFL  |
|------|------|------|------|
| 1973 |      |      |      |
| 1974 | 0.22 | 0.25 |      |
| 1975 | 0.24 | 0.26 |      |
| 1976 | 0.21 | 0.23 | 0.18 |
| 1977 | 0.20 | 0.25 | 0.19 |
| 1978 | 0.19 | 0.26 | 0.21 |
| 1979 | 0.20 | 0.24 | 0.20 |
| 1980 | 0.21 | 0.24 | 0.21 |
| 1981 | 0.21 | 0.22 | 0.22 |
| 1982 | 0.20 | 0.23 | 0.19 |
| 1983 | 0.21 | 0.23 | 0.18 |
| 1984 | 0.21 | 0.21 | 0.18 |
| 1985 | 0.21 | 0.19 | 0.17 |
| 1986 | 0.22 | 0.20 | 0.17 |
| 1987 | 0.20 | 0.20 | 0.18 |
| 1988 | 0.21 | 0.20 | 0.19 |
| 1989 | 0.20 | 0.20 | 0.17 |
| 1990 | 0.19 | 0.17 | 0.16 |
| 1991 | 0.20 | 0.16 | 0.15 |
| 1992 | 0.19 | 0.17 | 0.14 |
| 1993 | 0.20 | 0.19 | 0.15 |
| 1994 | 0.18 | 0.18 | 0.17 |
| 1995 | 0.22 | 0.19 | 0.18 |
| 1996 | 0.23 | 0.17 | 0.18 |
| 1997 | 0.21 | 0.17 | 0.16 |
| 1998 | 0.19 | 0.19 | 0.15 |
| 1999 | 0.15 | 0.16 | 0.10 |
| 2000 | 0.15 | 0.14 | 0.08 |
| 2001 | 0.14 |      | 0.07 |
| 2002 | 0.13 | 0.14 | 0.10 |
| 2003 | 0.14 | 0.14 | 0.11 |
| 2004 | 0.15 | 0.14 | 0.11 |
| 2005 | 0.13 | 0.12 | 0.11 |
| 2006 | 0.14 | 0.13 | 0.08 |
| 2007 | 0.11 | 0.12 | 0.09 |
| 2008 | 0.11 | 0.10 | 0.07 |
| 2009 | 0.10 | 0.12 | 0.08 |
| 2010 | 0.09 | 0.10 | 0.08 |
| 2011 | 0.08 | 0.10 | 0.08 |
| 2012 | 0.10 | 0.12 | 0.08 |
| 2013 | 0.09 | 0.10 | 0.07 |
| 2014 | 0.09 | 0.08 | 0.08 |
| 2015 | 0.09 | 0.06 | 0.09 |
| 2016 | 0.09 | 0.09 | 0.09 |
| 2017 | 0.08 | 0.08 | 0.09 |
| 2018 | 0.08 | 0.08 | 0.12 |
| 2019 | 0.07 | 0.07 | 0.10 |
| 2020 | 0.10 | 0.07 | 0.11 |
| 2021 |      |      |      |
| 2022 | 0.08 | 0.11 | 0.06 |
| 2023 | 0.08 | 0.07 | 0.08 |
| 2024 | 0.06 | 0.10 | 0.07 |
| 2025 | 0.08 | 0.08 | 0.07 |

Table 19: Black sea bass mean weight (g).

| year | NC  | SC  | GFL |
|------|-----|-----|-----|
| 1973 |     | 272 |     |
| 1974 | 448 | 434 |     |
| 1975 | 541 | 346 |     |
| 1976 | 392 | 440 | 306 |
| 1977 | 400 | 285 | 379 |
| 1978 | 483 | 297 | 381 |
| 1979 | 344 | 280 | 359 |
| 1980 | 280 | 238 | 319 |
| 1981 | 338 | 216 | 363 |
| 1982 | 373 | 228 | 310 |
| 1983 | 350 | 216 | 296 |
| 1984 | 420 | 254 | 316 |
| 1985 | 303 | 221 | 290 |
| 1986 | 283 | 223 | 272 |
| 1987 | 276 | 236 | 304 |
| 1988 | 341 | 266 | 328 |
| 1989 | 313 | 238 | 323 |
| 1990 | 332 | 217 | 285 |
| 1991 | 339 | 223 | 259 |
| 1992 | 341 | 236 | 269 |
| 1993 | 338 | 288 | 265 |
| 1994 | 374 | 262 | 261 |
| 1995 | 448 | 264 | 298 |
| 1996 | 401 | 254 | 285 |
| 1997 | 330 | 299 | 266 |
| 1998 | 363 | 326 | 242 |
| 1999 | 398 | 381 | 283 |
| 2000 | 375 | 345 | 267 |
| 2001 | 377 |     | 276 |
| 2002 | 361 | 374 | 327 |
| 2003 | 377 | 380 | 349 |
| 2004 | 471 | 371 | 358 |
| 2005 | 366 | 340 | 350 |
| 2006 | 358 | 324 | 332 |
| 2007 | 481 | 425 | 372 |
| 2008 | 506 | 487 | 391 |
| 2009 | 504 | 520 | 421 |
| 2010 | 533 | 498 | 450 |
| 2011 | 518 | 521 | 468 |
| 2012 | 565 | 533 | 478 |
| 2013 | 604 | 589 | 539 |
| 2014 | 610 | 595 | 555 |
| 2015 | 619 | 527 | 615 |
| 2016 | 654 | 579 | 580 |
| 2017 | 566 | 560 | 595 |
| 2018 | 552 | 558 | 565 |
| 2019 | 583 | 540 | 532 |
| 2020 | 655 | 537 | 521 |
| 2021 |     |     | 490 |
| 2022 | 552 | 625 | 510 |
| 2023 | 603 | 560 | 553 |
| 2024 | 606 | 553 | 491 |
| 2025 | 596 | 568 | 550 |

Table 20: Black sea bass mean weight CV in g.

| year | NC   | SC   | GFL  |
|------|------|------|------|
| 1973 |      |      |      |
| 1974 | 0.63 | 0.78 |      |
| 1975 | 0.68 | 0.87 |      |
| 1976 | 0.62 | 0.69 | 0.62 |
| 1977 | 0.55 | 0.81 | 0.60 |
| 1978 | 0.57 | 0.81 | 0.69 |
| 1979 | 0.62 | 0.88 | 0.70 |
| 1980 | 0.68 | 0.81 | 0.59 |
| 1981 | 0.64 | 0.73 | 0.67 |
| 1982 | 0.66 | 0.83 | 0.64 |
| 1983 | 0.68 | 0.84 | 0.61 |
| 1984 | 0.64 | 0.68 | 0.59 |
| 1985 | 0.70 | 0.68 | 0.59 |
| 1986 | 0.75 | 0.71 | 0.61 |
| 1987 | 0.65 | 0.75 | 0.60 |
| 1988 | 0.66 | 0.82 | 0.63 |
| 1989 | 0.64 | 0.68 | 0.66 |
| 1990 | 0.61 | 0.65 | 0.56 |
| 1991 | 0.70 | 0.61 | 0.51 |
| 1992 | 0.72 | 0.68 | 0.79 |
| 1993 | 0.68 | 0.67 | 0.55 |
| 1994 | 0.59 | 0.63 | 0.62 |
| 1995 | 0.65 | 0.70 | 0.61 |
| 1996 | 0.98 | 0.60 | 0.66 |
| 1997 | 0.71 | 0.56 | 0.59 |
| 1998 | 0.64 | 0.63 | 0.62 |
| 1999 | 0.53 | 0.53 | 0.42 |
| 2000 | 0.50 | 0.50 | 0.43 |
| 2001 | 0.48 |      | 0.33 |
| 2002 | 0.45 | 0.52 | 0.43 |
| 2003 | 0.46 | 0.58 | 0.44 |
| 2004 | 0.94 | 0.53 | 0.39 |
| 2005 | 0.48 | 0.44 | 0.36 |
| 2006 | 0.49 | 0.53 | 0.27 |
| 2007 | 0.35 | 0.41 | 0.34 |
| 2008 | 0.39 | 0.39 | 0.24 |
| 2009 | 0.36 | 0.44 | 0.27 |
| 2010 | 0.34 | 0.34 | 0.29 |
| 2011 | 0.28 | 0.32 | 0.25 |
| 2012 | 0.33 | 0.39 | 0.29 |
| 2013 | 0.30 | 0.38 | 0.23 |
| 2014 | 0.30 | 0.32 | 0.27 |
| 2015 | 0.31 | 0.26 | 0.30 |
| 2016 | 0.41 | 0.41 | 0.32 |
| 2017 | 0.30 | 0.34 | 0.30 |
| 2018 | 0.29 | 0.32 | 0.36 |
| 2019 | 0.26 | 0.30 | 0.32 |
| 2020 | 0.31 | 0.27 | 0.26 |
| 2021 |      |      |      |
| 2022 | 0.26 | 0.33 | 0.21 |
| 2023 | 0.29 | 0.32 | 0.24 |
| 2024 | 0.23 | 0.30 | 0.14 |
| 2025 | 0.25 | 0.28 | 0.23 |

## 5 Figures

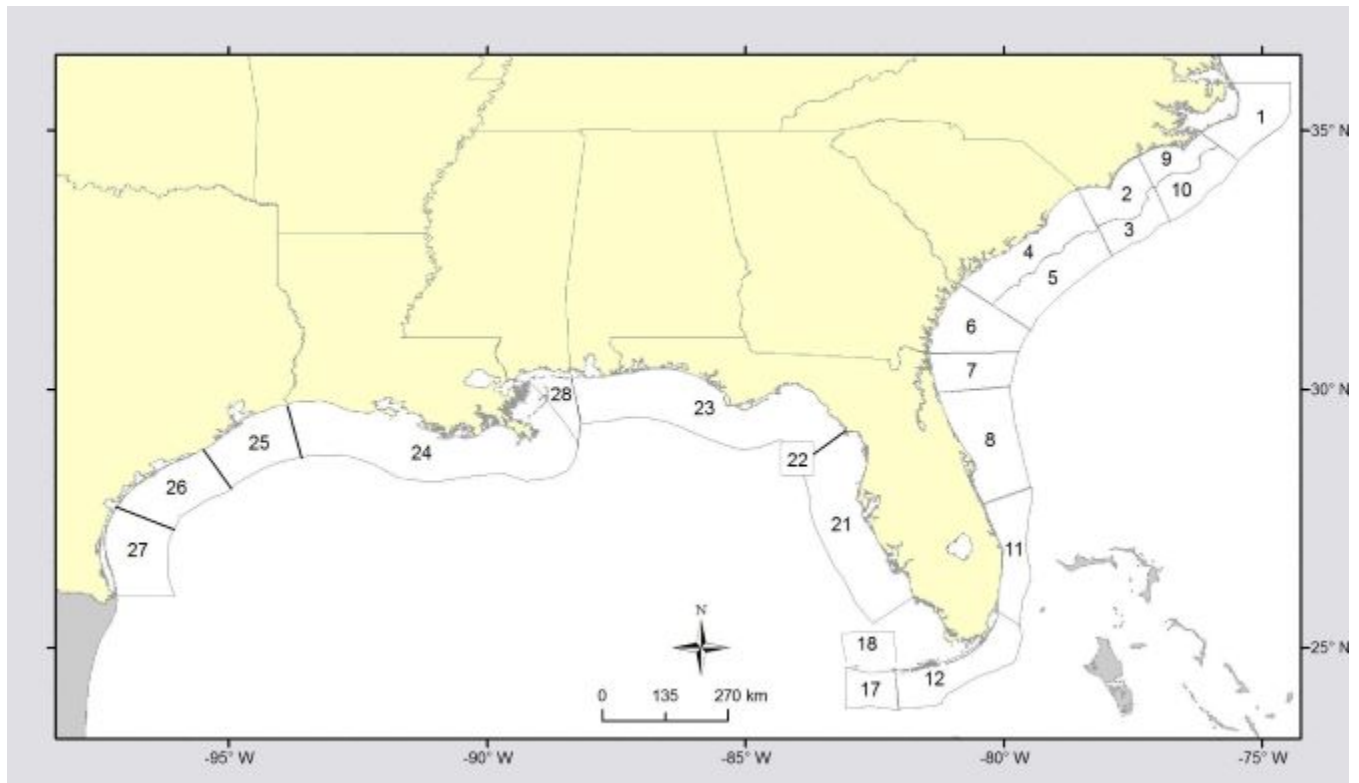


Figure 1: Headboat sampling areas prior to 2013.

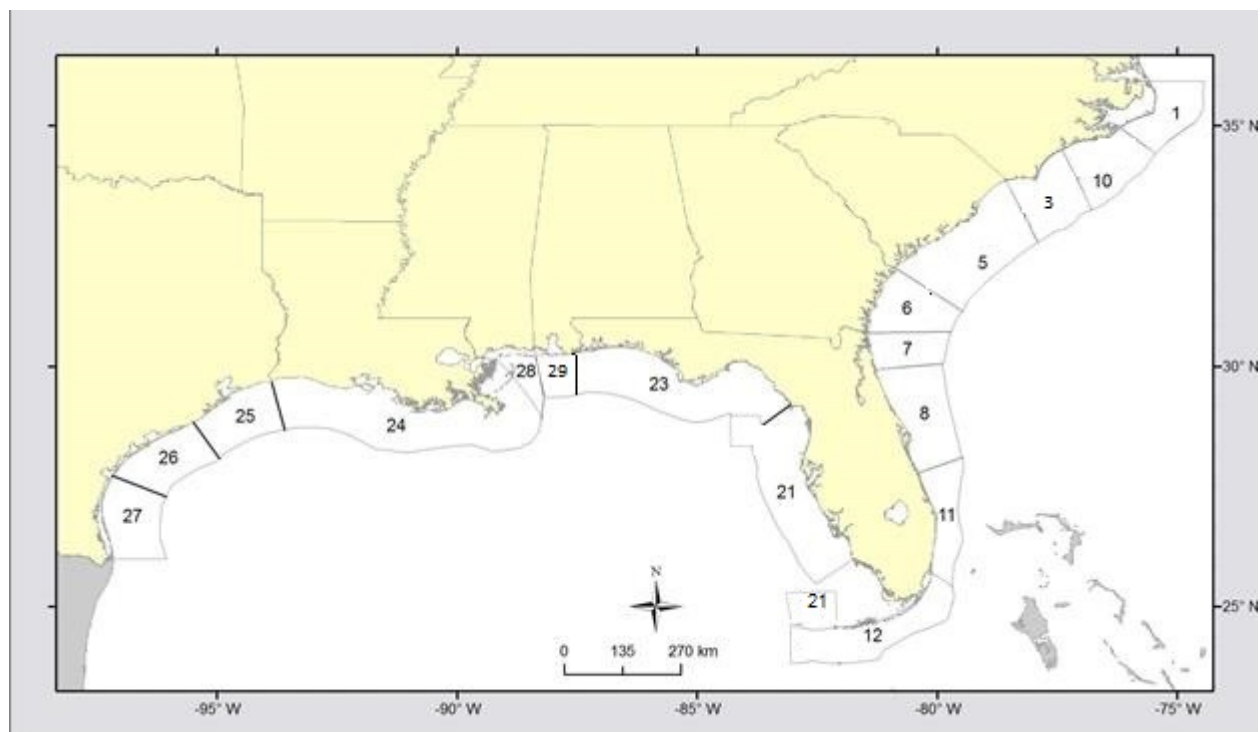


Figure 2: Headboat sampling areas 2013 - present.

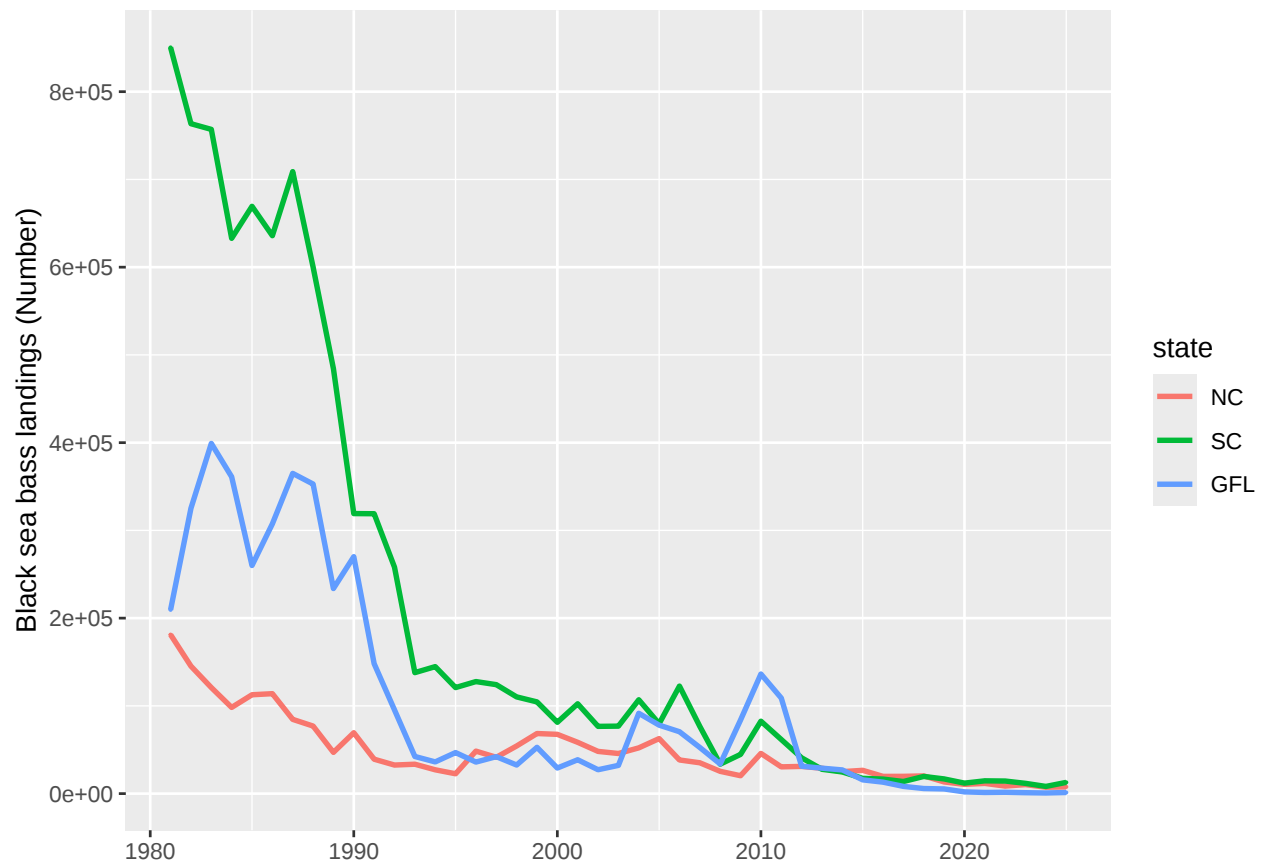


Figure 3: Black sea bass landings in number

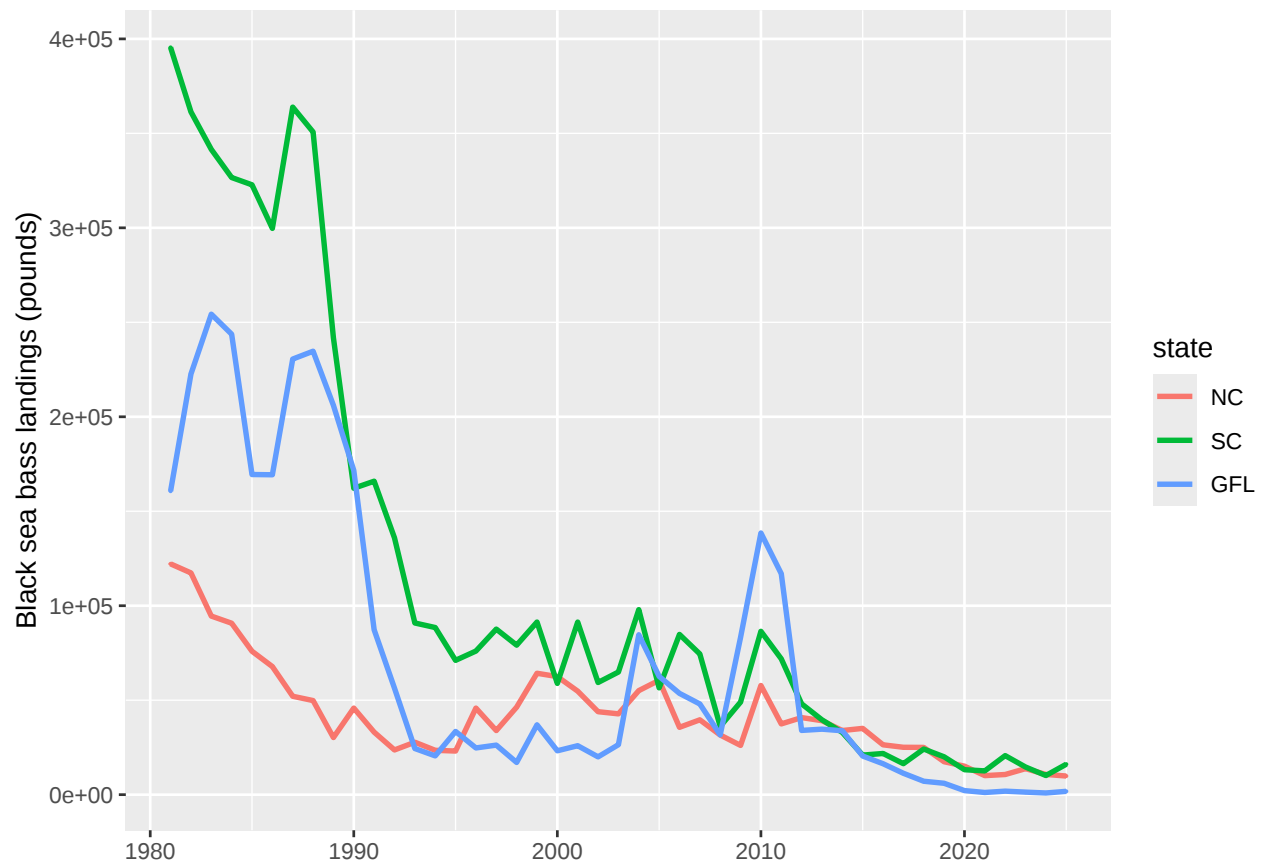


Figure 4: Black sea bass landings in pounds.

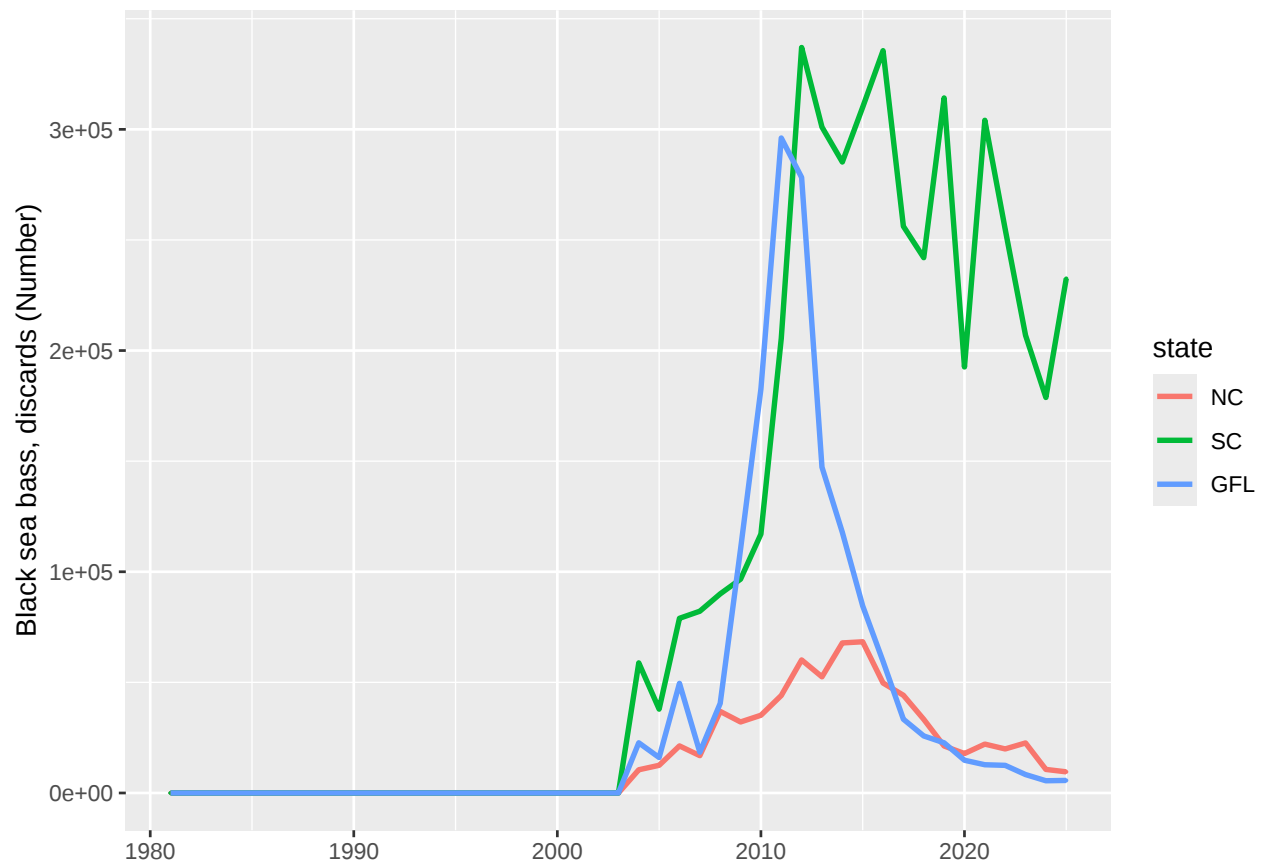


Figure 5: Black sea bass discards in number

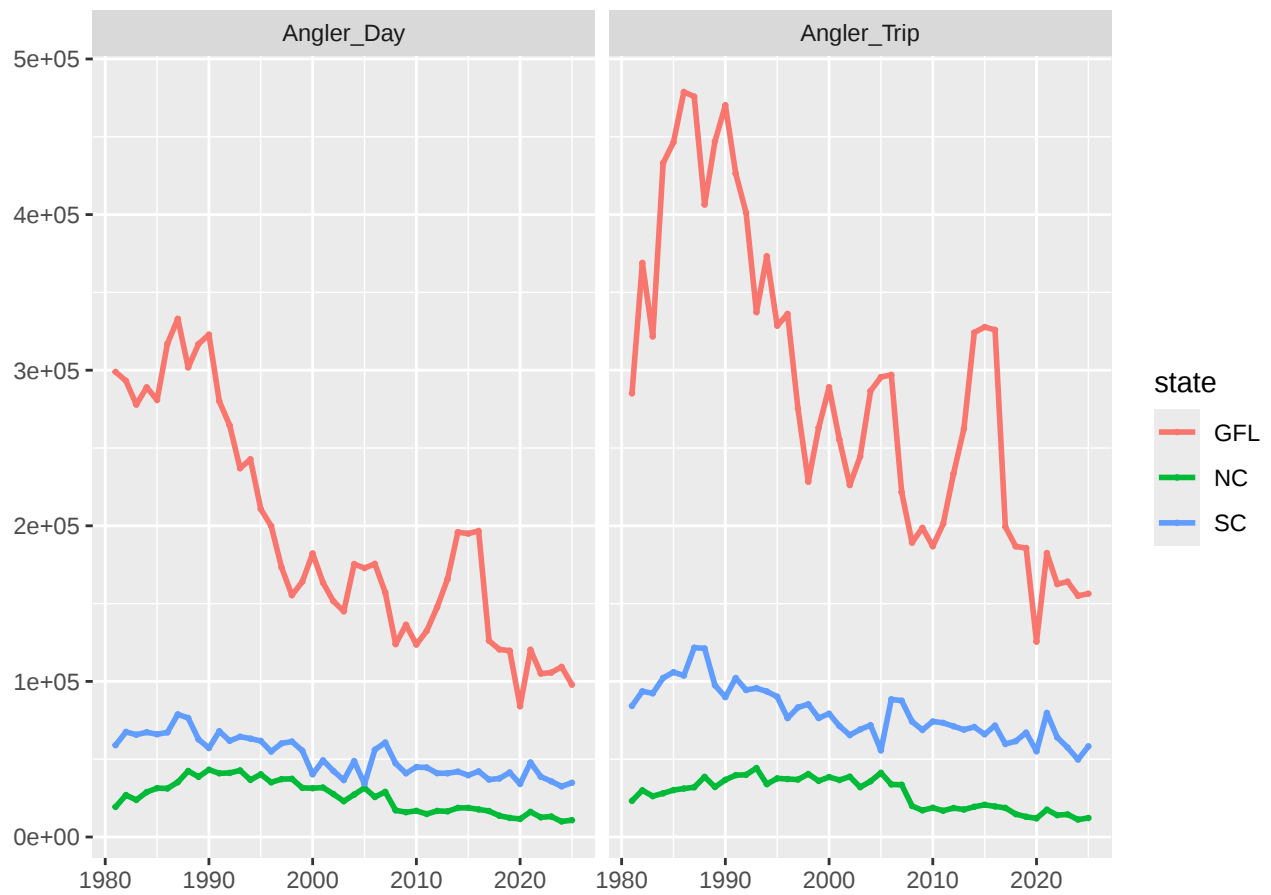


Figure 6: SRHS total estimated angler days and angler trips by state.

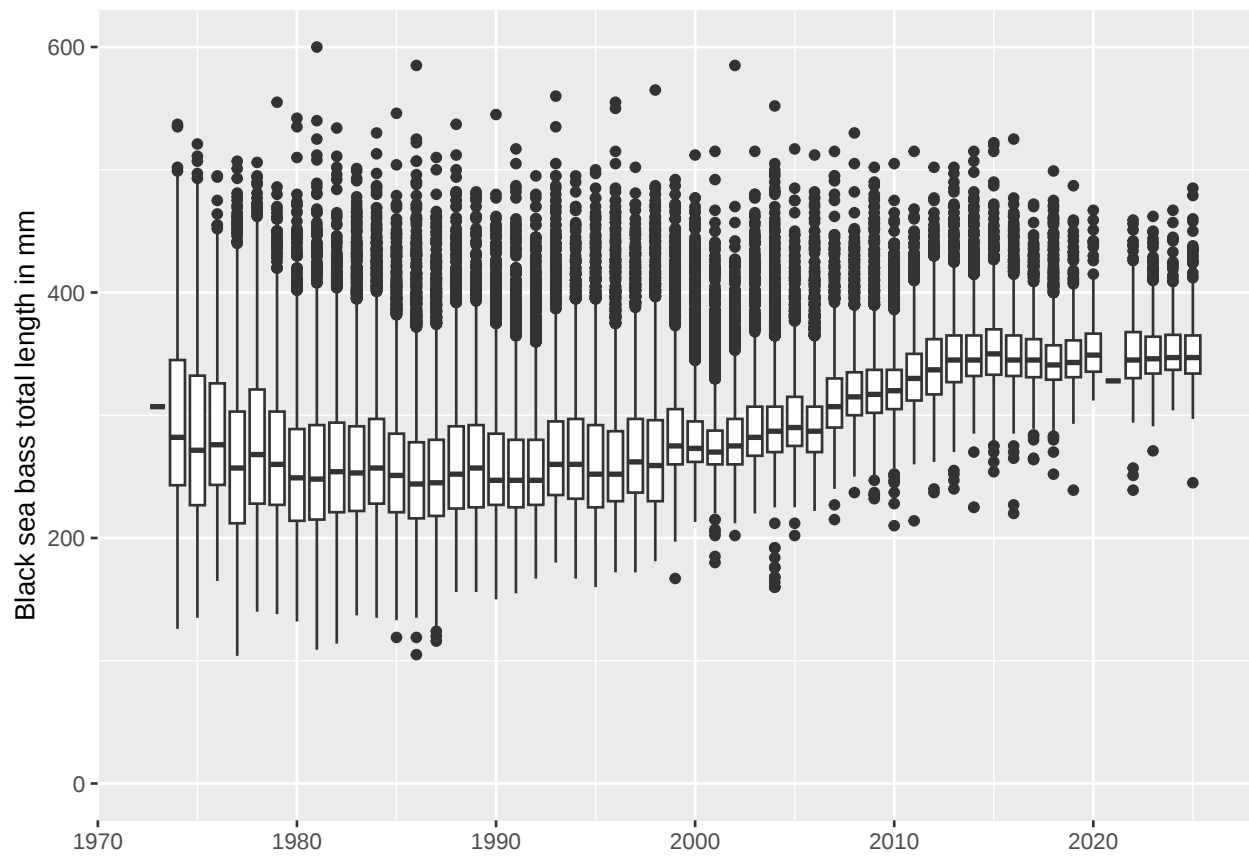


Figure 7: Black sea bass total length.

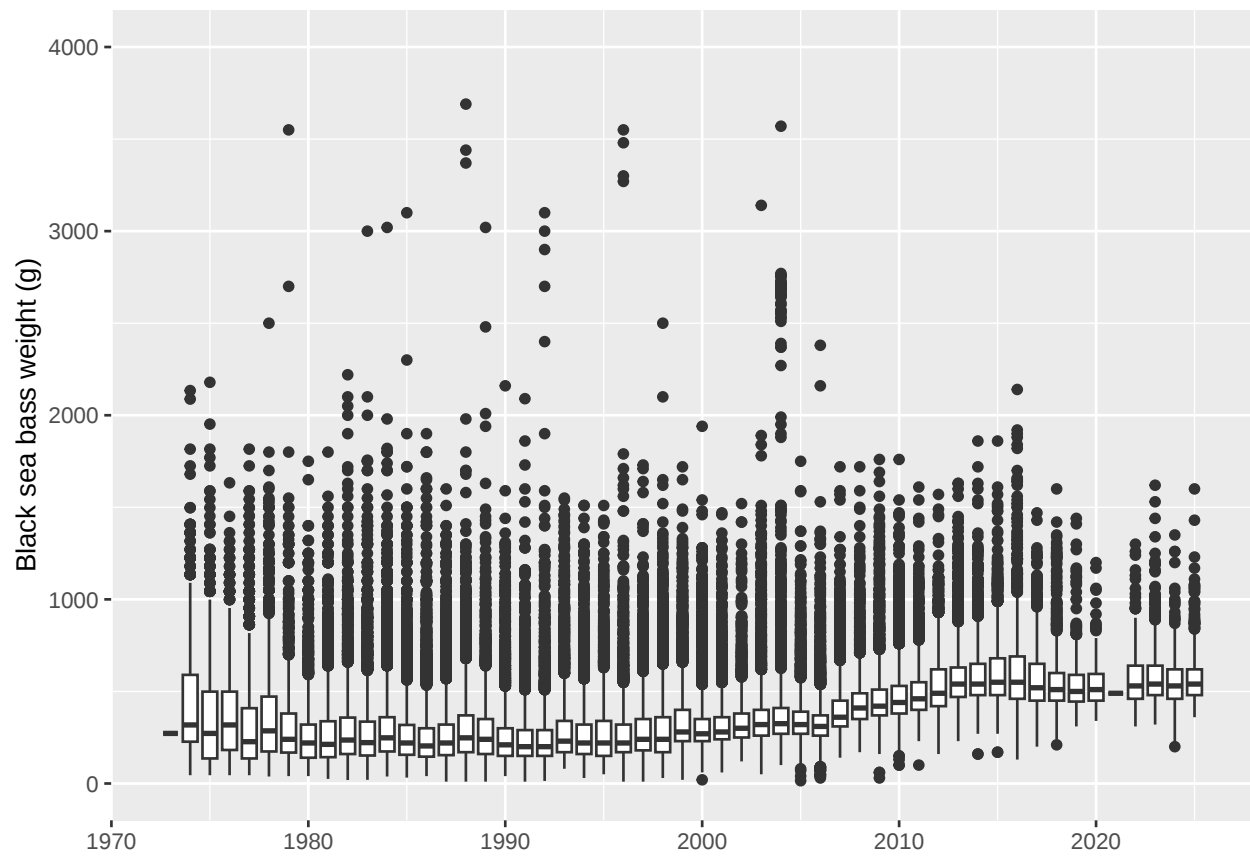


Figure 8: Black sea bass weight (g).

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