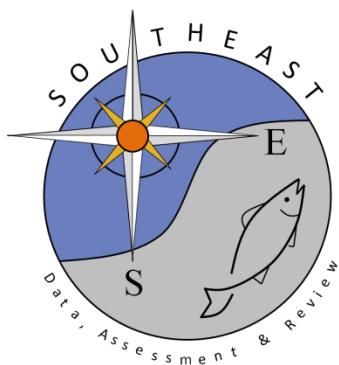


General Recreational Survey Data for Blueline Tilefish in the Atlantic

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SEDAR92-WP-01

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**NOAA Fisheries
Southeast Fisheries Science Center
Sustainable Fisheries Division
Data Analysis and Assessment Support Branch**

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09-18-2024

General recreational catch estimates for Blueline Tilefish are compiled from the Marine Recreational Information Program (MRIP). Details on MRIP can be found in SEDAR68-DW-13.

Parameters for data prepared for SEDAR 92 recreational catch data:

- Species: Blueline Tilefish
 - Catch estimates provided in this report include a percentage of unidentified Tilefish (i.e., Tilefish family). For SEDAR 92, 59% and 14% of unidentified Tilefish landings and discards (respectively) were assumed to be Blueline Tilefish. These percentages are based on catch rates of Blueline Tilefish relative to other Tilefish species since 2005. This is in contrast to SEDAR 50, wherein the same allocation ratio (45%) was applied to both landings and discards.

- Year Range: 1981 - 2023
 - Geographic Range: Atlantic states from Maine to eastern Florida, including the Florida Keys. Spatial summaries for SEDAR 92 have been separated into distinct domains: a 's.Hatteras' region (the Florida Keys to southern North Carolina) and a 'n.Hatteras' region (northern North Carolina to Maine)
 - Fishing Modes: Charter, Private, Headboat (1981-1985 from the Florida Keys and 1981+ from Virginia to Maine)
 - Weight Units: whole weight
 - MRIP Calibration: Fully calibrated estimates that take into account the change in the Fishing Effort Survey (FES), the redesigned Access Point Angler Intercept Survey (APAIS), and the For Hire Survey (FHS). These calibrations allow for estimates in the entire time series to be compared to one another.
 - MRIP Data Gaps from COVID: Missing 2020 intercepts were imputed from all APAIS data collected in 2018 and 2019 from the same strata as the 2020 data gap, with original sample weights reduced by a factor of two to account for using two years of data (Cody 2021).
 - SEFSC Data QAQC: Size records above an allowable (max size) threshold are excluded from average weight estimation and the summary tables included in this working paper (Tables 8-12). For SEDAR 92 Blueline Tilefish, this includes any weights heavier than 16.17 pounds.
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Summary of Data Imputations

Estimate	Strata	Imputed	Rationale
Catch	1981 Wave1 (FL Keys & FLE)	No	No Wave1 catch in 1982-1984, assume catch is 0
Effort	1981 Wave1 (FL Keys & FLE)	Yes	Effort is not species-specific, need to account for effort in Wave1 before MRIP started

Catch and Sample Size Information for Particular Domains:

Annual estimates that appear relatively large/small compared to the adjacent years were further investigated by identifying and summarizing which strata were disproportionately contributing to the estimate. Estimates investigated are more likely to be high given the inherent zero-boundary constraint in catch data (≥ 0) that complicates identification of low estimates.

- 2007 discard estimate: 37,142 fish
 - Strata: North Carolina (north), charterboat, wave 4, and ocean > 3 miles
 - Intercept Records: a total of 14 angler trips that resulted in a discard estimate of 27,162 fish
 - One angler trip released 8 live Blueline Tilefish
 - One angler trip released 7 live Blueline Tilefish
 - Three angler trips released 6 live Blueline Tilefish
 - One angler trip released 5 live Blueline Tilefish
 - One angler trip harvested 38 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 33 Blueline Tilefish (seen by interviewer)
 - Two angler trips harvested 30 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 28 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 20 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 11 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 5 Blueline Tilefish (seen by interviewer)
 - No single intercept contributed more than 50% to the total discard estimate for this strata, with the largest contribution being from the intercept that discarded 8 live Blueline Tilefish (21% of the total discard estimate). Note that all six of these discard records were from a single party.
 - This estimate was the focus of significant discussion in SEDAR 50 (SEDAR 50 Final DW Report, p.97-98). The RWG in SEDAR 50 tied these records to a single charter trip out of Oregon Inlet Center (site=150) on August 10, 2007. "Without any information to refute the field biologists' records and local knowledge of tilefish catches during this period in NC, the RWG recommended accepting this estimate of live discards within the timeseries". However, at the request of the DW Panel, the RWG was asked to explore possible adjustments to this estimate (e.g., using small-area domain estimation and design-based re-weighting), but there was little realized benefit to these approaches (lowered discards by ~6%) supporting the initial recommendation of no manipulation. This recommendation was again rejected by the DW Panel, who ultimately decided to apply a 3-year smoothing function to this estimate for use in the base model. The original 2007 discard estimate was recommended as a sensitivity run in SEDAR 50.

- 2013 landings estimate: 140,101 fish
 - Strata: eastern Florida, private, wave 4, and ocean > 3 miles
 - Intercept Records: a total of 1 angler trip that resulted in a landings estimate of 64,417 fish
 - One angler trip harvested 3 Blueline Tilefish (seen by interviewer)
 - This single intercept accounts for 46% of the total landings estimate for this year.
- Strata: eastern Florida, private, wave 1, and ocean <= 3 miles
- Intercept Records: a total of 3 angler trips that resulted in a landings estimate of 37,796 fish
 - One angler trip harvested 24 Blueline Tilefish (not seen by interviewer)
 - One angler trip harvested 10 Blueline Tilefish (not seen by interviewer)
 - One angler trip harvested 8 Blueline Tilefish (not seen by interviewer)
- These three intercepts (combined) account for 27% of the total landings estimate for this year.
- Strata: western Florida, private, wave 6, and ocean > 10 miles
- Intercept Records: a total of 3 angler trips that resulted in a landings estimate of 31,604 fish
 - One angler trip harvested 3 Blueline Tilefish (seen by interviewer)
 - Two angler trips harvested 2 Unclassified Tilefish (not seen by interviewer)
- The single intercept recording Blueline Tilefish catch accounts for 22,817 fish, 16% of the total landings estimate for this year. Additionally, the two intercepts reporting catch of unidentified tilefish (combined) account for 14,893 fish, 59% of which was allocated to Blueline Tilefish (8,787 fish, 6% of the total annual estimate).
- Taken together, these seven intercepts over these three strata account for 96% (133,817 fish) of the total landings estimate for this year.

- 2016 landings and discard estimates: 149,301 fish and 23,501 fish respectively
 - Strata: Maryland, private, wave 3, and ocean > 3 miles
 - Intercept Records: a total of 1 angler trip that resulted in a landings estimate of 46,106 fish (no discards reported for this strata)
 - One angler trip harvested 10 Blueline Tilefish (seen by interviewer)
 - This single intercept accounts for 31% of the total landings estimate for this year.
- Strata: North Carolina (north), private, wave 4, and ocean > 3 miles
- Intercept Records: a total of 5 angler trips that resulted in a landings estimate of 32,473 fish and a discard estimate of 2,687 fish
 - One angler trip harvested 12 Blueline Tilefish (seen by interviewer) and released 1 live Blueline Tilefish
 - Two angler trips harvested 9 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 8 Blueline Tilefish (seen by interviewer)
 - One angler trip released 3 live Blueline Tilefish
- No single intercept contributed more than 50% to the total landings estimate for this strata, with the largest contribution being from one of the intercepts that harvested 9 Blueline Tilefish (43% of the total landings estimate).
- Strata: Virginia, private, wave 4, and ocean > 3 miles
- Intercept Records: a total of 3 angler trips that resulted in a landings estimate of 23,917 fish and a discard estimate of 19,356 fish
 - One angler trip harvested 5 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 8 Blueline Tilefish (3 seen by interviewer and 5 NOT seen by interviewer) and released 6 live Blueline Tilefish
 - One angler trip harvested 5 Blueline Tilefish (NOT seen by interviewer) and released 6 live Blueline Tilefish
- The two trips that released 6 live Blueline Tilefish contributed equally to the total discard estimate for this strata (50%). These two intercepts account for 82% of the total discard estimate for this year.
- Taken together, these nine intercepts over these three strata account for 69% (102,496 fish) of the total landings estimate for this year. Two intercepts, from a single strata, account for 82% (19,356 fish) of the total discard estimate for this year.

- 2023 landings estimate: 146,108 fish
 - Strata: North Carolina (north), charterboat, wave 3, and ocean > 3 miles
 - Intercept Records: a total of 9 angler trips that resulted in a landings estimate of 34,683 fish
 - Two angler trips harvested 24 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 19 Blueline Tilefish (seen by interviewer)
 - Three angler trips harvested 18 Blueline Tilefish (seen by interviewer)
 - Two angler trips harvested 16 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 1 Blueline Tilefish (seen by interviewer)
 - No single intercept contributed more than 50% to the total landings estimate for this strata, with the largest contribution being from the intercept that harvested 24 Blueline Tilefish (30% of the total landings estimate).
 - Strata: North Carolina (north), charterboat, wave 4, and ocean > 3 miles
 - Intercept Records: a total of 11 angler trips that resulted in a landings estimate of 16,490 fish
 - Four angler trips harvested 18 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 16 Blueline Tilefish (seen by interviewer)
 - Two angler trips harvested 15 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 10 Blueline Tilefish (seen by interviewer)
 - One angler trip harvested 6 Blueline Tilefish (seen by interviewer)
 - Two angler trips harvested 1 Blueline Tilefish (NOT seen by interviewer)
 - No single intercept contributed more than 50% to the total landings estimate for this strata, with the largest contribution being from one of the intercepts that harvested 18 Blueline Tilefish (23% of the total landings estimate). Note that the two intercepts that harvested 1 Blueline Tilefish, which (combined) account for <1% of the total landings estimate for this strata, were from a single party. All other intercepts were from unique fishing parties.
- Strata: Maryland, private, wave 3, and ocean > 3 miles
- Intercept Records: a total of 1 angler trip that resulted in a landings estimate of 18,892 fish
 - One angler trip harvested 18 Blueline Tilefish (seen by interviewer)
- Strata: Maryland, private, wave 4, and ocean > 3 miles
- Intercept Records: a total of 1 angler trip that resulted in a landings estimate of 16,905 fish
 - One angler trip harvested 3 Blueline Tilefish (seen by interviewer)

Discussion

Generally speaking, those strata investigated above with relatively high charterboat estimates (i.e., for NC-north in 2007 and 2023) were the result of relatively high catches being observed across multiple intercepts. Considering the associated sampling weights (i.e., *WP_CATCH*), there was also no single intercept that constituted a majority (>50%) of the strata-level catch estimate, with the most any single intercept contributes to the strata-level estimate being 20-30%. This support for high catch across multiple intercepts suggests that these catch estimates are either reflecting real trends in the charterboat fishery or represent the true variability in MRIP catch estimates for Blueline Tilefish.

Of those strata investigated above with relatively high private boat estimates (i.e., for FLE in 2013, MD in 2023, and NC, VA, and MD in 2016), many were informed by a limited number of intercepts, a single trip for some strata. However, this is not abnormal for Blueline Tilefish. Of all the MRIP strata providing a non-zero catch estimate for Blueline Tilefish by the private mode, 67% were informed by a single intercept:

nTRIPs	1	2	3	4	5	6	9	10	11
nStrata	72	14	10	3	2	2	1	1	2
%Strata	67.3	13.1	9.3	2.8	1.9	1.9	0.9	0.9	1.9

Additionally, most of the private intercepts investigated above were informed by fish actually seen by the dockside sampler, suggesting the associated data was accurately recorded. Taken together, the limited number of trip counts contributing to the private catch estimates above appear to be more a reflection of Blueline Tilefish being a “rare event” species in the MRIP survey, and not necessarily an indication of any systematic bias or inaccuracy in these estimates.

Appendices

Appendix A. Additional Details of Survey Data and SEFSC Estimation

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Table 1. Annual landings (AB1) and discards (B2) of Blueline Tilefish in numbers of fish by state and year (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina).

Year	FLKeys		FLE		SC		SNC		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	5,310	0	0	0	0	0	5,310	0
1983	0	0	0	0	0	0	0	0	0	0
1984	0	0	13,816	0	752	0	0	0	14,567	0
1985	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0
1987	543	0	0	0	0	0	0	0	543	0
1988	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0
1991	0	3,983	0	0	0	0	0	0	0	3,983
1992	0	505	0	0	0	0	0	0	0	505
1993	2,422	0	1,979	0	0	0	0	0	4,401	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	357	0	0	0	1,884	0	2,241	0
1996	0	0	0	0	0	0	0	0	0	0
1997	17	0	0	0	0	0	0	0	17	0
1998	0	0	0	5	0	0	0	0	0	5
1999	437	0	0	951	0	0	0	0	437	951
2000	19	22	0	0	38	0	0	0	58	22
2001	177	0	0	0	0	0	0	0	177	0
2002	148	0	1,405	332	0	0	0	0	1,553	332
2003	476	100	17,450	5,273	0	0	0	0	17,926	5,373
2004	524	4	289	43	0	0	2,564	0	3,377	47
2005	1,290	0	0	2,526	0	0	0	0	1,290	2,526
2006	174	0	2,871	0	0	0	0	0	3,044	0
2007	2,908	156	0	38	0	0	126	0	3,033	194
2008	5,816	0	114	0	0	0	710	0	6,639	0
2009	10,431	1,058	3,278	503	0	0	374	0	14,083	1,562
2010	7,084	0	7,104	0	0	0	161	16	14,349	16
2011	0	0	3,779	0	0	0	335	0	4,114	0
2012	17,101	5	27,052	445	0	0	0	0	44,153	449
2013	31,604	0	102,613	3,455	0	0	1,376	0	135,593	3,455

Year	FLKeys		FLE		SC		SNC		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
2014	7,287	611	7,852	4,238	0	0	108	0	15,247	4,850
2015	10,269	5,574	1,204	0	0	0	0	0	11,473	5,574
2016	2,122	96	4,392	165	0	0	359	1,197	6,872	1,458
2017	4,648	888	75,013	19,226	0	0	0	0	79,661	20,114
2018	21,984	148	1,692	739	0	0	0	0	23,676	886
2019	1,065	0	7,465	0	0	0	0	0	8,530	0
2020	8,150	0	12,209	919	0	0	0	0	20,359	919
2021	3,775	0	4,224	1,216	0	0	0	0	7,999	1,216
2022	9,193	0	213	114	0	0	0	0	9,406	114
2023	5,208	0	17,614	101	0	0	0	0	22,822	101

Table 1 continued. Annual landings (AB1) and discards (B2) of Blueline Tilefish in numbers of fish by state and year (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine).

Year	NNC		VA		MD		DE		NJ		MA		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	1,866	0	1,866	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	2,000	0	0	0	0	0	0	0	0	0	0	0	2,000	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	328	0	0	0	0	0	0	0	0	0	0	0	328	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	242	0	0	0	0	0	0	0	0	0	0	0	242	0
1997	2,075	0	0	0	0	0	0	0	0	0	0	0	2,075	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	2,074	0	0	0	0	0	0	0	0	0	0	0	2,074	0
2002	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2003	1,606	226	0	0	0	0	0	0	0	0	0	0	1,606	226

Year	NNC		VA		MD		DE		NJ		MA		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2	AB1	B2
2004	217	0	0	0	0	0	0	0	0	0	0	0	217	0
2005	2,718	1,272	0	0	0	0	0	0	0	0	0	0	2,718	1,272
2006	72,101	1,084	0	0	0	0	0	0	0	0	0	0	72,101	1,084
2007	76,606	36,763	697	184	0	0	0	0	0	0	0	0	77,303	36,948
2008	83,241	0	0	0	0	0	0	0	141	0	0	0	83,382	0
2009	24,658	0	0	0	0	0	22	0	229	0	0	0	24,909	0
2010	7,970	1,695	0	0	0	0	0	0	0	0	0	0	7,970	1,695
2011	4,762	241	195	31	0	0	0	0	0	0	0	0	4,957	272
2012	10,748	3,150	0	0	0	0	0	0	0	0	0	0	10,748	3,150
2013	4,508	22	0	0	0	0	0	0	0	0	0	0	4,508	22
2014	15,429	5	0	0	0	0	0	0	0	0	0	0	15,429	5
2015	2,599	0	0	0	0	0	4,663	0	0	0	0	0	7,262	0
2016	43,729	2,687	42,669	19,356	46,106	0	0	0	9,924	0	0	0	142,429	22,043
2017	19,703	49	12,122	0	0	0	0	0	0	0	0	0	31,825	49
2018	18,998	2,156	5,053	310	6	5	19	0	0	0	0	0	24,076	2,470
2019	20,350	208	2,272	28	4,839	0	0	0	0	0	0	0	27,462	236
2020	102,161	779	709	25	875	32	178	0	0	0	0	0	103,923	836
2021	28,933	4,597	24,310	2,887	12,723	2,451	0	0	12,939	2,144	0	0	78,905	12,079
2022	2,285	98	34,293	78	55,307	19,871	0	0	0	0	0	0	91,885	20,047
2023	59,140	605	8,751	6	48,980	706	0	0	6,415	0	0	0	123,286	1,317

Table 2. Annual landings (AB1) and discards (B2) of Blueline Tilefish in numbers of fish by mode and year (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt		Priv		Total	
	AB1	B2	AB1	B2	AB1	B2
1981	0	0	0	0	0	0
1982	0	0	5,310	0	5,310	0
1983	0	0	0	0	0	0
1984	752	0	13,816	0	14,567	0
1985	0	0	0	0	0	0
1986	0	0	0	0	0	0
1987	543	0	0	0	543	0
1988	0	0	0	0	0	0
1989	0	0	0	0	0	0
1990	0	0	0	0	0	0
1991	0	0	0	3,983	0	3,983
1992	0	14	0	491	0	505
1993	531	0	3,870	0	4,401	0
1994	0	0	0	0	0	0
1995	2,241	0	0	0	2,241	0
1996	0	0	0	0	0	0
1997	17	0	0	0	17	0
1998	0	5	0	0	0	5
1999	437	291	0	660	437	951
2000	58	22	0	0	58	22
2001	177	0	0	0	177	0
2002	517	0	1,036	332	1,553	332
2003	476	100	17,450	5,273	17,926	5,373
2004	3,377	4	0	43	3,377	47
2005	1,290	0	0	2,526	1,290	2,526
2006	174	0	2,871	0	3,044	0
2007	3,033	0	0	194	3,033	194
2008	1,646	0	4,994	0	6,639	0
2009	3,722	18	10,361	1,544	14,083	1,562
2010	1,161	16	13,189	0	14,349	16
2011	2,231	0	1,883	0	4,114	0
2012	18,984	346	25,169	103	44,153	449

Year	Cbt		Priv		Total	
	AB1	B2	AB1	B2	AB1	B2
2013	1,430	0	134,163	3,455	135,593	3,455
2014	699	27	14,548	4,822	15,247	4,850
2015	1,252	3	10,221	5,572	11,473	5,574
2016	4,288	0	2,584	1,458	6,872	1,458
2017	53,341	19,551	26,320	563	79,661	20,114
2018	3,290	148	20,386	739	23,676	886
2019	1,470	0	7,059	0	8,530	0
2020	1,425	0	18,934	919	20,359	919
2021	1,852	0	6,147	1,216	7,999	1,216
2022	1,942	0	7,464	114	9,406	114
2023	1,394	0	21,428	101	22,822	101

Table 2 continued. Annual landings (AB1) and discards (B2) of Blueline Tilefish in numbers of fish by mode and year (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt		Hbt		Priv		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1981	0	0			0	0	0	0
1982	0	0			1,866	0	1,866	0
1983	0	0			0	0	0	0
1984	0	0			0	0	0	0
1985	0	0			0	0	0	0
1986	0	0			0	0	0	0
1987	0	0			2,000	0	2,000	0
1988	0	0			0	0	0	0
1989	0	0			328	0	328	0
1990	0	0			0	0	0	0

Year	Cbt		Hbt		Priv		Total	
	AB1	B2	AB1	B2	AB1	B2	AB1	B2
1991	0	0			0	0	0	0
1992	0	0			0	0	0	0
1993	0	0			0	0	0	0
1994	0	0			0	0	0	0
1995	0	0			0	0	0	0
1996	242	0			0	0	242	0
1997	2,075	0			0	0	2,075	0
1998	0	0			0	0	0	0
1999	0	0			0	0	0	0
2000	0	0			0	0	0	0
2001	2,074	0			0	0	2,074	0
2002	0	3			0	0	0	3
2003	1,606	226			0	0	1,606	226
2004	217	0	0	0	0	0	217	0
2005	2,718	1,272	0	0	0	0	2,718	1,272
2006	28,256	896	0	0	43,845	187	72,101	1,084
2007	56,714	27,346	0	0	20,589	9,602	77,303	36,948
2008	43,153	0	141	0	40,088	0	83,382	0
2009	7,190	0	229	0	17,490	0	24,909	0
2010	5,523	1,695	0	0	2,447	0	7,970	1,695
2011	3,946	272	0	0	1,011	0	4,957	272
2012	6,382	0	0	0	4,365	3,150	10,748	3,150
2013	4,508	22	0	0	0	0	4,508	22
2014	9,963	5	0	0	5,466	0	15,429	5
2015	72	0	0	0	7,190	0	7,262	0
2016	12,288	0	0	0	130,141	22,043	142,429	22,043
2017	7,598	49	0	0	24,228	0	31,825	49
2018	11,262	361	6	5	12,808	2,105	24,076	2,470
2019	17,760	229	0	7	9,701	0	27,462	236
2020	42,582	789	41	47	61,300	0	103,923	836
2021	23,974	3,107	0	0	54,931	8,972	78,905	12,079
2022	26,170	170	0	7	65,715	19,871	91,885	20,047
2023	69,401	0	0	6	53,885	1,312	123,286	1,317

Table 3. Blueline Tilefish landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt				Priv			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
1981	0	0.00	53 (0)	502 (0)	0	0.00	173 (0)	1,389 (0)
1982	0	0.00	51 (0)	455 (0)	5,310	0.00	385 (0)	3,475 (0)
1983	0	0.00	158 (0)	1,727 (0)	0	0.00	242 (0)	2,090 (0)
1984	752	0.00	214 (0)	2,352 (0)	13,816	0.00	249 (0)	2,562 (0)
1985	0	0.00	151 (0)	1,430 (0)	0	0.00	491 (0)	3,915 (0)
1986	0	0.00	214 (0)	1,752 (0)	0	0.00	764 (0)	6,760 (0)
1987	543	0.71	322 (2)	2,299 (2)	0	0.00	1,149 (0)	10,793 (0)
1988	0	0.00	353 (0)	2,489 (0)	0	0.00	1,106 (0)	9,260 (0)
1989	0	0.00	360 (0)	2,665 (0)	0	0.00	1,020 (0)	9,321 (0)
1990	0	0.00	261 (0)	2,276 (0)	0	0.00	840 (0)	8,784 (0)
1991	0	0.00	319 (0)	2,313 (0)	0	0.00	809 (0)	8,692 (0)
1992	0	0.00	471 (0)	3,576 (0)	0	0.00	1,220 (0)	12,842 (0)
1993	531	1.00	302 (1)	2,313 (1)	3,870	1.00	1,058 (1)	11,195 (1)
1994	0	0.00	334 (0)	2,703 (0)	0	0.00	1,241 (0)	13,241 (0)
1995	2,241	1.00	332 (1)	2,570 (1)	0	0.00	1,283 (0)	13,388 (0)
1996	0	0.00	398 (0)	2,952 (0)	0	0.00	1,374 (0)	13,957 (0)
1997	17	1.00	479 (1)	3,389 (1)	0	0.00	1,344 (0)	14,325 (0)
1998	0	0.00	582 (0)	4,647 (0)	0	0.00	1,262 (0)	14,362 (0)
1999	437	0.50	776 (7)	6,124 (8)	0	0.00	1,431 (0)	15,855 (0)
2000	58	0.75	859 (2)	7,721 (2)	0	0.00	1,333 (0)	16,019 (0)
2001	177	0.76	781 (3)	7,926 (3)	0	0.00	1,487 (0)	18,592 (0)
2002	517	0.86	808 (3)	7,857 (4)	1,036	1.00	1,355 (1)	17,532 (1)

Year	Cbt				Priv			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
2003	476	0.45	736 (8)	7,419 (12)	17,450	1.00	1,310 (1)	16,448 (1)
2004	3,377	0.79	558 (6)	5,434 (6)	0	0.00	1,177 (0)	14,021 (0)
2005	1,290	0.69	528 (6)	5,590 (7)	0	0.00	1,136 (0)	13,813 (0)
2006	174	1.00	460 (1)	4,469 (1)	2,871	0.00	1,441 (0)	17,885 (0)
2007	3,033	0.37	496 (10)	4,559 (14)	0	0.00	1,297 (0)	16,712 (0)
2008	1,646	0.43	612 (10)	5,055 (10)	4,994	1.00	1,218 (1)	15,661 (1)
2009	3,722	0.63	493 (5)	3,774 (6)	10,361	1.00	1,242 (1)	15,017 (1)
2010	1,161	0.69	575 (5)	4,858 (8)	13,189	0.64	1,656 (3)	18,531 (4)
2011	2,231	0.49	534 (6)	4,440 (12)	1,883	1.00	1,568 (1)	16,492 (1)
2012	18,984	0.52	562 (10)	4,616 (14)	25,169	0.73	1,742 (3)	18,934 (5)
2013	1,430	0.43	350 (8)	2,523 (8)	134,163	0.62	1,383 (4)	12,581 (6)
2014	699	0.67	625 (3)	4,699 (4)	14,548	0.54	1,421 (5)	14,521 (7)
2015	1,252	0.54	682 (5)	4,367 (7)	10,221	0.62	1,456 (4)	14,385 (4)
2016	4,288	0.63	682 (5)	3,989 (5)	2,584	1.00	1,446 (1)	13,114 (1)
2017	53,341	0.92	577 (8)	3,185 (8)	26,320	0.86	1,422 (3)	13,694 (4)
2018	3,290	0.56	668 (8)	4,488 (10)	20,386	0.63	1,357 (4)	12,776 (4)
2019	1,470	0.80	648 (3)	3,918 (3)	7,059	0.95	1,373 (2)	12,383 (2)
2020	1,425	0.73	784 (2)	4,876 (2)	18,934	0.58	1,764 (3)	15,483 (3)
2021	1,852	0.60	942 (5)	6,497 (5)	6,147	0.71	2,000 (2)	17,400 (2)
2022	1,942	0.59	796 (5)	4,753 (5)	7,464	0.79	1,774 (2)	13,451 (2)
2023	1,394	0.60	877 (5)	5,720 (5)	21,428	0.55	1,910 (8)	15,592 (8)

Table 3 continued. Blueline Tilefish landings in numbers of fish (AB1) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt				CbtHbt				Hbt				Priv			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
1981	0	0.00	10 (0)	81 (0)	0	0.00	395 (0)	3,760 (0)					0	0.00	689 (0)	5,752 (0)
1982	0	0.00	6 (0)	65 (0)	0	0.00	210 (0)	2,203 (0)					1,866	0.00	778 (0)	6,502 (0)
1983	0	0.00	11 (0)	159 (0)	0	0.00	368 (0)	4,395 (0)					0	0.00	877 (0)	8,332 (0)
1984	0	0.00	12 (0)	240 (0)	0	0.00	284 (0)	3,422 (0)					0	0.00	610 (0)	4,859 (0)
1985	0	0.00	10 (0)	195 (0)	0	0.00	420 (0)	4,713 (0)					0	0.00	919 (0)	7,406 (0)
1986	0	0.00	35 (0)	508 (0)	0	0.00	638 (0)	6,191 (0)					0	0.00	1,546 (0)	11,703 (0)
1987	0	0.00	74 (0)	1,327 (0)	0	0.00	427 (0)	3,699 (0)					2,000	0.00	1,096 (0)	8,599 (0)
1988	0	0.00	69 (0)	1,071 (0)	0	0.00	580 (0)	5,424 (0)					0	0.00	1,465 (0)	11,957 (0)
1989	0	0.00	88 (0)	1,594 (0)	0	0.00	907 (0)	9,015 (0)					328	0.00	2,211 (0)	17,318 (0)
1990	0	0.00	62 (0)	1,164 (0)	0	0.00	798 (0)	6,705 (0)					0	0.00	2,704 (0)	22,842 (0)
1991	0	0.00	90 (0)	1,795 (0)	0	0.00	852 (0)	7,264 (0)					0	0.00	2,777 (0)	23,880 (0)
1992	0	0.00	90 (0)	1,551 (0)	0	0.00	805 (0)	6,758 (0)					0	0.00	2,869 (0)	23,951 (0)
1993	0	0.00	98 (0)	2,021 (0)	0	0.00	695 (0)	5,816 (0)					0	0.00	2,673 (0)	21,403 (0)
1994	0	0.00	157 (0)	3,560 (0)	0	0.00	708 (0)	5,635 (0)					0	0.00	2,739 (0)	22,178 (0)
1995	0	0.00	127 (0)	3,076 (0)	0	0.00	653 (0)	5,262 (0)					0	0.00	2,343 (0)	18,428 (0)

Year	Cbt				CbtHbt				Hbt				Priv			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
1996	242	1.00	242 (1)	5,407 (1)	0	0.00	693 (0)	5,343 (0)					0	0.00	2,256 (0)	19,447 (0)
1997	2,075	1.00	327 (1)	5,673 (1)	0	0.00	821 (0)	6,318 (0)					0	0.00	2,552 (0)	21,795 (0)
1998	0	0.00	330 (0)	5,165 (0)	0	0.00	950 (0)	6,797 (0)					0	0.00	2,554 (0)	20,986 (0)
1999	0	0.00	222 (0)	3,248 (0)	0	0.00	764 (0)	6,162 (0)					0	0.00	2,232 (0)	20,057 (0)
2000	0	0.00	206 (0)	4,024 (0)	0	0.00	799 (0)	5,739 (0)					0	0.00	2,337 (0)	18,914 (0)
2001	2,074	1.00	169 (1)	3,760 (1)	0	0.00	932 (0)	7,950 (0)					0	0.00	2,825 (0)	26,184 (0)
2002	0	0.00	194 (0)	3,287 (0)	0	0.00	864 (0)	6,873 (0)					0	0.00	2,573 (0)	22,268 (0)
2003	1,606	1.00	147 (1)	2,617 (1)	0	0.00	1,452 (0)	12,629 (0)					0	0.00	2,991 (0)	22,123 (0)
2004	217	0.00	728 (0)	6,321 (0)					0	0.00	875 (0)	9,325 (0)	0	0.00	2,026 (0)	16,632 (0)
2005	2,718	0.93	1,088 (2)	8,394 (2)					0	0.00	982 (0)	10,946 (0)	0	0.00	1,679 (0)	13,538 (0)
2006	28,256	0.48	1,004 (12)	7,268 (15)					0	0.00	890 (0)	8,639 (0)	43,845	0.67	1,772 (4)	14,420 (5)
2007	56,714	0.41	1,004 (16)	7,419 (23)					0	0.00	642 (0)	8,160 (0)	20,589	0.63	2,170 (5)	16,675 (5)
2008	43,153	0.34	986 (26)	7,508 (57)					141	1.00	677 (1)	8,756 (1)	40,088	0.63	2,062 (5)	16,171 (7)
2009	7,190	0.46	942 (14)	6,509 (22)					229	1.00	656 (1)	7,404 (8)	17,490	0.63	1,982 (3)	14,711 (3)
2010	5,523	0.45	1,041 (22)	7,688 (30)					0	0.00	676 (0)	8,358 (0)	2,447	0.74	2,006 (2)	15,086 (2)
2011	3,946	0.67	915 (8)	6,487 (8)					0	0.00	626 (0)	7,594 (0)	1,011	1.00	1,815 (1)	13,388 (1)
2012	6,382	0.39	773 (18)	6,119 (27)					0	0.00	477 (0)	5,783 (0)	4,365	0.94	1,758 (2)	13,044 (2)
2013	4,508	0.57	336 (10)	1,884 (14)					0	0.00	609 (0)	7,729 (0)	0	0.00	2,083 (0)	15,577 (0)
2014	9,963	0.35	624 (18)	4,347 (37)					0	0.00	546 (0)	7,301 (0)	5,466	0.62	2,490 (3)	17,045 (4)

Year	Cbt				CbtHbt				Hbt				Priv			
	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp	AB1	CV	PSU	Trp
2015	72	1.00	602 (1)	4,554 (1)					0	0.00	532 (0)	7,295 (0)	7,190	0.70	2,633 (3)	18,806 (3)
2016	12,288	0.46	715 (14)	5,682 (28)					0	0.00	572 (0)	8,687 (0)	130,141	0.44	2,522 (11)	16,662 (12)
2017	7,598	0.37	795 (11)	6,768 (15)					0	0.00	507 (0)	7,341 (0)	24,228	0.51	2,732 (6)	20,594 (7)
2018	11,262	0.27	942 (34)	8,330 (68)					6	0.94	512 (2)	8,133 (3)	12,808	0.54	2,783 (6)	22,096 (7)
2019	17,760	0.28	974 (25)	7,779 (32)					0	0.00	503 (0)	8,595 (0)	9,701	0.71	2,828 (2)	22,851 (7)
2020	42,582	0.21	1,137 (44)	9,779 (79)					41	0.94	960 (2)	16,256 (3)	61,300	0.90	3,487 (7)	29,258 (12)
2021	23,974	0.29	1,126 (33)	9,434 (56)					0	0.00	631 (0)	10,787 (0)	54,931	0.41	3,153 (14)	24,278 (29)
2022	26,170	0.76	1,038 (9)	7,887 (12)					0	0.00	553 (0)	9,287 (0)	65,715	0.64	3,060 (3)	21,555 (3)
2023	69,401	0.33	1,018 (21)	7,060 (32)					0	0.00	454 (0)	7,233 (0)	53,885	0.50	3,133 (9)	22,117 (16)

Table 4. Blueline Tilefish discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt				Priv			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1981	0	0.00	53 (0)	502 (0)	0	0.00	173 (0)	1,389 (0)
1982	0	0.00	51 (0)	455 (0)	0	0.00	385 (0)	3,475 (0)
1983	0	0.00	158 (0)	1,727 (0)	0	0.00	242 (0)	2,090 (0)
1984	0	0.00	214 (0)	2,352 (0)	0	0.00	249 (0)	2,562 (0)
1985	0	0.00	151 (0)	1,430 (0)	0	0.00	491 (0)	3,915 (0)
1986	0	0.00	214 (0)	1,752 (0)	0	0.00	764 (0)	6,760 (0)
1987	0	0.00	322 (0)	2,299 (0)	0	0.00	1,149 (0)	10,793 (0)
1988	0	0.00	353 (0)	2,489 (0)	0	0.00	1,106 (0)	9,260 (0)
1989	0	0.00	360 (0)	2,665 (0)	0	0.00	1,020 (0)	9,321 (0)
1990	0	0.00	261 (0)	2,276 (0)	0	0.00	840 (0)	8,784 (0)
1991	0	0.00	319 (0)	2,313 (0)	3,983	1.00	809 (1)	8,692 (1)
1992	14	0.00	471 (0)	3,576 (0)	491	0.00	1,220 (0)	12,842 (0)
1993	0	0.00	302 (0)	2,313 (0)	0	0.00	1,058 (0)	11,195 (0)
1994	0	0.00	334 (0)	2,703 (0)	0	0.00	1,241 (0)	13,241 (0)
1995	0	0.00	332 (0)	2,570 (0)	0	0.00	1,283 (0)	13,388 (0)
1996	0	0.00	398 (0)	2,952 (0)	0	0.00	1,374 (0)	13,957 (0)
1997	0	0.00	479 (0)	3,389 (0)	0	0.00	1,344 (0)	14,325 (0)
1998	5	0.00	582 (0)	4,647 (0)	0	0.00	1,262 (0)	14,362 (0)
1999	291	0.00	776 (0)	6,124 (0)	660	0.00	1,431 (0)	15,855 (0)
2000	22	0.00	859 (0)	7,721 (0)	0	0.00	1,333 (0)	16,019 (0)
2001	0	0.00	781 (0)	7,926 (0)	0	0.00	1,487 (0)	18,592 (0)
2002	0	0.00	808 (0)	7,857 (0)	332	0.00	1,355 (0)	17,532 (0)

Year	Cbt				Priv			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp
2003	100	1.00	736 (1)	7,419 (1)	5,273	1.00	1,310 (1)	16,448 (2)
2004	4	0.00	558 (0)	5,434 (0)	43	0.00	1,177 (0)	14,021 (0)
2005	0	0.00	528 (0)	5,590 (0)	2,526	0.00	1,136 (0)	13,813 (0)
2006	0	0.00	460 (0)	4,469 (0)	0	0.00	1,441 (0)	17,885 (0)
2007	0	0.00	496 (0)	4,559 (0)	194	0.00	1,297 (0)	16,712 (0)
2008	0	0.00	612 (0)	5,055 (0)	0	0.00	1,218 (0)	15,661 (0)
2009	18	1.00	493 (1)	3,774 (1)	1,544	0.00	1,242 (0)	15,017 (0)
2010	16	0.00	575 (0)	4,858 (0)	0	0.00	1,656 (0)	18,531 (0)
2011	0	0.00	534 (0)	4,440 (0)	0	0.00	1,568 (0)	16,492 (0)
2012	346	1.00	562 (1)	4,616 (2)	103	0.00	1,742 (0)	18,934 (0)
2013	0	0.00	350 (0)	2,523 (0)	3,455	1.00	1,383 (1)	12,581 (1)
2014	27	0.00	625 (0)	4,699 (0)	4,822	0.00	1,421 (0)	14,521 (0)
2015	3	0.00	682 (0)	4,367 (0)	5,572	0.97	1,456 (2)	14,385 (2)
2016	0	0.00	682 (0)	3,989 (0)	1,458	0.00	1,446 (0)	13,114 (0)
2017	19,551	0.96	577 (2)	3,185 (3)	563	0.00	1,422 (0)	13,694 (0)
2018	148	0.00	668 (0)	4,488 (0)	739	1.00	1,357 (1)	12,776 (1)
2019	0	0.00	648 (0)	3,918 (0)	0	0.00	1,373 (0)	12,383 (0)
2020	0	0.00	784 (0)	4,876 (0)	919	1.00	1,764 (1)	15,483 (1)
2021	0	0.00	942 (0)	6,497 (0)	1,216	0.00	2,000 (0)	17,400 (0)
2022	0	0.00	796 (0)	4,753 (0)	114	0.00	1,774 (0)	13,451 (0)
2023	0	0.00	877 (0)	5,720 (0)	101	0.00	1,910 (0)	15,592 (0)

Table 4 continued. Blueline Tilefish discards in numbers of fish (B2) with associated coefficients of variation (CV; Dettloff et al. 2020) by mode and year (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (Trp) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt				CbtHbt				Hbt				Priv			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1981	0	0.00	10 (0)	81 (0)	0	0.00	395 (0)	3,760 (0)					0	0.00	689 (0)	5,752 (0)
1982	0	0.00	6 (0)	65 (0)	0	0.00	210 (0)	2,203 (0)					0	0.00	778 (0)	6,502 (0)
1983	0	0.00	11 (0)	159 (0)	0	0.00	368 (0)	4,395 (0)					0	0.00	877 (0)	8,332 (0)
1984	0	0.00	12 (0)	240 (0)	0	0.00	284 (0)	3,422 (0)					0	0.00	610 (0)	4,859 (0)
1985	0	0.00	10 (0)	195 (0)	0	0.00	420 (0)	4,713 (0)					0	0.00	919 (0)	7,406 (0)
1986	0	0.00	35 (0)	508 (0)	0	0.00	638 (0)	6,191 (0)					0	0.00	1,546 (0)	11,703 (0)
1987	0	0.00	74 (0)	1,327 (0)	0	0.00	427 (0)	3,699 (0)					0	0.00	1,096 (0)	8,599 (0)
1988	0	0.00	69 (0)	1,071 (0)	0	0.00	580 (0)	5,424 (0)					0	0.00	1,465 (0)	11,957 (0)
1989	0	0.00	88 (0)	1,594 (0)	0	0.00	907 (0)	9,015 (0)					0	0.00	2,211 (0)	17,318 (0)
1990	0	0.00	62 (0)	1,164 (0)	0	0.00	798 (0)	6,705 (0)					0	0.00	2,704 (0)	22,842 (0)
1991	0	0.00	90 (0)	1,795 (0)	0	0.00	852 (0)	7,264 (0)					0	0.00	2,777 (0)	23,880 (0)
1992	0	0.00	90 (0)	1,551 (0)	0	0.00	805 (0)	6,758 (0)					0	0.00	2,869 (0)	23,951 (0)
1993	0	0.00	98 (0)	2,021 (0)	0	0.00	695 (0)	5,816 (0)					0	0.00	2,673 (0)	21,403 (0)
1994	0	0.00	157 (0)	3,560 (0)	0	0.00	708 (0)	5,635 (0)					0	0.00	2,739 (0)	22,178 (0)
1995	0	0.00	127 (0)	3,076 (0)	0	0.00	653 (0)	5,262 (0)					0	0.00	2,343 (0)	18,428 (0)

Year	Cbt				CbtHbt				Hbt				Priv			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
1996	0	0.00	242 (0)	5,407 (0)	0	0.00	693 (0)	5,343 (0)					0	0.00	2,256 (0)	19,447 (0)
1997	0	0.00	327 (0)	5,673 (0)	0	0.00	821 (0)	6,318 (0)					0	0.00	2,552 (0)	21,795 (0)
1998	0	0.00	330 (0)	5,165 (0)	0	0.00	950 (0)	6,797 (0)					0	0.00	2,554 (0)	20,986 (0)
1999	0	0.00	222 (0)	3,248 (0)	0	0.00	764 (0)	6,162 (0)					0	0.00	2,232 (0)	20,057 (0)
2000	0	0.00	206 (0)	4,024 (0)	0	0.00	799 (0)	5,739 (0)					0	0.00	2,337 (0)	18,914 (0)
2001	0	0.00	169 (0)	3,760 (0)	0	0.00	932 (0)	7,950 (0)					0	0.00	2,825 (0)	26,184 (0)
2002	3	0.00	194 (0)	3,287 (0)	0	0.00	864 (0)	6,873 (0)					0	0.00	2,573 (0)	22,268 (0)
2003	226	0.00	147 (0)	2,617 (0)	0	0.00	1,452 (0)	12,629 (0)					0	0.00	2,991 (0)	22,123 (0)
2004	0	0.00	728 (0)	6,321 (0)					0	0.00	875 (0)	9,325 (0)	0	0.00	2,026 (0)	16,632 (0)
2005	1,272	1.00	1,088 (1)	8,394 (6)					0	0.00	982 (0)	10,946 (0)	0	0.00	1,679 (0)	13,538 (0)
2006	896	1.00	1,004 (1)	7,268 (2)					0	0.00	890 (0)	8,639 (0)	187	1.00	1,772 (1)	14,420 (1)
2007	27,346	0.99	1,004 (2)	7,419 (7)					0	0.00	642 (0)	8,160 (0)	9,602	1.00	2,170 (1)	16,675 (3)
2008	0	0.00	986 (0)	7,508 (0)					0	0.00	677 (0)	8,756 (0)	0	0.00	2,062 (0)	16,171 (0)
2009	0	0.00	942 (0)	6,509 (0)					0	0.00	656 (0)	7,404 (0)	0	0.00	1,982 (0)	14,711 (0)
2010	1,695	0.96	1,041 (3)	7,688 (9)					0	0.00	676 (0)	8,358 (0)	0	0.00	2,006 (0)	15,086 (0)
2011	272	1.00	915 (1)	6,487 (1)					0	0.00	626 (0)	7,594 (0)	0	0.00	1,815 (0)	13,388 (0)
2012	0	0.00	773 (0)	6,119 (0)					0	0.00	477 (0)	5,783 (0)	3,150	1.00	1,758 (1)	13,044 (4)
2013	22	1.00	336 (1)	1,884 (2)					0	0.00	609 (0)	7,729 (0)	0	0.00	2,083 (0)	15,577 (0)
2014	5	1.00	624 (1)	4,347 (1)					0	0.00	546 (0)	7,301 (0)	0	0.00	2,490 (0)	17,045 (0)

Year	Cbt				CbtHbt				Hbt				Priv			
	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp	B2	CV	PSU	Trp
2015	0	0.00	602 (0)	4,554 (0)					0	0.00	532 (0)	7,295 (0)	0	0.00	2,633 (0)	18,806 (0)
2016	0	0.00	715 (0)	5,682 (0)					0	0.00	572 (0)	8,687 (0)	22,043	0.89	2,522 (2)	16,662 (4)
2017	49	1.00	795 (1)	6,768 (1)					0	0.00	507 (0)	7,341 (0)	0	0.00	2,732 (0)	20,594 (0)
2018	361	0.87	942 (3)	8,330 (5)					5	1.00	512 (1)	8,133 (1)	2,105	0.71	2,783 (2)	22,096 (4)
2019	229	0.91	974 (2)	7,779 (2)					7	1.00	503 (1)	8,595 (1)	0	0.00	2,828 (0)	22,851 (0)
2020	789	0.67	1,137 (5)	9,779 (10)					47	0.75	960 (2)	16,256 (2)	0	0.00	3,487 (0)	29,258 (0)
2021	3,107	0.93	1,126 (3)	9,434 (10)					0	0.00	631 (0)	10,787 (0)	8,972	0.61	3,153 (3)	24,278 (6)
2022	170	0.72	1,038 (2)	7,887 (6)					7	1.00	553 (1)	9,287 (1)	19,871	1.00	3,060 (1)	21,555 (1)
2023	0	0.00	1,018 (0)	7,060 (0)					6	1.00	454 (1)	7,233 (1)	1,312	0.71	3,133 (2)	22,117 (6)

Table 5. Blueline Tilefish landings (AB1) and discards (B2), in numbers of fish, with associated coefficients of variation (CV; Dettloff et al. 2020) by year for all modes combined (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (TRP) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	AB1				B2			
	Total	CV	PSU	Trp	Total	CV	PSU	Trp
1981	0	0.00	226 (0)	1,891 (0)	0	0.00	226 (0)	1,891 (0)
1982	5,310	0.00	436 (0)	3,930 (0)	0	0.00	436 (0)	3,930 (0)
1983	0	0.00	400 (0)	3,817 (0)	0	0.00	400 (0)	3,817 (0)
1984	14,567	0.00	463 (0)	4,914 (0)	0	0.00	463 (0)	4,914 (0)
1985	0	0.00	642 (0)	5,345 (0)	0	0.00	642 (0)	5,345 (0)
1986	0	0.00	978 (0)	8,512 (0)	0	0.00	978 (0)	8,512 (0)
1987	543	0.71	1,471 (2)	13,092 (2)	0	0.00	1,471 (0)	13,092 (0)
1988	0	0.00	1,459 (0)	11,749 (0)	0	0.00	1,459 (0)	11,749 (0)
1989	0	0.00	1,380 (0)	11,986 (0)	0	0.00	1,380 (0)	11,986 (0)
1990	0	0.00	1,101 (0)	11,060 (0)	0	0.00	1,101 (0)	11,060 (0)
1991	0	0.00	1,128 (0)	11,005 (0)	3,983	1.00	1,128 (1)	11,005 (1)
1992	0	0.00	1,691 (0)	16,418 (0)	505	0.00	1,691 (0)	16,418 (0)
1993	4,401	0.84	1,360 (2)	13,508 (2)	0	0.00	1,360 (0)	13,508 (0)
1994	0	0.00	1,575 (0)	15,944 (0)	0	0.00	1,575 (0)	15,944 (0)
1995	2,241	1.00	1,615 (1)	15,958 (1)	0	0.00	1,615 (0)	15,958 (0)
1996	0	0.00	1,772 (0)	16,909 (0)	0	0.00	1,772 (0)	16,909 (0)
1997	17	1.00	1,823 (1)	17,714 (1)	0	0.00	1,823 (0)	17,714 (0)
1998	0	0.00	1,844 (0)	19,009 (0)	5	0.00	1,844 (0)	19,009 (0)
1999	437	0.50	2,207 (7)	21,979 (8)	951	0.00	2,207 (0)	21,979 (0)
2000	58	0.75	2,192 (2)	23,731 (2)	22	0.00	2,192 (0)	23,731 (0)
2001	177	0.76	2,268 (3)	26,518 (3)	0	0.00	2,268 (0)	26,518 (0)
2002	1,553	0.75	2,163 (4)	25,389 (5)	332	0.00	2,163 (0)	25,389 (0)
2003	17,926	0.97	2,046 (9)	23,867 (13)	5,373	0.98	2,046 (2)	23,867 (3)
2004	3,377	0.79	1,735 (6)	19,455 (6)	47	0.00	1,735 (0)	19,455 (0)
2005	1,290	0.69	1,664 (6)	19,403 (7)	2,526	0.00	1,664 (0)	19,403 (0)
2006	3,044	1.00	1,901 (1)	22,354 (1)	0	0.00	1,901 (0)	22,354 (0)
2007	3,033	0.36	1,793 (10)	21,271 (14)	194	0.00	1,793 (0)	21,271 (0)
2008	6,639	0.79	1,830 (11)	20,716 (11)	0	0.00	1,830 (0)	20,716 (0)
2009	14,083	0.76	1,735 (6)	18,791 (7)	1,562	1.00	1,735 (1)	18,791 (1)

Year	AB1				B2			
	Total	CV	PSU	Trp	Total	CV	PSU	Trp
2010	14,349	0.60	2,231 (8)	23,389 (12)	16	0.00	2,231 (0)	23,389 (0)
2011	4,114	0.53	2,102 (7)	20,932 (13)	0	0.00	2,102 (0)	20,932 (0)
2012	44,153	0.47	2,304 (13)	23,550 (19)	449	1.00	2,304 (1)	23,550 (2)
2013	135,593	0.62	1,733 (12)	15,104 (14)	3,455	1.00	1,733 (1)	15,104 (1)
2014	15,247	0.52	2,046 (8)	19,220 (11)	4,850	0.00	2,046 (0)	19,220 (0)
2015	11,473	0.54	2,138 (9)	18,752 (11)	5,574	0.97	2,138 (2)	18,752 (2)
2016	6,872	0.57	2,128 (6)	17,103 (6)	1,458	0.00	2,128 (0)	17,103 (0)
2017	79,661	0.68	1,999 (11)	16,879 (12)	20,114	0.96	1,999 (2)	16,879 (3)
2018	23,676	0.51	2,025 (12)	17,264 (14)	886	1.00	2,025 (1)	17,264 (1)
2019	8,530	0.78	2,021 (5)	16,301 (5)	0	0.00	2,021 (0)	16,301 (0)
2020	20,359	0.53	2,548 (5)	20,359 (5)	919	1.00	2,548 (1)	20,359 (1)
2021	7,999	0.56	2,942 (7)	23,897 (7)	1,216	0.00	2,942 (0)	23,897 (0)
2022	9,406	0.61	2,570 (7)	18,204 (7)	114	0.00	2,570 (0)	18,204 (0)
2023	22,822	0.51	2,787 (13)	21,312 (13)	101	0.00	2,787 (0)	21,312 (0)

Table 5 continued. Blueline Tilefish landings (AB1) and discards (B2), in numbers of fish, with associated coefficients of variation (CV; Dettloff et al. 2020) by year for all modes combined (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (TRP) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	AB1				B2			
	Total	CV	PSU	Trp	Total	CV	PSU	Trp
1981	0	0.00	1,094 (0)	9,593 (0)	0	0.00	1,094 (0)	9,593 (0)
1982	1,866	0.00	994 (0)	8,768 (0)	0	0.00	994 (0)	8,768 (0)
1983	0	0.00	1,256 (0)	12,886 (0)	0	0.00	1,256 (0)	12,886 (0)
1984	0	0.00	906 (0)	8,521 (0)	0	0.00	906 (0)	8,521 (0)
1985	0	0.00	1,349 (0)	12,314 (0)	0	0.00	1,349 (0)	12,314 (0)
1986	0	0.00	2,219 (0)	18,402 (0)	0	0.00	2,219 (0)	18,402 (0)
1987	2,000	0.00	1,597 (0)	13,625 (0)	0	0.00	1,597 (0)	13,625 (0)
1988	0	0.00	2,114 (0)	18,452 (0)	0	0.00	2,114 (0)	18,452 (0)

Year	AB1				B2			
	Total	CV	PSU	Trp	Total	CV	PSU	Trp
1989	328	0.00	3,206 (0)	27,927 (0)	0	0.00	3,206 (0)	27,927 (0)
1990	0	0.00	3,564 (0)	30,711 (0)	0	0.00	3,564 (0)	30,711 (0)
1991	0	0.00	3,719 (0)	32,939 (0)	0	0.00	3,719 (0)	32,939 (0)
1992	0	0.00	3,764 (0)	32,260 (0)	0	0.00	3,764 (0)	32,260 (0)
1993	0	0.00	3,466 (0)	29,240 (0)	0	0.00	3,466 (0)	29,240 (0)
1994	0	0.00	3,604 (0)	31,373 (0)	0	0.00	3,604 (0)	31,373 (0)
1995	0	0.00	3,123 (0)	26,766 (0)	0	0.00	3,123 (0)	26,766 (0)
1996	242	1.00	3,191 (1)	30,197 (1)	0	0.00	3,191 (0)	30,197 (0)
1997	2,075	1.00	3,700 (1)	33,786 (1)	0	0.00	3,700 (0)	33,786 (0)
1998	0	0.00	3,834 (0)	32,948 (0)	0	0.00	3,834 (0)	32,948 (0)
1999	0	0.00	3,218 (0)	29,467 (0)	0	0.00	3,218 (0)	29,467 (0)
2000	0	0.00	3,342 (0)	28,677 (0)	0	0.00	3,342 (0)	28,677 (0)
2001	2,074	1.00	3,926 (1)	37,894 (1)	0	0.00	3,926 (0)	37,894 (0)
2002	0	0.00	3,631 (0)	32,428 (0)	3	0.00	3,631 (0)	32,428 (0)
2003	1,606	1.00	4,590 (1)	37,369 (1)	226	0.00	4,590 (0)	37,369 (0)
2004	217	0.00	3,629 (0)	32,247 (0)	0	0.00	3,629 (0)	32,247 (0)
2005	2,718	0.93	3,749 (2)	32,843 (2)	1,272	1.00	3,749 (1)	32,843 (6)
2006	72,101	0.42	3,666 (16)	30,221 (20)	1,084	0.83	3,666 (2)	30,221 (3)
2007	77,303	0.34	3,816 (21)	32,129 (28)	36,948	0.78	3,816 (3)	32,129 (10)
2008	83,382	0.34	3,725 (32)	32,291 (65)	0	0.00	3,725 (0)	32,291 (0)
2009	24,909	0.43	3,580 (18)	28,490 (33)	0	0.00	3,580 (0)	28,490 (0)
2010	7,970	0.39	3,723 (24)	31,012 (32)	1,695	0.96	3,723 (3)	31,012 (9)
2011	4,957	0.56	3,356 (9)	27,388 (9)	272	1.00	3,356 (1)	27,388 (1)
2012	10,748	0.45	3,008 (20)	24,861 (29)	3,150	1.00	3,008 (1)	24,861 (4)
2013	4,508	0.56	3,028 (10)	25,190 (14)	22	1.00	3,028 (1)	25,190 (2)
2014	15,429	0.31	3,660 (21)	28,693 (41)	5	1.00	3,660 (1)	28,693 (1)
2015	7,262	0.69	3,767 (4)	30,655 (4)	0	0.00	3,767 (0)	30,655 (0)
2016	142,429	0.40	3,809 (25)	30,950 (40)	22,043	0.89	3,809 (2)	30,950 (4)
2017	31,825	0.40	4,034 (17)	34,643 (22)	49	1.00	4,034 (1)	34,643 (1)
2018	24,076	0.31	4,237 (42)	38,489 (78)	2,470	0.60	4,237 (6)	38,489 (10)
2019	27,462	0.30	4,305 (27)	39,167 (39)	236	0.88	4,305 (3)	39,167 (3)
2020	103,923	0.54	5,584 (53)	55,246 (94)	836	0.63	5,584 (7)	55,246 (12)
2021	78,905	0.30	4,910 (47)	44,447 (85)	12,079	0.51	4,910 (6)	44,447 (16)
2022	91,885	0.50	4,651 (12)	38,673 (15)	20,047	0.99	4,651 (4)	38,673 (8)
2023	123,286	0.28	4,605 (30)	36,358 (48)	1,317	0.71	4,605 (3)	36,358 (7)

Table 6. Blueline Tilefish landings in pounds whole weight (LBS) with associated coefficients of variation (CV; Approach 2 described in Nuttall and Dettloff 2022) by year and mode (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (TRP) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt		Priv		Total	
	LBS	CV	LBS	CV	LBS	CV
1981	0	0.00	0	0.00	0	0.00
1982	0	0.00	27,803	0.00	27,803	0.00
1983	0	0.00	0	0.00	0	0.00
1984	3,935	0.00	72,337	0.00	76,271	0.00
1985	0	0.00	0	0.00	0	0.00
1986	0	0.00	0	0.00	0	0.00
1987	2,552	0.73	0	0.00	2,552	0.73
1988	0	0.00	0	0.00	0	0.00
1989	0	0.00	0	0.00	0	0.00
1990	0	0.00	0	0.00	0	0.00
1991	0	0.00	0	0.00	0	0.00
1992	0	0.00	0	0.00	0	0.00
1993	2,781	1.00	18,967	1.00	21,747	0.85
1994	0	0.00	0	0.00	0	0.00
1995	11,732	1.00	0	0.00	11,732	1.00
1996	0	0.00	0	0.00	0	0.00
1997	81	1.00	0	0.00	81	1.00
1998	0	0.00	0	0.00	0	0.00
1999	1,824	0.51	0	0.00	1,824	0.51
2000	291	0.79	0	0.00	291	0.79
2001	833	0.80	0	0.00	833	0.80
2002	2,626	0.87	5,426	1.00	8,052	0.76
2003	2,311	0.46	49,903	1.00	52,214	0.97
2004	17,400	0.79	0	0.00	17,400	0.79
2005	7,110	0.69	0	0.00	7,110	0.69
2006	817	1.00	12,568	0.00	13,385	1.00
2007	12,965	0.38	0	0.00	12,965	0.37
2008	7,969	0.44	23,478	1.00	31,446	0.79
2009	7,658	0.64	48,711	1.00	56,369	0.77

Year	Cbt		Priv		Total	
	LBS	CV	LBS	CV	LBS	CV
2010	6,346	0.69	70,567	0.65	76,913	0.60
2011	5,120	0.50	3,032	1.00	8,152	0.54
2012	32,564	0.52	92,229	0.75	124,794	0.47
2013	6,000	0.43	322,669	0.66	328,669	0.62
2014	2,915	0.68	65,141	0.58	68,056	0.54
2015	4,362	0.55	37,712	0.62	42,074	0.54
2016	21,857	0.64	14,264	1.00	36,122	0.58
2017	63,187	0.92	43,022	0.87	106,208	0.69
2018	14,185	0.57	72,111	0.64	86,296	0.52
2019	7,611	0.80	36,034	0.95	43,646	0.78
2020	7,450	0.74	105,929	0.62	113,379	0.55
2021	10,258	0.62	34,805	0.74	45,063	0.57
2022	7,869	0.60	27,236	0.79	35,105	0.61
2023	6,853	0.61	90,579	0.56	97,433	0.52

Table 6 continued. Blueline Tilefish landings in pounds whole weight (LBS) with associated coefficients of variation (CV; Approach 2 described in Nuttall and Dettloff 2022) by year and mode (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). Sample size is provided both as the total number of primary sampling units (PSU) and angler trips (TRP) intercepted by dockside samplers and, in parentheses, the number of PSUs and TRPs that intercepted Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt		Hbt		Priv		Total	
	LBS	CV	LBS	CV	LBS	CV	LBS	CV
1981	0	0.00			0	0.00	0	0.00
1982	0	0.00			9,644	0.00	9,644	0.00
1983	0	0.00			0	0.00	0	0.00
1984	0	0.00			0	0.00	0	0.00
1985	0	0.00			0	0.00	0	0.00
1986	0	0.00			0	0.00	0	0.00
1987	0	0.00			10,471	0.00	10,471	0.00

Year	Cbt		Hbt		Priv		Total	
	LBS	CV	LBS	CV	LBS	CV	LBS	CV
1988	0	0.00			0	0.00	0	0.00
1989	0	0.00			1,715	0.00	1,715	0.00
1990	0	0.00			0	0.00	0	0.00
1991	0	0.00			0	0.00	0	0.00
1992	0	0.00			0	0.00	0	0.00
1993	0	0.00			0	0.00	0	0.00
1994	0	0.00			0	0.00	0	0.00
1995	0	0.00			0	0.00	0	0.00
1996	1,270	1.00			0	0.00	1,270	1.00
1997	9,471	1.00			0	0.00	9,471	1.00
1998	0	0.00			0	0.00	0	0.00
1999	0	0.00			0	0.00	0	0.00
2000	0	0.00			0	0.00	0	0.00
2001	24,039	1.00			0	0.00	24,039	1.00
2002	0	0.00			0	0.00	0	0.00
2003	5,875	1.00			0	0.00	5,875	1.00
2004	1,134	0.00	0	0.00	0	0.00	1,134	0.00
2005	10,122	0.93	0	0.00	0	0.00	10,122	0.93
2006	110,383	0.48	0	0.00	210,881	0.67	321,264	0.42
2007	290,381	0.41	0	0.00	91,295	0.63	381,676	0.34
2008	189,223	0.34	680	1.00	196,993	0.63	386,896	0.34
2009	53,748	0.46	1,104	1.00	95,264	0.63	150,116	0.43
2010	36,689	0.45	0	0.00	15,813	0.75	52,503	0.39
2011	24,604	0.67	0	0.00	6,336	1.00	30,940	0.56
2012	30,598	0.39	0	0.00	22,779	0.94	53,377	0.45
2013	23,296	0.57	0	0.00	0	0.00	23,296	0.56
2014	37,148	0.35	0	0.00	20,372	0.63	57,520	0.31
2015	379	1.00	0	0.00	35,742	0.71	36,121	0.70
2016	66,847	0.46	0	0.00	721,232	0.44	788,079	0.40
2017	43,026	0.37	0	0.00	138,830	0.51	181,857	0.40
2018	61,861	0.27	30	0.94	73,741	0.54	135,631	0.31
2019	87,330	0.28	0	0.00	41,310	0.71	128,640	0.30
2020	259,729	0.21	121	0.94	487,045	0.90	746,895	0.54
2021	146,744	0.29	0	0.00	292,220	0.41	438,964	0.30
2022	164,383	0.76	0	0.00	392,916	0.64	557,299	0.50
2023	401,823	0.33	0	0.00	359,968	0.50	761,791	0.28

Table 7. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Blueline Tilefish by mode and year for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Summaries include the number of fish measured by MRIP and, in parentheses, the number of angler trips from which those fish were measured (N), and the minimum (Min), arithmetic mean (Avg), standard deviation (SD), and maximum (Max) size of fish lengths. Summaries include observed and imputed weights. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt					Priv				
	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max
1981	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1982	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1983	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1984	0 (0)	0.0	0.0	0.0	0.0	6 (2)	3.1	5.7	2.2	9.0
1985	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1986	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1987	2 (2)	4.4	5.7	1.8	6.9	0 (0)	0.0	0.0	0.0	0.0
1988	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1989	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1990	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1991	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1992	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1993	2 (1)	2.2	3.5	1.9	4.9	1 (1)	5.8	5.8	0.0	5.8
1994	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1995	8 (2)	1.0	3.9	3.7	9.6	0 (0)	0.0	0.0	0.0	0.0
1996	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1997	5 (1)	3.7	6.4	3.5	10.3	0 (0)	0.0	0.0	0.0	0.0
1998	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1999	26 (8)	1.2	3.8	2.5	9.6	0 (0)	0.0	0.0	0.0	0.0
2000	3 (2)	3.6	6.2	4.0	10.8	0 (0)	0.0	0.0	0.0	0.0
2001	6 (3)	1.0	2.1	1.8	5.8	0 (0)	0.0	0.0	0.0	0.0
2002	5 (4)	0.8	1.7	0.8	2.6	1 (1)	2.0	2.0	0.0	2.0
2003	25 (12)	2.9	4.9	1.9	9.0	10 (1)	0.8	1.4	0.6	2.4
2004	18 (6)	1.3	4.7	2.8	11.2	0 (0)	0.0	0.0	0.0	0.0
2005	22 (7)	2.2	5.5	1.8	9.1	0 (0)	0.0	0.0	0.0	0.0
2006	1 (1)	2.0	2.0	0.0	2.0	0 (0)	0.0	0.0	0.0	0.0
2007	39 (14)	1.4	4.3	2.5	10.0	0 (0)	0.0	0.0	0.0	0.0
2008	38 (10)	1.0	4.1	2.5	10.0	1 (1)	7.2	7.2	0.0	7.2
2009	32 (6)	0.4	2.2	1.9	7.1	3 (1)	1.7	6.3	4.0	9.0

Year	Cbt					Priv				
	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max
2010	31 (8)	2.1	5.5	2.2	10.7	7 (4)	3.5	5.1	1.6	8.1
2011	60 (12)	0.6	2.4	2.0	9.7	4 (1)	0.6	1.0	0.5	1.7
2012	107 (14)	0.4	1.8	1.1	5.3	12 (5)	0.7	2.1	1.8	6.4
2013	63 (8)	1.4	3.8	1.4	7.7	24 (6)	0.9	3.3	4.4	14.8
2014	10 (4)	0.6	3.4	1.6	5.6	15 (7)	1.1	4.3	4.3	14.8
2015	12 (7)	1.2	3.4	1.5	5.2	9 (4)	1.1	3.3	0.9	4.2
2016	29 (5)	0.7	3.8	2.1	7.1	2 (1)	3.7	4.0	0.3	4.2
2017	42 (8)	0.4	1.8	1.8	8.2	11 (4)	0.7	4.1	2.6	9.9
2018	20 (10)	0.9	3.4	1.9	8.2	8 (4)	1.0	2.8	1.3	5.6
2019	4 (3)	2.9	3.7	0.9	4.9	7 (2)	1.2	2.1	0.8	3.7
2020	8 (2)	1.1	5.9	2.9	8.2	8 (3)	1.1	3.0	2.1	7.7
2021	14 (5)	0.6	3.0	2.1	6.8	7 (2)	0.8	2.9	2.4	5.9
2022	17 (5)	2.2	3.8	1.6	7.4	6 (2)	2.6	3.2	0.7	4.4
2023	17 (5)	2.3	5.4	3.0	13.6	16 (8)	1.5	3.5	1.4	5.9

Table 7 continued. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Blueline Tilefish by mode and year for the n.Hatteras SID domain (northern North Carolina through Maine). Summaries include the number of fish measured by MRIP and, in parentheses, the number of angler trips from which those fish were measured (N), and the minimum (Min), arithmetic mean (Avg), standard deviation (SD), and maximum (Max) size of fish lengths. Summaries include observed and imputed weights. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt					Hbt					Priv				
	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max
1981	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1982	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1983	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1984	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1985	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1986	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1987	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	6 (2)	1.4	1.9	0.5	2.3

Year	Cbt					Hbt					Priv				
	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max	N	Min	Avg	SD	Max
1988	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1989	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	3 (1)	2.4	3.6	1.2	4.8
1990	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1991	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1992	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1993	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1994	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1995	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1996	7 (1)	0.3	2.3	1.6	4.2	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1997	19 (1)	1.1	4.6	2.4	9.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1998	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
1999	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2000	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2001	20 (1)	9.8	11.6	1.8	14.5	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2002	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2003	18 (1)	3.4	3.7	0.3	4.1	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2004	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2005	38 (2)	3.1	3.9	0.7	5.5	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2006	197 (15)	0.6	4.2	1.7	8.6	0 (0)	0.0	0.0	0.0	0.0	71 (5)	2.0	5.0	2.3	14.3
2007	342 (23)	2.0	5.4	2.2	11.7	0 (0)	0.0	0.0	0.0	0.0	28 (5)	2.6	4.4	0.9	7.7
2008	525 (57)	0.9	4.6	1.7	10.4	1 (1)	6.8	6.8	0.0	6.8	31 (7)	1.7	5.0	2.1	9.0
2009	157 (22)	2.4	6.2	2.8	15.4	11 (8)	0.9	4.1	3.6	11.0	17 (3)	3.5	5.4	1.7	7.7
2010	149 (30)	1.5	6.4	2.3	14.3	0 (0)	0.0	0.0	0.0	0.0	5 (2)	3.5	7.2	2.3	9.9
2011	55 (8)	0.7	6.2	3.2	11.5	0 (0)	0.0	0.0	0.0	0.0	2 (1)	6.0	8.8	4.1	11.7
2012	160 (27)	1.1	5.0	2.7	15.0	0 (0)	0.0	0.0	0.0	0.0	14 (2)	3.5	8.3	2.3	10.8
2013	82 (14)	1.3	5.4	2.9	13.0	0 (0)	0.0	0.0	0.0	0.0	0 (0)	0.0	0.0	0.0	0.0
2014	219 (37)	1.3	3.8	1.8	9.9	0 (0)	0.0	0.0	0.0	0.0	10 (4)	1.3	2.6	1.0	4.1
2015	2 (1)	6.4	8.2	2.5	9.9	0 (0)	0.0	0.0	0.0	0.0	14 (3)	1.7	2.7	1.6	7.7
2016	131 (27)	1.1	5.3	2.1	10.1	0 (0)	0.0	0.0	0.0	0.0	81 (12)	1.1	6.0	2.5	10.4
2017	88 (15)	2.2	5.7	2.0	9.9	0 (0)	0.0	0.0	0.0	0.0	36 (7)	3.2	5.8	1.7	9.7
2018	383 (68)	1.0	5.7	2.4	15.9	5 (3)	2.2	3.1	1.0	4.6	42 (7)	2.3	5.6	1.6	8.4
2019	250 (32)	0.9	5.0	2.4	11.2	0 (0)	0.0	0.0	0.0	0.0	14 (7)	1.0	6.2	2.6	11.2
2020	666 (79)	0.7	6.0	2.7	15.9	5 (3)	2.2	3.1	1.0	4.6	44 (12)	1.4	7.1	3.2	11.0
2021	425 (56)	0.8	6.5	3.0	14.8	0 (0)	0.0	0.0	0.0	0.0	79 (29)	2.4	5.7	2.7	11.0
2022	115 (12)	1.3	6.0	2.6	13.9	0 (0)	0.0	0.0	0.0	0.0	15 (3)	1.3	5.4	1.8	8.6
2023	177 (32)	0.8	5.7	3.0	14.3	0 (0)	0.0	0.0	0.0	0.0	59 (16)	1.2	6.3	3.2	14.3

Table 8. Summary of weight measurements (pounds whole weight) from MRIP-intercepted Blueline Tilefish by year. Summaries include the number of fish for which size information was collected by MRIP and, in parentheses, the number of angler trips from which those fish were sampled (N), and the minimum (Min), arithmetic mean (Avg), standard deviation (SD), and maximum (Max) size of fish lengths and weights.

Year	Weight				
	N	Min	Avg	SD	Max
1981	0 (0)	0.0	0.0	0.0	0.0
1982	0 (0)	0.0	0.0	0.0	0.0
1983	0 (0)	0.0	0.0	0.0	0.0
1984	6 (2)	3.1	5.7	2.2	9.0
1985	0 (0)	0.0	0.0	0.0	0.0
1986	0 (0)	0.0	0.0	0.0	0.0
1987	8 (4)	1.4	2.8	1.9	6.9
1988	0 (0)	0.0	0.0	0.0	0.0
1989	3 (1)	2.4	3.6	1.2	4.8
1990	0 (0)	0.0	0.0	0.0	0.0
1991	0 (0)	0.0	0.0	0.0	0.0
1992	0 (0)	0.0	0.0	0.0	0.0
1993	3 (2)	2.2	4.3	1.9	5.8
1994	0 (0)	0.0	0.0	0.0	0.0
1995	8 (2)	1.0	3.9	3.7	9.6
1996	7 (1)	0.3	2.3	1.6	4.2
1997	24 (2)	1.1	5.0	2.7	10.3
1998	0 (0)	0.0	0.0	0.0	0.0
1999	26 (8)	1.2	3.8	2.5	9.6
2000	3 (2)	3.6	6.2	4.0	10.8
2001	26 (4)	1.0	9.4	4.5	14.5
2002	6 (5)	0.8	1.8	0.7	2.6
2003	53 (14)	0.8	3.8	1.9	9.0
2004	18 (6)	1.3	4.7	2.8	11.2
2005	60 (9)	2.2	4.5	1.4	9.1
2006	269 (21)	0.6	4.4	1.9	14.3
2007	409 (42)	1.4	5.2	2.2	11.7
2008	596 (76)	0.9	4.6	1.8	10.4
2009	220 (40)	0.4	5.5	3.0	15.4
2010	192 (44)	1.5	6.3	2.3	14.3
2011	121 (22)	0.6	4.2	3.3	11.7

Year	Weight				
	N	Min	Avg	SD	Max
2012	293 (48)	0.4	3.8	2.8	15.0
2013	169 (28)	0.9	4.5	2.9	14.8
2014	254 (52)	0.6	3.8	2.0	14.8
2015	37 (15)	1.1	3.4	1.8	9.9
2016	243 (45)	0.7	5.3	2.3	10.4
2017	177 (34)	0.4	4.7	2.6	9.9
2018	458 (92)	0.9	5.5	2.3	15.9
2019	275 (44)	0.9	4.9	2.4	11.2
2020	731 (99)	0.7	6.1	2.8	15.9
2021	525 (92)	0.6	6.2	3.0	14.8
2022	153 (22)	1.3	5.6	2.5	13.9
2023	269 (61)	0.8	5.7	3.0	14.3

Table 9. Estimated average weights of landed Blueline Tilefish in pounds whole weight (WGT) with associated coefficients of variation (CV; Approach 2 described in Nuttall and Dettloff 2022) by year and mode (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). Average weight estimates are calculated from annual estimates (by-mode) of landings-in-weight (whole, Table 7) divided by estimates of landings-in-number (Table 2). Sample size (N) is provided as the total number of angler trips and, in parentheses, number of fish from which weight information was collected. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Hbt			Cbt			Priv			Total		
	WGT	CV	N	WGT	CV	N	WGT	CV	N	WGT	CV	N
1981												
1982												
1983												
1984												
1985												
1986												
1987				4.70	0.22	2 (2)				4.70	0.22	2 (2)
1988												
1989												
1990												
1991												
1992												
1993				5.24	0.38	1 (2)	4.90	0.00	1 (1)	4.94	0.25	2 (3)
1994												
1995				5.24	0.33	1 (6)				5.24	0.33	1 (6)
1996												
1997				4.70	0.24	1 (5)				4.70	0.24	1 (5)
1998												
1999				4.17	0.13	8 (26)				4.17	0.13	8 (26)
2000				5.06	0.37	2 (3)				5.06	0.37	2 (3)
2001				4.70	0.36	3 (6)				4.70	0.36	3 (6)
2002				5.08	0.20	4 (5)	5.24	0.00	1 (1)	5.19	0.16	5 (6)
2003				4.85	0.08	12 (25)	2.86	0.13	1 (10)	2.91	0.10	13 (35)
2004				5.15	0.14	6 (18)				5.15	0.14	6 (18)
2005				5.51	0.07	7 (22)				5.51	0.07	7 (22)
2006				4.70	0.00	1 (1)				4.40	0.00	1 (1)
2007				4.27	0.09	14 (39)				4.27	0.09	14 (39)
2008				4.84	0.10	10 (38)	4.70	0.00	1 (1)	4.74	0.10	11 (39)

Year	Hbt			Cbt			Priv			Total		
	WGT	CV	N	WGT	CV	N	WGT	CV	N	WGT	CV	N
2009				2.06	0.15	6 (32)	4.70	0.37	1 (3)	4.00	0.16	7 (35)
2010				5.47	0.07	8 (31)	5.35	0.12	4 (7)	5.36	0.06	12 (38)
2011				2.29	0.11	12 (60)	1.61	0.25	1 (4)	1.98	0.11	13 (64)
2012				1.72	0.06	14 (107)	3.66	0.25	5 (12)	2.83	0.06	19 (119)
2013				4.20	0.05	8 (63)	2.41	0.28	6 (24)	2.42	0.08	14 (87)
2014				4.17	0.15	4 (10)	4.48	0.26	7 (15)	4.46	0.17	11 (25)
2015				3.48	0.13	7 (12)	3.69	0.09	4 (9)	3.67	0.08	11 (21)
2016				5.10	0.11	5 (29)	5.52	0.06	1 (2)	5.26	0.10	6 (31)
2017				1.18	0.16	8 (42)	1.63	0.19	4 (11)	1.33	0.13	12 (53)
2018				4.31	0.13	10 (20)	3.54	0.17	4 (8)	3.64	0.10	14 (28)
2019				5.18	0.12	3 (4)	5.10	0.15	2 (7)	5.12	0.13	5 (11)
2020				5.23	0.17	2 (8)	5.59	0.25	3 (8)	5.57	0.16	5 (16)
2021				5.54	0.19	5 (14)	5.66	0.31	2 (7)	5.63	0.16	7 (21)
2022				4.05	0.10	5 (17)	3.65	0.10	2 (6)	3.73	0.08	7 (23)
2023				4.92	0.14	5 (17)	4.23	0.10	8 (16)	4.27	0.10	13 (33)

Table 9 continued. Estimated average weights of landed Blueline Tilefish in pounds whole weight (WGT) with associated coefficients of variation (CV; Approach 2 described in Nuttall and Dettloff 2022) by year and mode (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). Average weight estimates are calculated from annual estimates (by-mode) of landings-in-weight (whole, Table 7) divided by estimates of landings-in-number (Table 2). Sample size (N) is provided as the total number of angler trips and, in parentheses, number of fish from which weight information was collected. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Hbt			Cbt			Priv			Total		
	WGT	CV	N	WGT	CV	N	WGT	CV	N	WGT	CV	N
1989												
1990												
1991												
1992												
1993												
1994												
1995												
1996				5.24	0.26	1 (7)				5.24	0.26	1 (7)
1997				4.56	0.12	1 (19)				4.56	0.12	1 (19)
1998												
1999												
2000												
2001				11.59	0.03	1 (20)				11.59	0.03	1 (20)
2002												
2003				3.66	0.02	1 (18)				3.66	0.02	1 (18)
2004												
2005				3.72	0.03	2 (38)				3.72	0.03	2 (38)
2006				3.91	0.03	15 (197)	4.81	0.05	5 (71)	4.46	0.03	20 (268)
2007				5.12	0.02	23 (342)	4.43	0.04	5 (28)	4.94	0.02	28 (370)
2008	4.83	0.00	1 (1)	4.38	0.02	57 (525)	4.91	0.08	7 (31)	4.64	0.02	65 (557)
2009	4.83	0.26	8 (11)	7.48	0.04	22 (157)	5.45	0.07	3 (17)	6.03	0.03	33 (185)
2010				6.64	0.03	30 (149)	6.46	0.14	2 (5)	6.59	0.03	32 (154)
2011				6.23	0.07	8 (55)	6.27	0.32	1 (2)	6.24	0.07	9 (57)
2012				4.79	0.04	27 (160)	5.22	0.07	2 (14)	4.97	0.04	29 (174)
2013				5.17	0.06	14 (82)				5.17	0.06	14 (82)
2014				3.73	0.03	37 (219)	3.73	0.12	4 (10)	3.73	0.03	41 (229)
2015				5.24	0.22	1 (2)	4.97	0.16	3 (14)	4.97	0.18	4 (16)
2016				5.44	0.03	27 (131)	5.54	0.05	12 (81)	5.53	0.03	39 (212)
2017				5.66	0.04	15 (88)	5.73	0.05	7 (36)	5.71	0.03	22 (124)
2018	4.59	0.14	3 (5)	5.49	0.02	68 (383)	5.76	0.04	7 (42)	5.63	0.02	78 (430)
2019				4.92	0.03	32 (250)	4.26	0.11	7 (14)	4.68	0.03	39 (264)
2020	2.92	0.14	3 (5)	6.10	0.02	79 (666)	7.95	0.07	12 (44)	7.19	0.02	94 (715)
2021				6.12	0.02	56 (425)	5.32	0.05	29 (79)	5.56	0.02	85 (504)
2022				6.28	0.04	12 (115)	5.98	0.09	3 (15)	6.07	0.04	15 (130)
2023				5.79	0.04	32 (177)	6.68	0.07	16 (59)	6.18	0.03	48 (236)

Table 10. Recreational Fishing Effort (in angler trips) for Atlantic anglers by mode and year (MRIP) for the s.Hatteras SID domain (the Florida Keys through southern North Carolina). These effort estimates depict all (general) recreational fishing activity in the Atlantic and are not specific to Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt	Priv	Total
1981	437,623	12,296,136	12,733,759
1982	459,030	13,110,340	13,569,370
1983	420,751	12,142,888	12,563,639
1984	479,503	15,468,445	15,947,948
1985	491,523	13,508,953	14,000,476
1986	581,630	14,152,461	14,734,091
1987	574,518	15,960,705	16,535,223
1988	483,909	13,049,580	13,533,489
1989	582,563	15,012,457	15,595,020
1990	513,415	14,007,559	14,520,974
1991	519,650	16,152,068	16,671,718
1992	462,804	16,035,528	16,498,332
1993	523,638	17,292,138	17,815,776
1994	537,811	17,066,720	17,604,531
1995	550,781	16,074,426	16,625,207
1996	519,665	16,737,010	17,256,675
1997	441,772	17,008,426	17,450,198
1998	480,637	16,236,908	16,717,545
1999	417,534	16,555,997	16,973,531
2000	347,027	19,697,894	20,044,921
2001	464,068	18,634,301	19,098,369
2002	560,327	19,417,773	19,978,100
2003	515,698	21,379,075	21,894,773
2004	527,783	20,188,051	20,715,834
2005	449,658	21,218,839	21,668,497
2006	418,287	23,463,774	23,882,061
2007	472,228	24,606,185	25,078,413
2008	410,930	23,108,192	23,519,122
2009	476,848	24,044,353	24,521,201
2010	386,391	25,965,090	26,351,481
2011	417,270	23,374,176	23,791,446
2012	440,835	22,064,688	22,505,523

Year	Cbt	Priv	Total
2013	447,957	21,868,826	22,316,783
2014	559,416	23,331,887	23,891,303
2015	604,073	22,128,441	22,732,514
2016	616,274	21,577,943	22,194,217
2017	560,212	21,456,299	22,016,511
2018	614,732	23,098,605	23,713,337
2019	851,512	21,181,079	22,032,591
2020	636,563	23,118,581	23,755,144
2021	851,913	22,776,511	23,628,424
2022	691,498	23,406,906	24,098,404
2023	664,274	24,219,272	24,883,546

Table 10 continued. Recreational Fishing Effort (in angler trips) for Atlantic anglers by mode and year (MRIP) for the n.Hatteras SID domain (northern North Carolina through Maine). These effort estimates depict all (general) recreational fishing activity in the Atlantic and are not specific to Blueline Tilefish. MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

Year	Cbt	CbtHbt	Hbt	Priv	Total
1981	49,958	2,675,775		15,702,898	18,428,631
1982	84,314	3,948,081		15,704,330	19,736,725
1983	129,135	3,086,778		16,216,479	19,432,392
1984	152,237	2,194,594		17,082,000	19,428,831
1985	155,765	2,199,145		19,304,060	21,658,970
1986	152,952	2,555,264		19,561,873	22,270,089
1987	109,657	1,749,097		18,035,267	19,894,021
1988	90,750	1,799,234		18,123,106	20,013,090
1989	120,747	1,599,779		18,021,075	19,741,601
1990	80,895	1,684,311		19,023,943	20,789,149
1991	96,283	1,856,123		19,043,471	20,995,877
1992	111,289	1,566,647		19,316,248	20,994,184
1993	93,442	2,195,281		19,772,160	22,060,883
1994	94,389	1,855,960		20,184,884	22,135,233

Year	Cbt	CbtHbt	Hbt	Priv	Total
1995	96,623	1,973,135		20,330,457	22,400,215
1996	112,529	1,652,562		21,677,574	23,442,665
1997	132,468	1,733,223		23,626,099	25,491,790
1998	137,568	1,481,991		24,070,922	25,690,481
1999	138,428	1,452,480		25,603,865	27,194,773
2000	167,338	1,530,369		27,629,818	29,327,525
2001	136,903	1,601,931		28,432,243	30,171,077
2002	133,427	1,436,232		28,898,704	30,468,363
2003	142,400	1,579,900		29,367,668	31,089,968
2004	865,977		674,260	30,896,668	32,436,905
2005	1,124,620		767,540	30,886,256	32,778,416
2006	883,472		649,374	31,055,841	32,588,687
2007	1,343,721		971,084	31,444,680	33,759,485
2008	949,711		871,784	31,576,018	33,397,513
2009	886,719		790,333	31,989,989	33,667,041
2010	709,413		580,114	34,126,952	35,416,479
2011	901,313		600,817	32,569,365	34,071,495
2012	824,796		628,596	31,580,854	33,034,246
2013	976,217		968,396	30,295,342	32,239,955
2014	925,476		831,745	29,375,147	31,132,368
2015	1,040,810		696,087	27,114,258	28,851,155
2016	554,810		470,309	26,700,057	27,725,176
2017	625,323		596,982	26,426,357	27,648,662
2018	619,977		535,555	21,446,765	22,602,297
2019	709,522		598,715	23,336,596	24,644,833
2020	520,306		496,200	25,007,544	26,024,050
2021	845,309		495,785	23,127,840	24,468,934
2022	653,026		443,293	26,420,116	27,516,435
2023	717,015		488,299	25,021,953	26,227,267

Table 11. Catch estimates for the Atlantic Tilefish Family (UNID CATCH) and estimates of the relative contribution of Blueline Tilefish to this catch (Ratio). Ratios are the average catch of Blueline Tilefish relative to all Tilefish species (Blackline Tilefish, Sand Tilefish, Tilefish, Blueline Tilefish) and are provided for individual years (1981-2023) and across all years (Grand Total).

Year	UNID CATCH		Ratio	
	AB1	B2	%AB1	%B2
1981	0	0	0.000	0.000
1982	12,162	0	0.000	0.000
1983	0	0	0.000	0.000
1984	24,690	0	0.000	0.000
1985	0	0	0.000	0.000
1986	0	0	0.000	0.000
1987	3,390	0	0.093	0.000
1988	0	0	0.000	0.000
1989	555	0	0.000	0.000
1990	0	0	0.000	0.000
1991	0	0	0.000	1.000
1992	0	3,605	0.000	0.000
1993	2,454	0	0.387	0.000
1994	0	0	0.000	0.000
1995	604	0	0.131	0.000
1996	0	0	0.035	0.000
1997	0	0	0.079	0.000
1998	0	38	0.000	0.000
1999	0	6,791	0.068	0.000
2000	0	159	0.004	0.000
2001	0	0	0.057	0.000
2002	137	2,389	0.011	0.000
2003	1,625	1,617	0.443	0.060
2004	1,917	335	0.088	0.000
2005	0	18,041	0.096	0.047
2006	8,095	712	0.877	0.036
2007	1,137	1,385	0.950	0.366
2008	515	0	0.856	0.000
2009	32	11,029	0.399	0.000
2010	465	118	0.089	0.095
2011	330	220	0.366	0.017

Year	UNID CATCH		Ratio	
	AB1	B2	%AB1	%B2
2012	35	770	0.856	0.114
2013	14,893	0	0.861	0.033
2014	0	34,639	0.620	0.000
2015	2,719	18	0.413	0.061
2016	1,970	10,416	0.746	0.387
2017	0	4,721	0.622	0.316
2018	13,822	1,056	0.619	0.061
2019	1,212	0	0.349	0.021
2020	8,148	0	0.813	0.196
2021	170	8,684	0.788	0.272
2022	0	817	0.478	0.259
2023	2,808	721	0.551	0.031
Grand	103,885	108,280	0.444	0.069

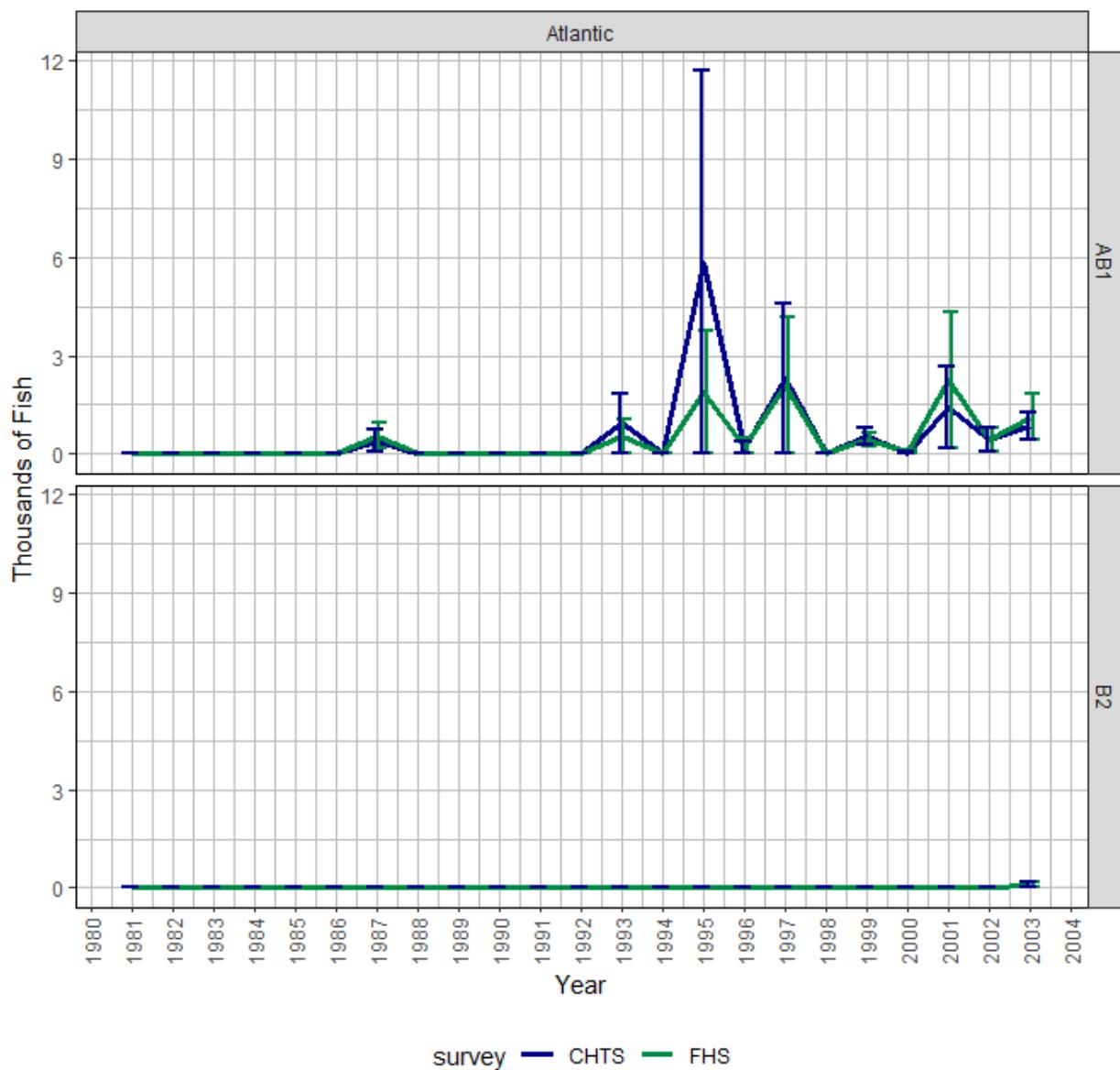


Figure 1. Comparison of Charterboat landings (AB1) and discard (B2) estimates (with standard error intervals shown) for Blueline Tilefish from the Coastal Household Telephone Survey (CHTS) and For-Hire Survey (FHS) from the Atlantic between 1981 and 2003 (MRIP). The Charterboat calibration approach is discussed in Dettloff and Matter (2019a).

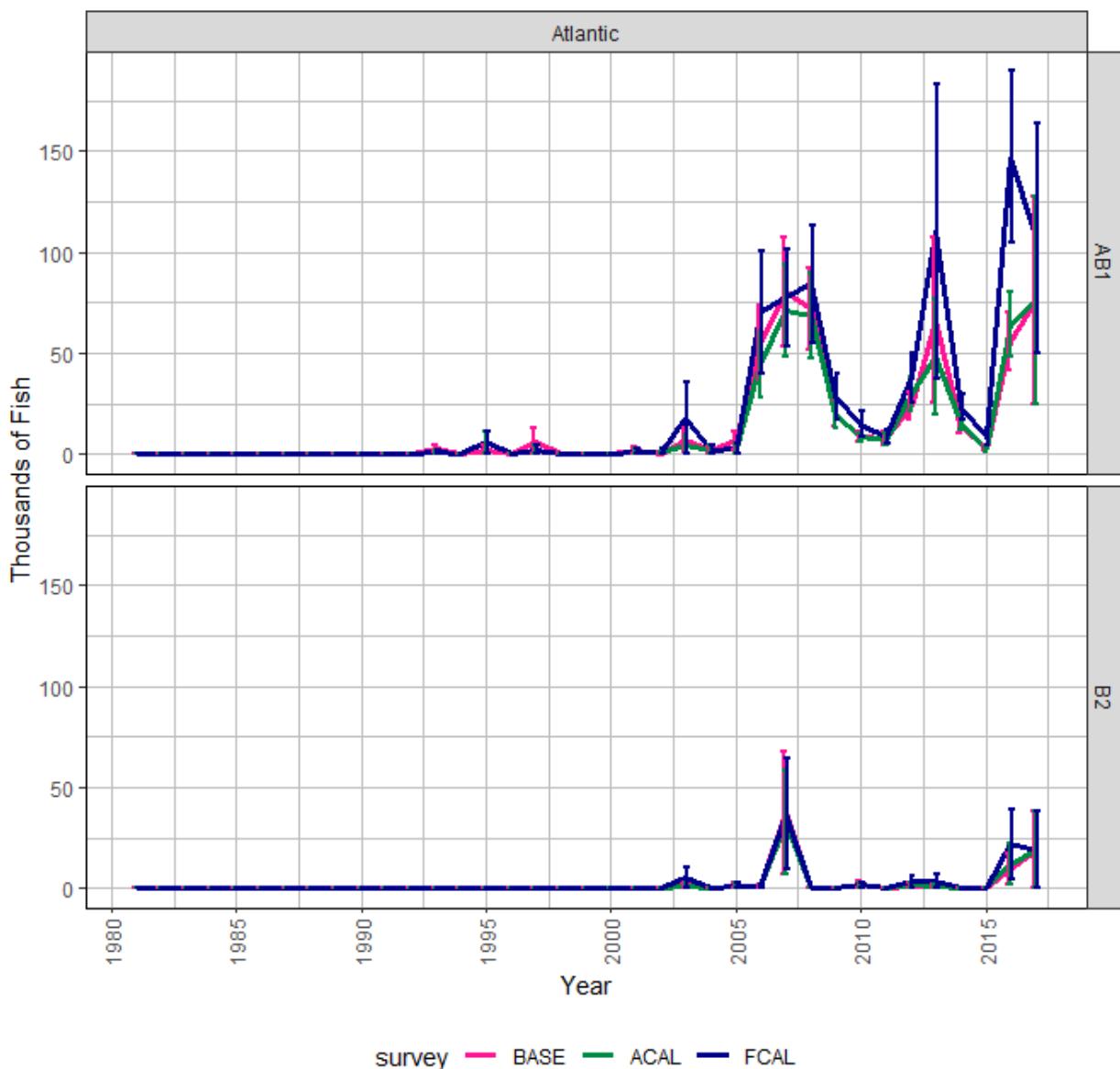


Figure 2. MRIP Base (BASE), APAIS Calibrated (ACAL), and Fully Calibrated APAIS and FES (FCAL) estimates for Blueline Tilefish in the Atlantic between 1981 and 2017. Estimates in this figure do not include the Florida Keys as that domain is not available from the MRIP online comparison tool (NMFS pers comm). The Shore mode is also included as uncertainty estimates for catch across multiple modes are only available when all modes are selected.

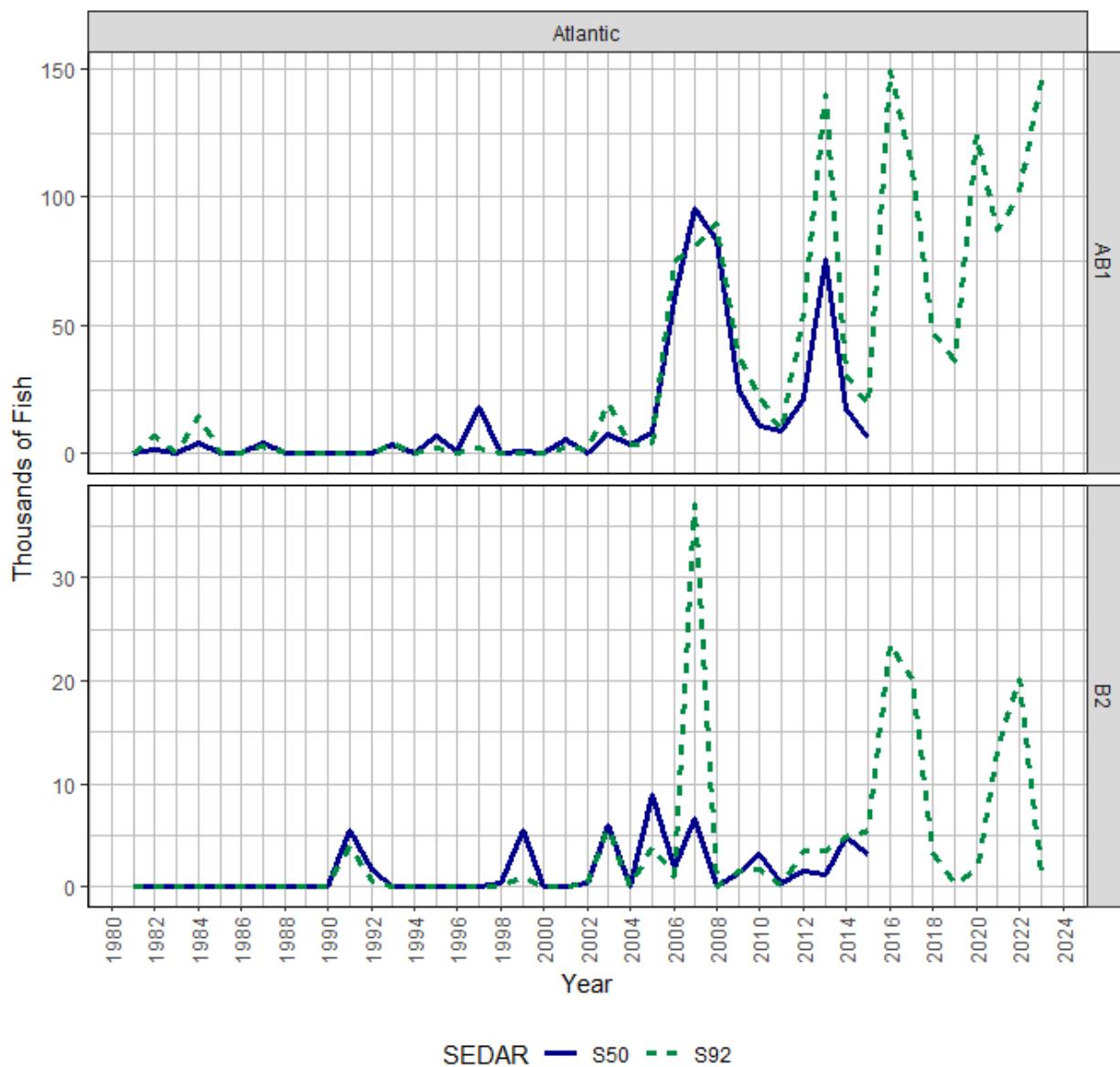


Figure 3. Comparison of total general recreational landings (AB1) and discard estimates (B2) for Atlantic Blueline Tilefish between SEDAR 92 and SEDAR 50, the terminal years of which are 2023 and 2015 respectively. Differences in catch estimates, which are in thousands of fish, are largely a function of changes in the MRIP survey (i.e., FES in 2018).

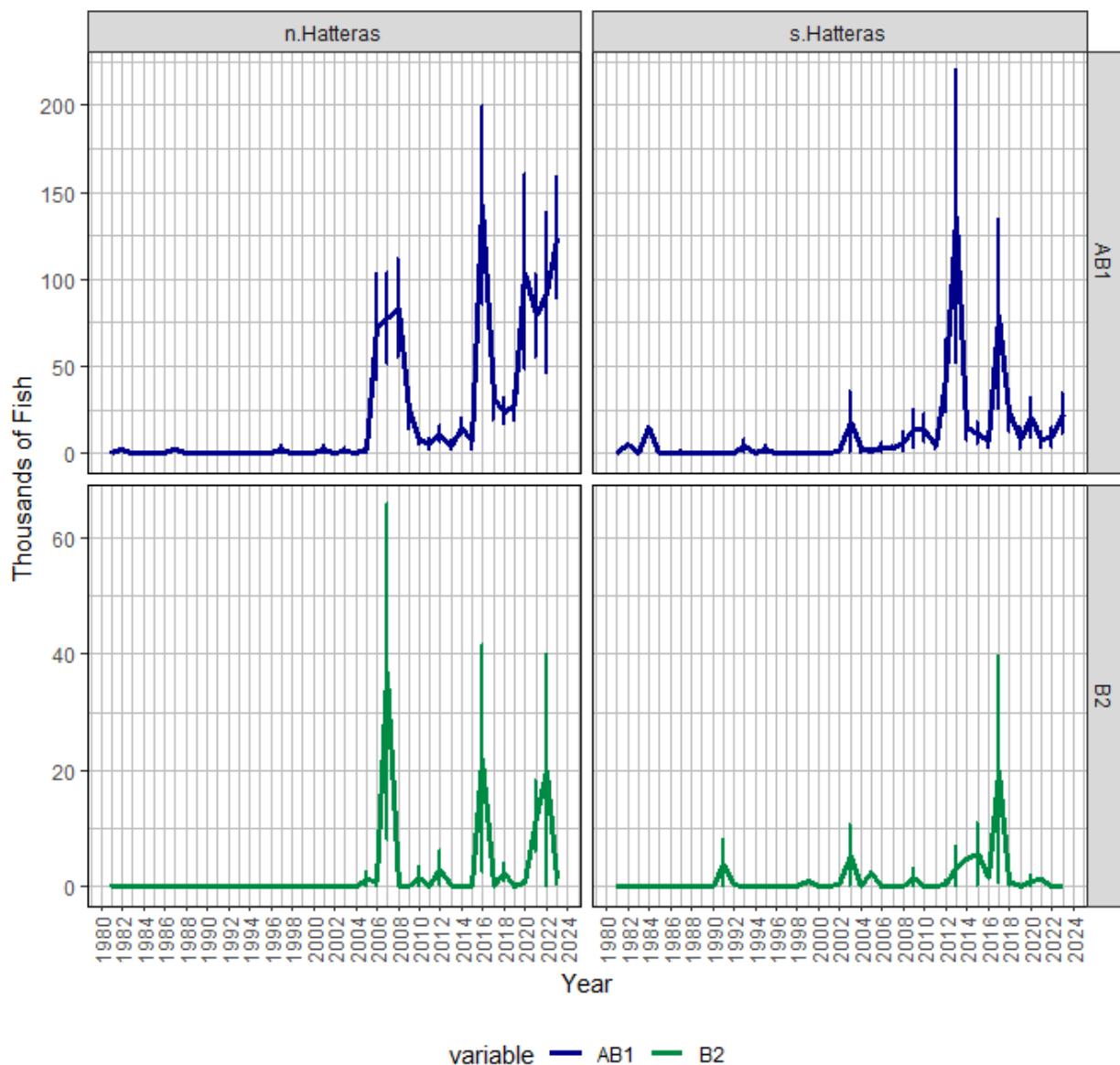


Figure 4. Annual landings (AB1) and discard (B2) estimates with standard error intervals, in thousands of fish, for Atlantic Blueline Tilefish between 1981 to 2023.

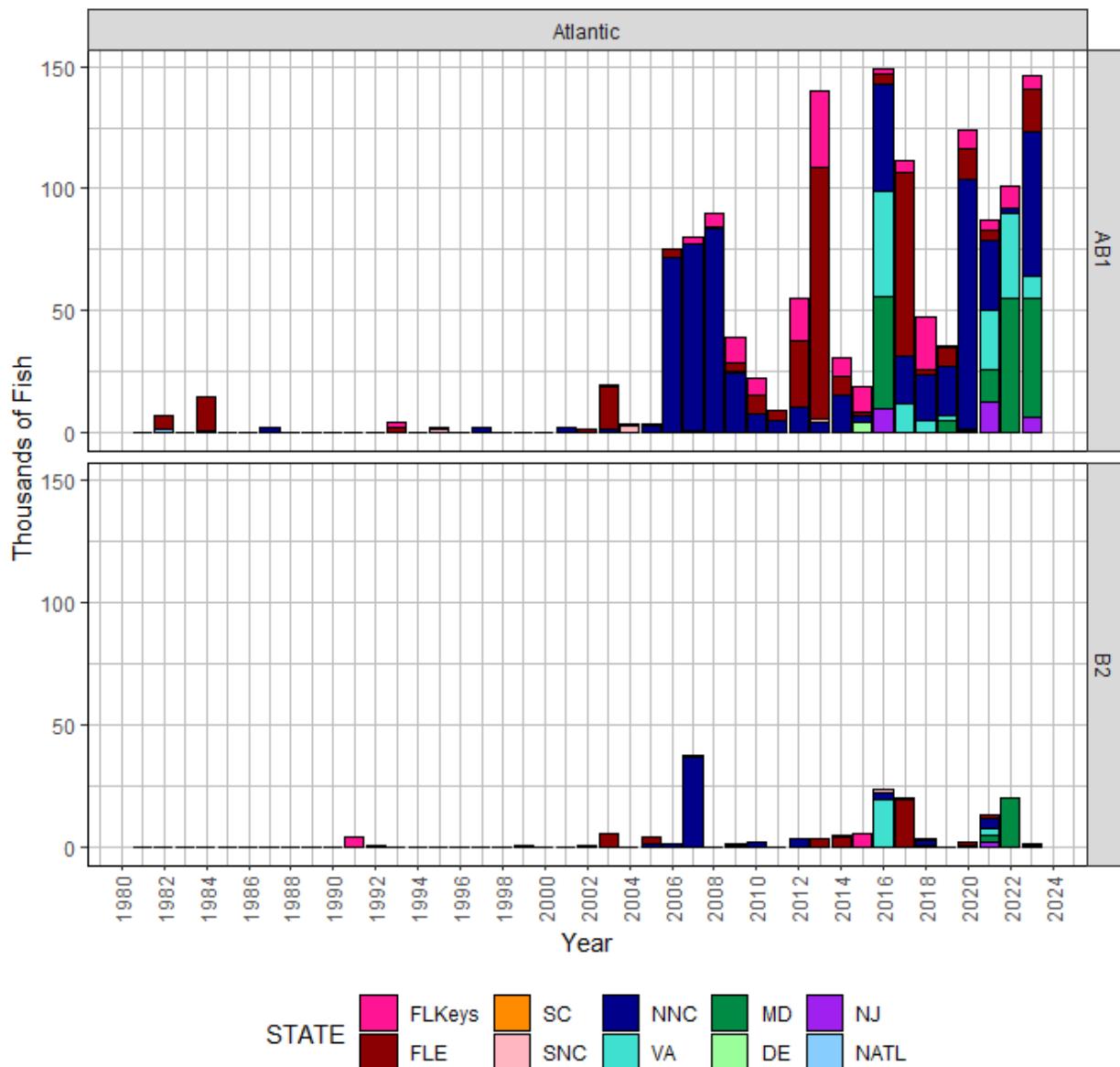


Figure 5. Annual Blueline Tilefish landings (AB1) and discards (B2), in thousands of fish, by state from 1981 to 2023 (MRIP). North Atlantic (NATL; CT to ME) states contributed less than ten percent to the total catch (Table 1, Fig 4a) and were combined for plotting purposes.

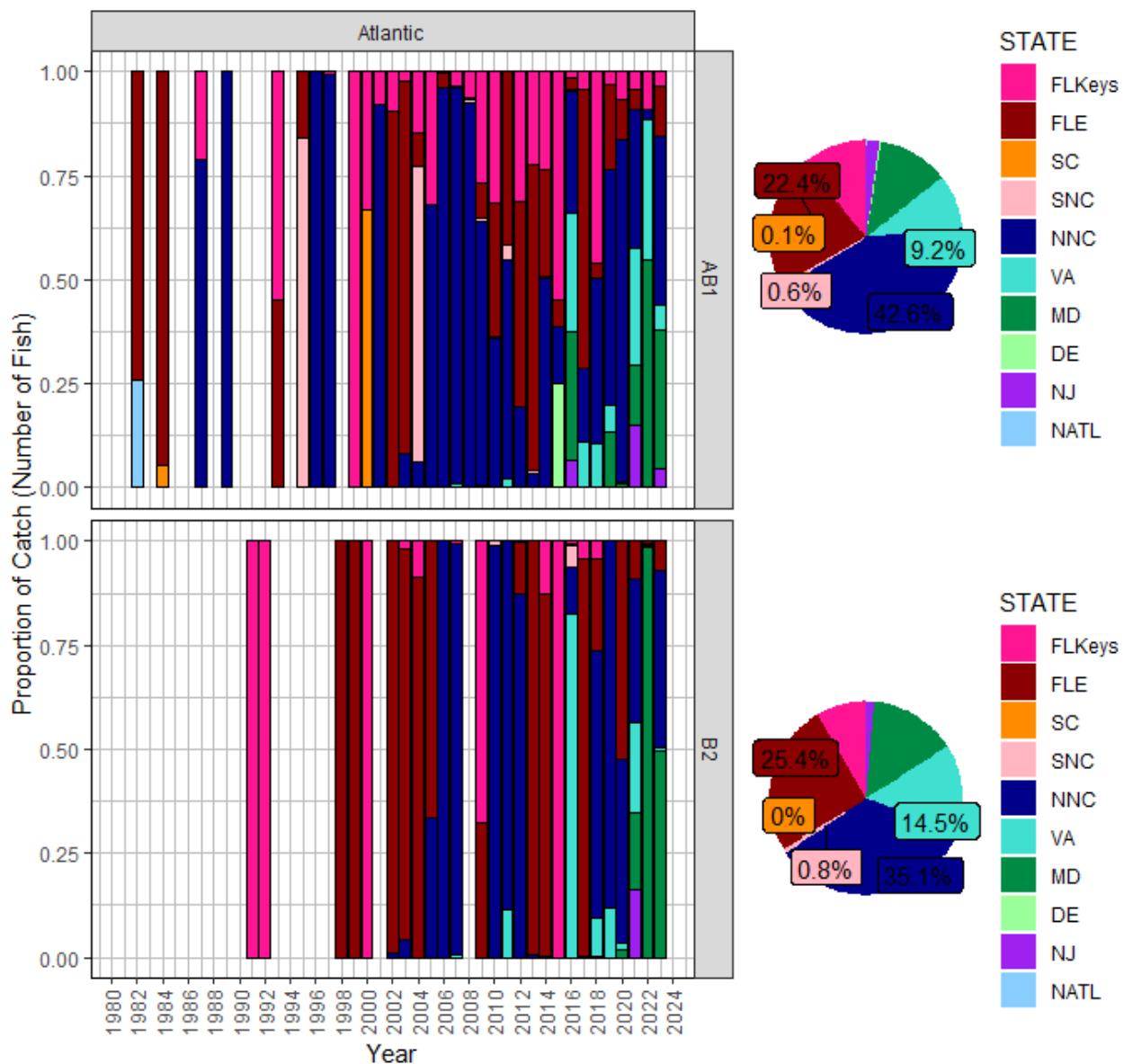


Figure 5a. Proportion of Blueline Tilefish landings (AB1) and discards (B2), in numbers of fish, from each state by year (bar graph) and overall (pie chart) between 1981 and 2023 (MRIP). North Atlantic (NATL; CT to ME) states were combined for plotting purposes.

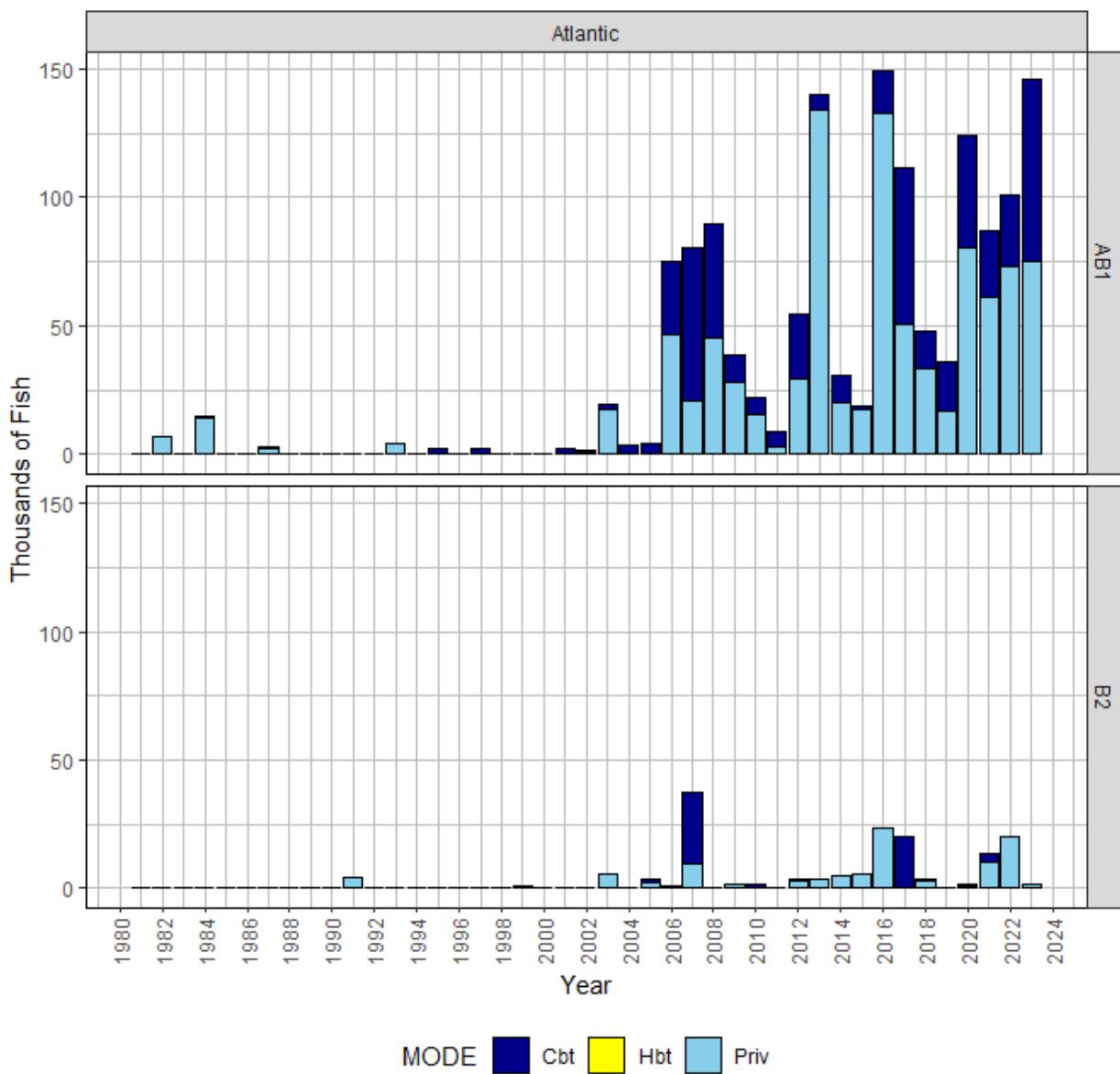


Figure 6. Annual Blueline Tilefish landings (AB1) and discards (B2), in thousands of fish, by mode from 1981 to 2023 (MRIP). MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

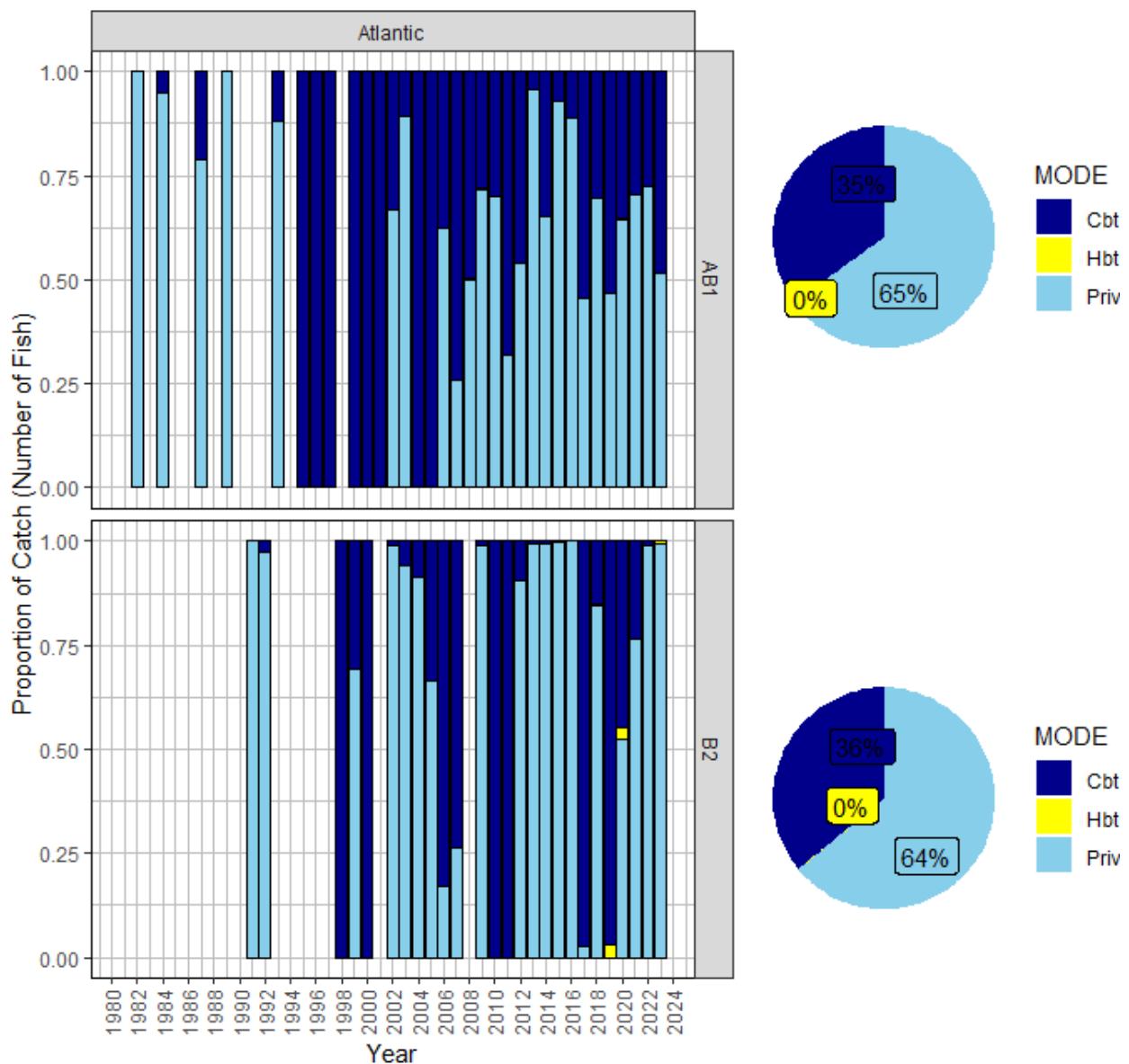


Figure 6a. Proportion of Blueline Tilefish landings (AB1) and discards (B2), in numbers of fish, from each mode by year (bar graph) and overall (pie chart) between 1981 and 2023 (MRIP). MRIP Headboat estimates are included from the Florida Keys (1981-1985) and Virginia to Maine (1981+).

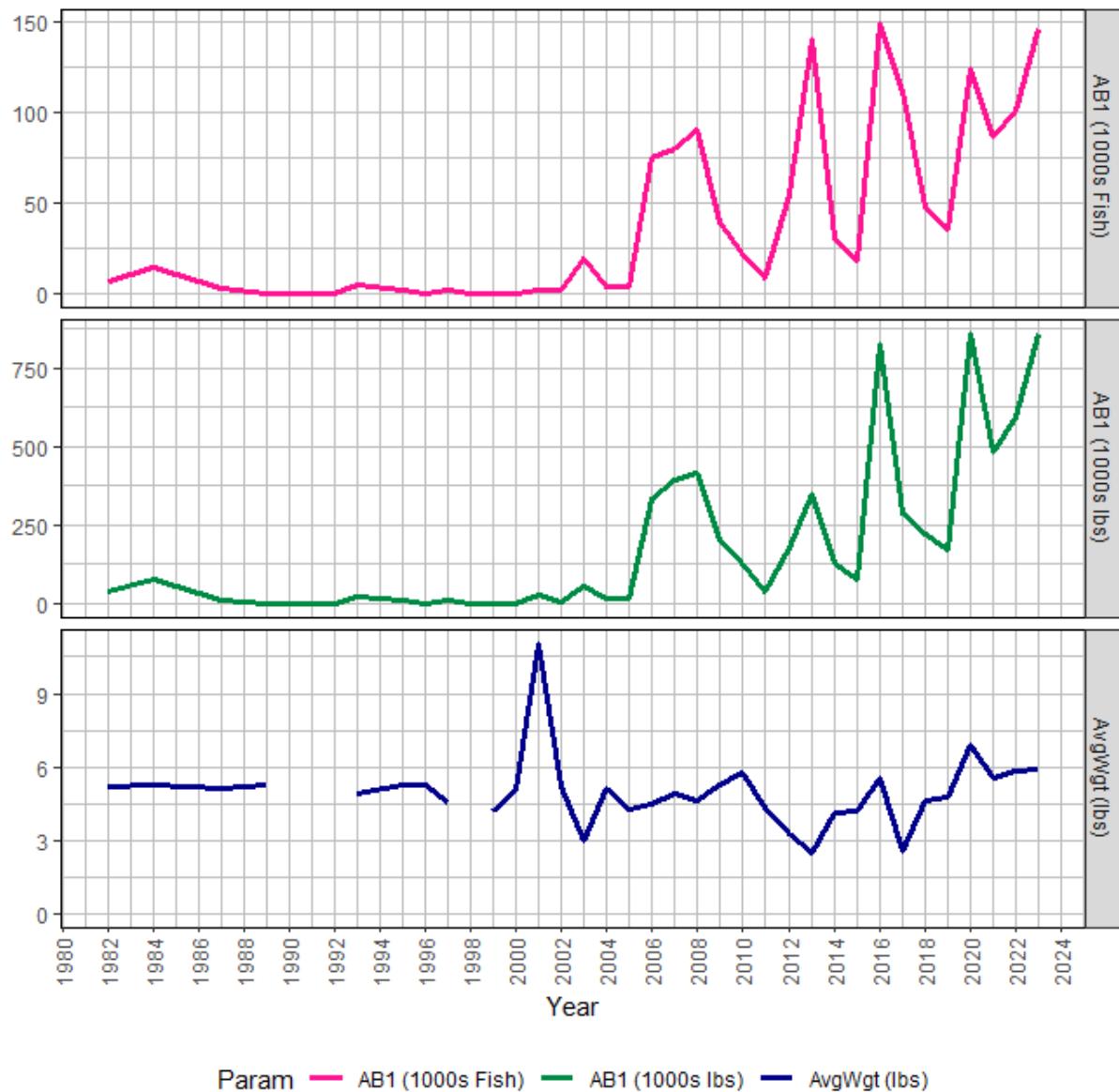


Figure 7. Estimates of annual landings for Blueline Tilefish in the Atlantic (MRIP): estimated landings in thousands of fish (top), estimated landings in thousands of pounds whole weight (middle), and average weight of landed fish (estimated lbs/estimated fish) (bottom). See Appendix for average weight calculation methods.

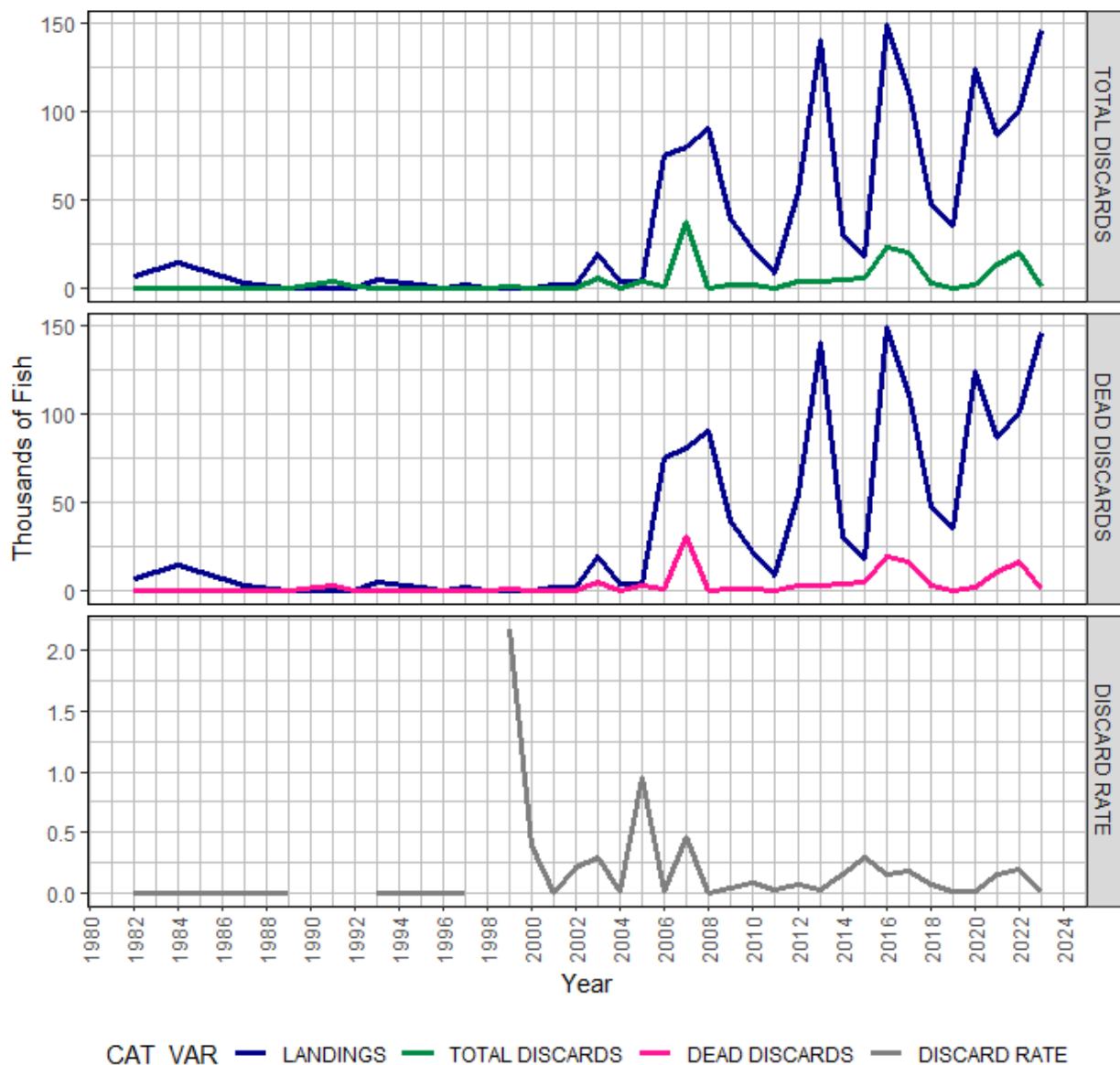


Figure 8. Timeseries of general recreational landings, discards (top panel), and the associated discard rate (bottom panel) for Atlantic Blueline Tilefish (MRIP) in thousands of fish. Dead discards (middle panel) were calculated by applying an assumed discard mortality rate of 82% from the previous assessment.

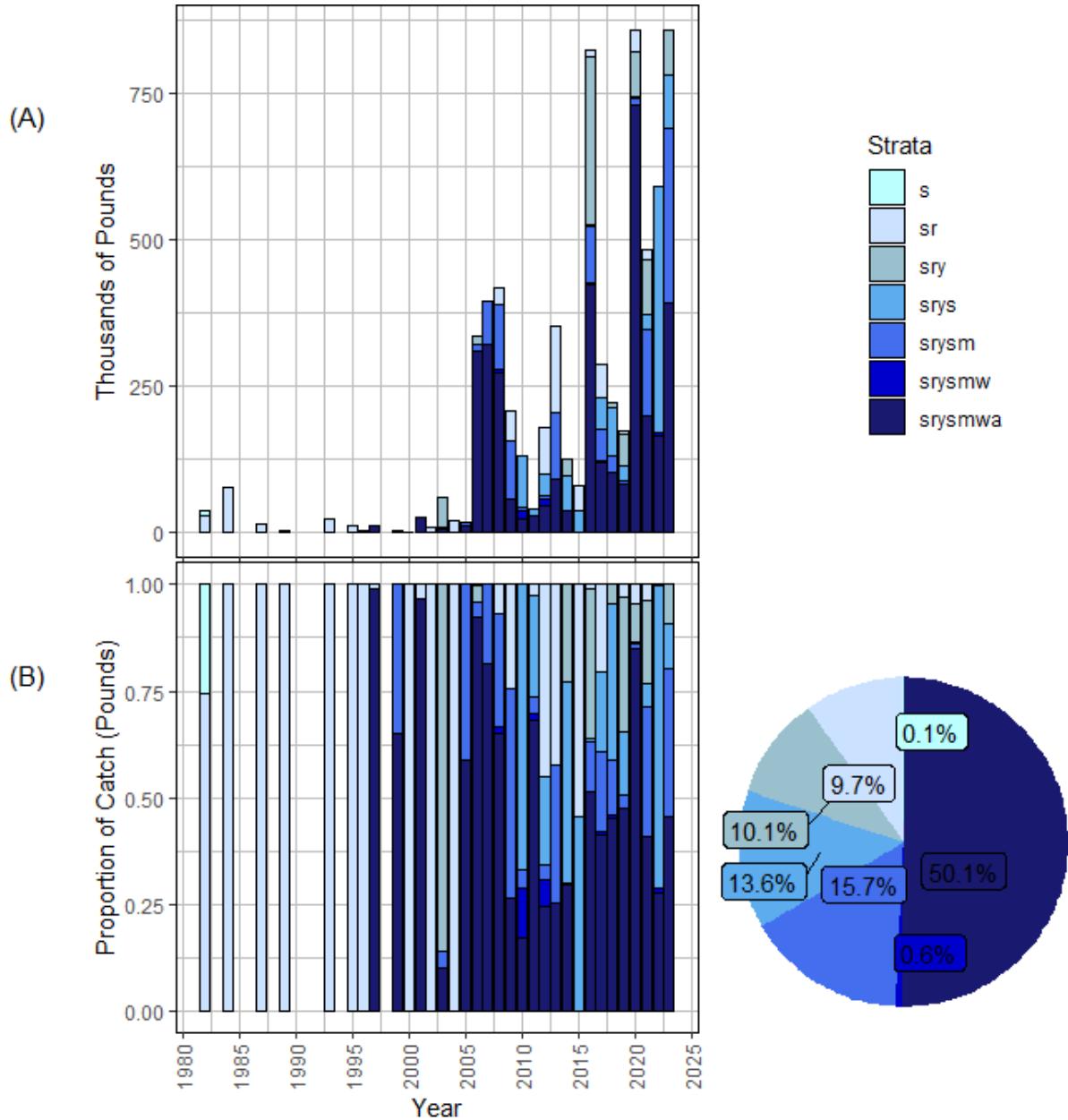


Figure 9. Annual landings estimates of Atlantic Blueline Tilefish in thousands of pounds whole weight by hierarchy level (MRIP), defined by species, region, year, state, mode, wave, and area. Landings are grouped by the strata at which average weights were estimated. As an example, (srysmw) summarizes those landings-in-weight estimates originating from cells where average weights are specific to a particular species, region, year, state, mode, and wave (i.e., weight observations collapsed across areas). Annual summaries include the number of fish and angler trips from which weight information was collected (N) and the landings-in-weight estimates (AB1.lbs) by hierarchy level. Landings are provided (A) in absolute pounds and (B) as a percentage of total landings-in-weight, which is summarized by year (stacked bar graph) and across all years (pie chart).

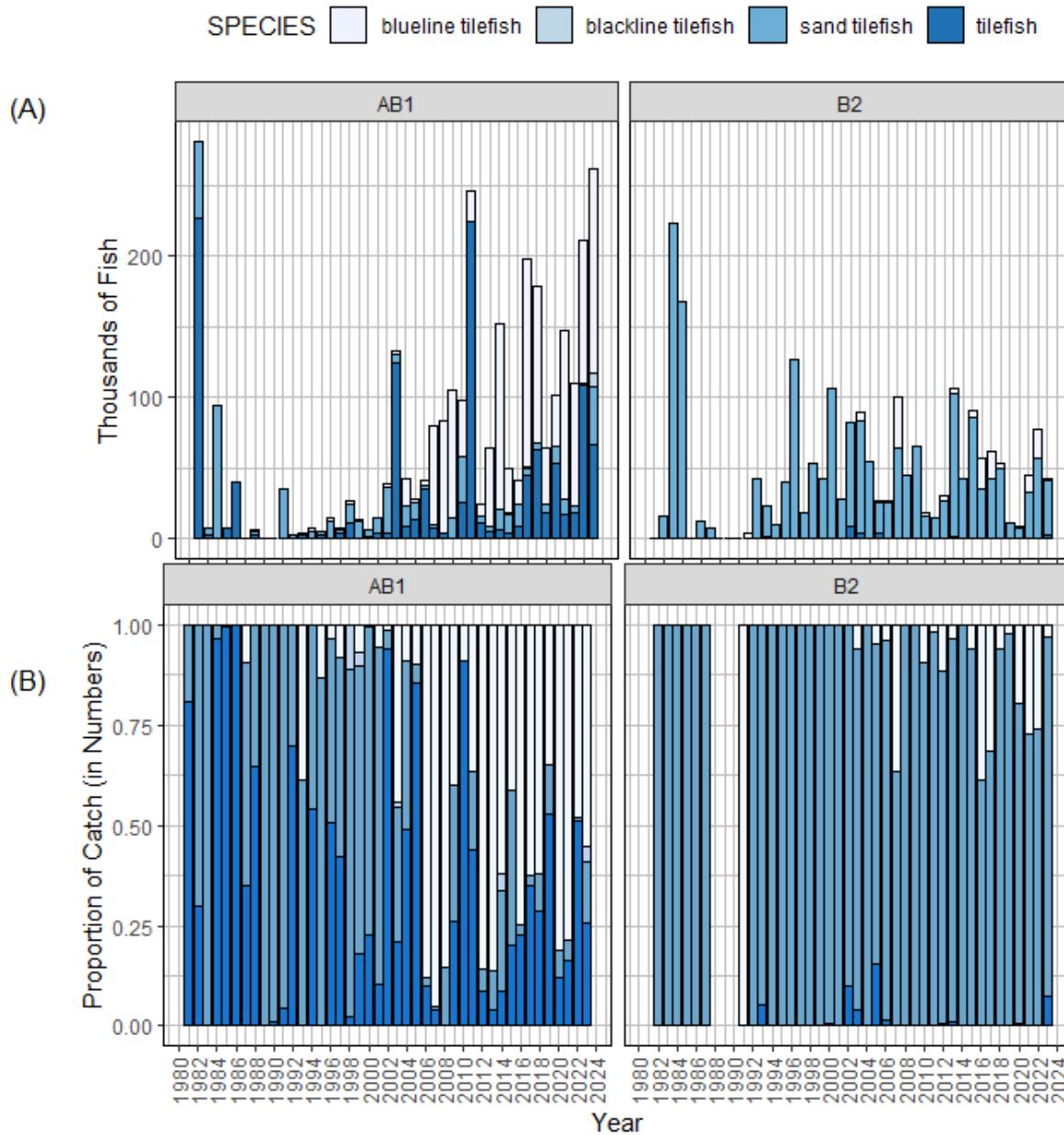


Figure 10. Annual landings estimates for all Atlantic Tilefish species in thousands of fish (MRIP). Across those records identified to species, landings are summarized by year and provided (A) in absolute units and, (B) as a percentage of the total landings. (C) Catch estimates identified as Blueline Tilefish are also compared to that left unidentified (as Tilefish).

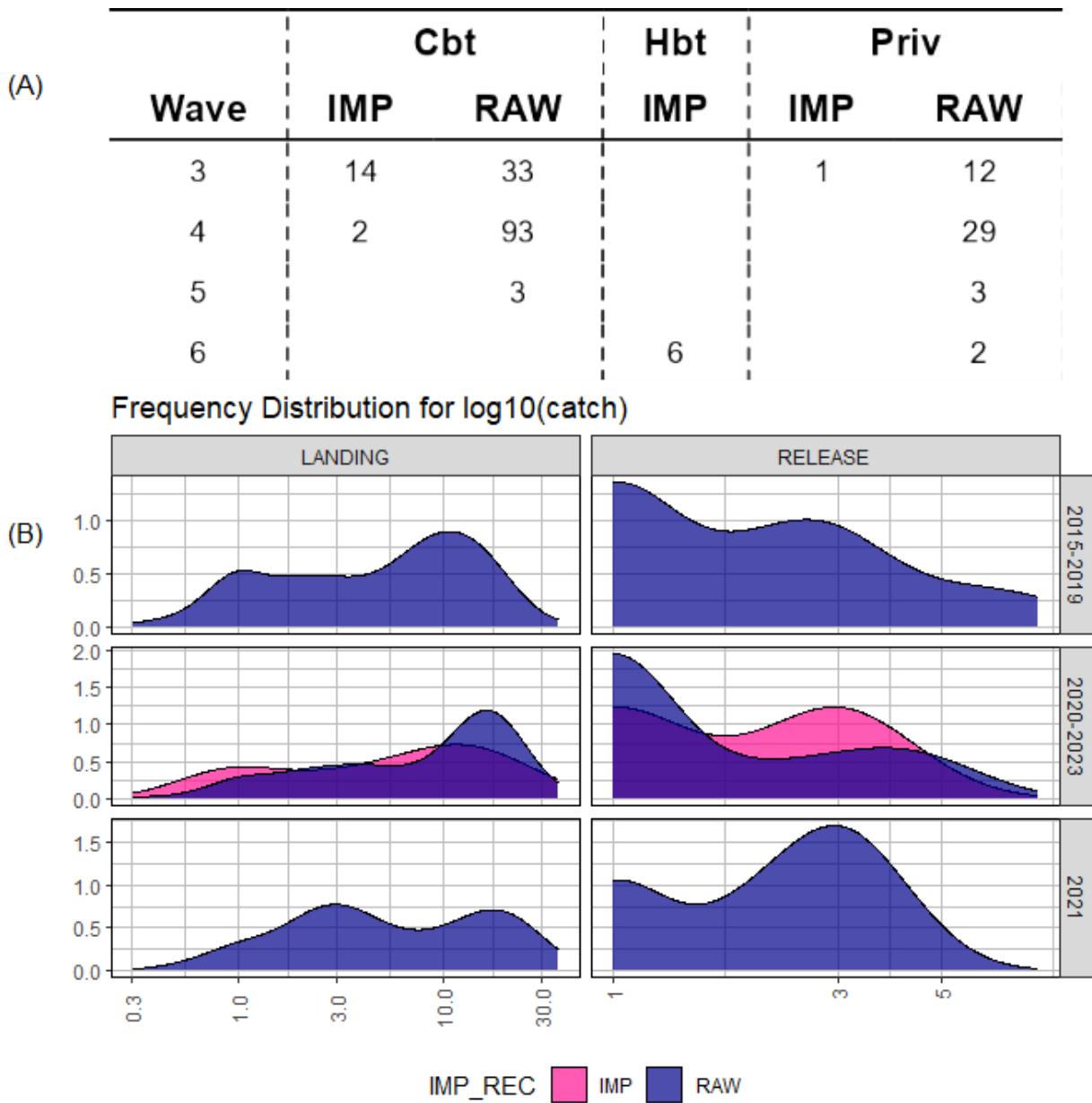


Figure 11. COVID data gaps in the MRIP APAIS and associated imputations for (positive) fishing trips that intercepted Atlantic Blueline Tilefish. No 2020 data were imputed for the FES or FHS. (A) Number of positive intercepts in 2020-2022-2023 from the APAIS (RAW) vs. those imputed from intercepts in adjacent years (IMP). (B) Distribution of APAIS catch observations in years with no imputed catch data (in 2015-2019 and 2021 and 2020-2023), in raw 2020-2022-2023 APAIS data, and in 2020-2022-2023 imputations. Refer to Cody (2021) for more information on COVID data gaps in MRIP.

Appendix A

Additional Details of Survey Data and SEFSC Estimation

- MRIP Calibrations: Fully calibrated estimates that take into account the change in the Fishing Effort Survey (FES; 2018), the redesigned Access Point Angler Intercept Survey (APAIS; 2013), and the For Hire Survey (FHS; 2000 for all Gulf of Mexico states and eastern Florida and 2004 for all Atlantic states north of Florida).
 - Papacostas and Foster (2021) provide descriptions of the approaches used by the Office of Science and Technology to calibrate MRIP (1) effort estimates derived from the legacy Coastal Household Telephone Survey (CHTS) into FES units for the private and shore modes and (2) catch rate estimates between the original and redesigned APAIS for all modes.
 - SEFSC calibrations of catch and effort estimates between CHTS and FHS units are calculated for the For-Hire mode by year, region, state, wave, and area fished according to Dettloff and Matter (2019a). Figure 1 summarizes the resultant scaling of CHTS catch estimates under the FHS calibration ratios.
- SEFSC Weight Estimation: Average (fish) weight estimates are calculated in whole weight by strata using the following hierarchy: species, region, year, state, mode, wave, and area (Matter and Rios 2013). The minimum number of weights used at each level of substitution is fifteen fish, except for the final species level where the minimum is one fish (Dettloff and Matter 2019b). Size records above an allowable (max size) threshold are excluded from weight estimation and the summary tables included in this working paper (Tables 8-12). For SEDAR 92 Blueline Tilefish, this includes any weights heavier than 16.17 pounds.
- The MRIP time series starts in wave 2 of 1981. To impute 1981 wave 1 effort (Florida), the proportion of the wave 1 effort to that from other waves (2-6) in years 1982-1984 (by fishing mode and area) was multiplied by the total effort from waves 2-6 in 1981.
- SEFSC Estimates derived using SEDAR best practices (SEDAR-PW-07):
 - To ensure sampling can support MRIP estimates at finer stratifications than for which the survey was designed, (sub-state) domain estimates are only generated for established geographic domains. For Florida, this includes the sub-state domains of Florida in the FHS (3 = Florida Keys, Monroe;; 4 = southeastern Florida, Miami-Dade to Indian River;; 5 = northeastern Florida, Brevard to Nassau). For North Carolina, this includes domains north of Cape Hatteras (Cape Hatteras north to the NC/VA border) and south of Cape Hatteras (Cape Hatteras south to the NC/SC border).
 - Between 1981 and 1985 in the Gulf of Mexico and South Atlantic, MRIP charter and headboat modes were combined into a single (for-hire) mode for estimation purposes. Since the NMFS Southeast Region Headboat Survey (SRHS) began in 1986 in the Gulf and 1981 in the South Atlantic, the MRIP combined for-hire mode must be split in these early years (1981-1985) to

provide headboat landings estimates in the Gulf and to avoid double counting of headboat landings in the South Atlantic. Estimates for the MRIP for-hire mode (1981-1985) were split using a ratio of SRHS headboat angler trip estimates to MRIP charterboat angler trip estimates for 1986-1990, calculated by state (or state equivalent to match SRHS areas to MRIP states).