



Mid-Atlantic Fishery Management Council
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Michael P. Luisi, Chairman | P. Weston Townsend, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: May 26, 2023
To: Council
From: Hannah Hart, Staff
Subject: 2024 Blueline Tilefish Specifications

On Tuesday, June 6, the Council will review previously adopted 2024 blueline tilefish specifications and recommend revisions as needed. Measures to be considered include 2024 commercial and recreational catch and landings limits, as well as any changes to the commercial or recreational management measures needed for 2024.

Materials listed below are provided for the Council's consideration of this agenda item.

- 1) Monitoring Committee meeting summary from May 24, 2023
- 2) May 2023 Scientific and Statistical Committee meeting report (*posted behind Tab 14*)
- 3) Staff memo on 2024 blueline tilefish specifications dated April 26, 2023
- 4) April 2023 Blueline Tilefish Advisory Panel Fishery Performance Report
- 5) 2023 Blueline Tilefish Fishery Information Document



Tilefish Monitoring Committee 2024 Golden Tilefish and Blueline Tilefish Recommendations

May 2023

The Mid-Atlantic Fishery Management Council's (Council) Tilefish Monitoring Committee (MC) met via webinar on May 24, 2023 to review the most recent information and to determine whether modifications to the current 2024 specifications for golden tilefish and blueline tilefish were warranted. The primary purpose of this report is to summarize the Tilefish MC recommendations for the golden tilefish and blueline tilefish 2024 specifications.

Monitoring committee Attendees: José Montañez and Hanna Hart (Council Staff), John Maniscalco (NYSDEC), Jeffrey Brust (NJDFW), Laurie Nolan (Commercial), Paul Nitschke (NEFSC), and Doug Potts (GARFO).

Additional Attendees: Mike Waine and Greg DiDomenico.

Golden Tilefish Discussion

The Tilefish MC was presented with a summary of the Scientific and Statistical Committee (SSC) May 10, 2023 meeting, where the SSC reviewed the 2023 Golden Tilefish Fishery Document, the 2023 Golden Tilefish Advisory Panel Information Document, the 2023 NEFSC Data Update for Golden Tilefish, and other relevant information. At that meeting, the SSC noted that while the stock has shown periodic changes in age composition over the past 20 years, the population generally appears to be at equilibrium. The fishery independent golden tilefish longline surveys that will be conducted in 2023, and the RTA in 2024 will likely provide a comprehensive summary of current stock conditions and an improved basis for future catch limits. The SSC noted that the reductions for management uncertainty for specification of commercial quotas seem small. The basis for the small magnitude of such changes should be reviewed. Lastly, the SSC expressed concerns over the low level of port monitoring (port sampling). The SSC recommended no change to ABC specifications used by the Council for the 2024 fishing year (1.964 million pounds or 891 mt).

After reviewing all available data, the MC discussed the different components of the golden tilefish catch and recent fishery trends. The MC indicated that fishing trends are behaving as previously expected. The MC also indicated that the level of management uncertainty used to derive the 2024 catch and landings seems appropriate given the nature of this small IFQ fishery and the ability to closely manage catch. Therefore, **the MC recommended no change to the catch and landings limits specified for the 2024 fishing year (Table 1).**

The MC discussed recent trends in the recreational fishery and incidental commercial fishery. The MC did not recommend changes to the current 500-pounds whole weight (458-pounds gutted) incidental trip limit or the 8-fish per person per trip bag limit.

Blueline Tilefish Discussion

The MC reviewed fishery performance, a summary of the SSC meeting, as well as previously implemented 2024 commercial and recreational Annual Catch Limits (ACLs), Annual Catch Targets (ACTs), and commercial and recreational Total Allowable Landings (TALs) for blueline tilefish. In addition, the MC reviewed commercial and recreational management measures to consider whether changes are warranted for 2024.

Based on the information presented and the SSC's recommendation to maintain the 100,520 pound (45.6 mt) ABC for 2024, **The MC agreed maintaining the previously approved catch and landing limits as shown in Table 2 for 2024 was appropriate.**

The MC also recommended no changes to commercial management measures. The MC noted that due to recent trends in commercial landings maintaining the current 500-pound trip limit is appropriate.

The MC agreed with the staff recommendation to modify the recreational season to May 15 – November 14 to better align the blueline tilefish season with the black sea bass recreational season in most states due to the overlap in those fisheries. The MC agreed shifting the season back two weeks would help reduce regulatory discards of black sea bass and have minimal impact on the fishery and participants. There was also expressed concern on the reliability of recreational data and the acceptable average weight used to convert recreational caught fish from numbers of fish to pounds. MC members noted the need to explore additional data sources to derive an acceptable average weight and that it may be appropriate to further investigate this during the next multi-year specification setting process. MC members agreed the Delphi expansion of charter catch to estimate private recreational catch still appears most reasonable. However, given SSC comments that an update or review of this methodology may be warranted, the MC felt it would be appropriate to review the Delphi approach and consider alternative methods. There was also expressed interest in the utility of the Large Pelagic Survey data for blueline tilefish and the need to investigate the connection between highly migratory species and the blueline tilefish. MC members also noted the importance of getting a better understanding of the recreational blueline fishery given the majority of the fishery is allocated to the recreational sector.

Table 1. Summary of golden tilefish MC recommended catch and landings limits (in pounds unless otherwise noted) for 2022, 2023, and 2024.

	2022	2023	2024	Basis
OFL	2,228,873 (1,011 mt)	2,226,669 (1,010 mt)	2,151,712 (976 mt)	Projections
ABC	1,964,319 (891 mt)	1,964,319 (891 mt)	1,964,319 (891 mt)	Staff recommendation based on overfishing probability averaging
ACL	1,964,319 (891 mt)	1,964,319 (891 mt)	1,964,319 (891 mt)	ABC = ACL
IFQ fishery ACT	1,763,478 (800 mt)	1,763,478 (800 mt)	1,763,478 (800 mt)	Deduction from management uncertainty = 0. IFQ ACT = 95% of the ACL and incidental ACT = 5% of the ACL. However, the MC is recommending an ACT that is below the ABC/ACL derived from the SSC recommendation and it is based on the more stable long-term productivity of the stock to acknowledge the positive development in the stock status but also to mitigate the potential risk to the stability and success in managing this relative data poor fishery
Incidental fishery ACT	92,815 (42 mt)	92,815 (42 mt)	92,815 (42 mt)	
Projected IFQ fishery discards	0	0	0	Data indicates no discards in the IFQ fishery (directed fishery). IFQ fishery discards are prohibited in the FMP
Projected incidental fishery discards	17,405 (8 mt)	17,405 (8 mt)	17,405 (8 mt)	Average discards (2016-2020) mostly sm/lg mesh OT and Gillnet gear
IFQ fishery TAL = IFQ fishery quota	1,763,478 (799.900 mt)	1,763,478 (799.900 mt)	1,763,478 (799.900 mt)	IFQ fishery TAL = IFQ fishery ACT – IFQ fishery discards. No additional reductions applied between IFQ TAL amounts and final IFQ fishery quota amounts
Incidental fishery TAL = incidental fishery quota	75,410 (34.205 mt)	75,410 (34.205 mt)	75,410 (34.205 mt)	IFQ fishery TAL = IFQ fishery ACT – IFQ fishery discards. No additional reductions applied between IFQ TAL amounts and final IFQ fishery quota amounts

Note: Initial OFL and ABC values are in metric tons (mt) and thus, the management measures are developed using mt. When values are converted to millions of pounds the numbers may change due to rounding. Projected incidental discards are initially reported in pounds and then converted to mt. 1 mt = 2,204.6226 pounds.

Table 2. Previously adopted 2022-2024 blueline tilefish catch and landing limits as well as 2024 MC recommended limits.

Management measures	2022-2024 (pounds) <i>MC recommend no change for 2024</i>
ABC	100,520
Com. ACL	27,140
Com. ACT	27,140
Projected com. discards	272
Com. TAL	26,868
Rec. ACL	73,380
Rec. ACT	73,380
Projected rec. discards	1,468
Rec. TAL	71,912



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MEMORANDUM

Date: April 26, 2023
To: Dr. Chris Moore, Executive Director
From: Hannah Hart, Staff
Subject: 2024 Blueline Tilefish Specifications Review

Summary

In 2021, the Council set specifications for blueline tilefish for the 2022-2024 fishing years (Table 1). The specifications were published in the Federal Register on November 3, 2022 (87 FR 66245).¹ As part of the 2022-2024 multiyear specification process, the Scientific and Statistical Committee (SSC), the Tilefish Monitoring Committee (MC), and the Mid-Atlantic Fishery Management Council (Council) will review the most recent fishery information to determine whether modifications to the current 2024 specifications set by the Council are warranted. Additional information on fishery performance and past management measures can be found in the 2023 Blueline Tilefish Fishery Information Document and the 2023 Blueline Tilefish Fishery Performance Report developed by advisors.²

The SSC should review the previously adopted 2024 Acceptable Biological Catch (ABC) to consider if changes are needed. **Staff recommend no changes to the 2024 ABC of 100,520 pounds (45.6 mt) as there is no new information to suggest a change is required.** Following the SSC's consideration of the 2024 ABC, the Monitoring Committee will review previously adopted 2024 commercial and recreational Annual Catch Limits (ACL), Annual Catch Targets (ACT), and Total Allowable Landings (TAL), and commercial and recreational management measures. **Staff also recommends maintaining the previously adopted 2024 catch and landings limits and no changes to the commercial measures for the blueline tilefish fishery; however, staff recommends modifying the recreational blueline tilefish season from May 1 – October 31 to May 15 – November 14.**

¹ Available at: <https://www.federalregister.gov/documents/2022/11/03/2022-23956/fisheries-of-the-northeastern-united-states-mid-atlantic-blueline-tilefish-fishery-final-2022-and>

² Available at: <https://www.mafmc.org/tilefish>

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Management Measures	2022-2024 (pounds) <i>staff recommend no change for 2024</i>
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Stock Status and Projections

The most recent stock assessment for blueline tilefish was the [SEDAR 50 benchmark assessment](#) in 2017. SEDAR 50 split the stock at Cape Hatteras, North Carolina. For the stock south of Cape Hatteras, it was determined that the stock was not overfished and overfishing was not occurring and ABC recommendations were set. However, for the stock north of Cape Hatteras, which includes the area managed by the Mid-Atlantic Council, there was insufficient information available to determine stock status and therefore no ABC recommendations were made. To assist in developing an ABC recommendation, the Mid- and South Atlantic Councils/SSCs, as well as staff from the Northeast and Southeast Fisheries Science Centers developed a joint subcommittee to rerun the Data Limited Method (DLM) Toolkit³ previously used during for initial specification setting process for the region north of Cape Hatteras. The results were then partitioned at the Virginia/North Carolina border in order to allocate the full northern region ABC (entire region north of Cape Hatteras, NC) between the Mid-Atlantic managed region (NC/VA border – Maine) and the northern portion of the South Atlantic managed region (Cape Hatteras, NC – NC/VA border). This partitioning was accomplished by applying coastwide catch data from the 2017 Pilot Tilefish survey funded by the MAFMC out of SUNY Stony Brook.⁴

As a result of both the DLM Toolkit and partitioning the total ABC to the Mid-/South Atlantic managed regions, the Mid-Atlantic SSC recommended an ABC of 100,520 pounds (45.60 mt). The current ABC has remained status quo since the initial recommendation in 2018. Additional details about the 2018 SSC’s review of the DLM Toolkit and discussion can be found in the [March 2018 SSC meeting report](#). An operational assessment for blueline tilefish through the SEDAR process is expected to start in 2024.

³ DLM Toolkit was a procedure developed by Carruthers et. Al. (2014) to evaluate methods for setting catch limits in data-limited fisheries. More information about the DLM Toolkit and the joint SSC’s review and recommendation is available at:

https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/570ba6fba3360c80a3f22a00/1460381436425/01-01.2_BLT+Subcommittee+Report+20160322.pdf.

⁴ The final 2017 Pilot Tilefish study report is available at:

https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5a70a2d3652deafd4dbfc8e0/1517331157927/F_RISK_TILEFISH_MAFMC_finalreport_jan2018.pdf.

Recent Catch and Fishery Performance

As shown in Table 2, the commercial fishery landed 13,943 pounds of blueline tilefish in 2022, about 52% of the 2022 commercial TAL of 26,868 pounds. Commercial dead discard estimates are estimated to be about 1% of total landings, as previously recommended by the SSC and MC during Amendment 6 to the Tilefish Fishery Management Plan. As such, total commercial catch in 2022 was estimated to be 14,082 pounds which is about 52% of the ACL (27,140 pounds). Given the commercial catch did not exceed the ACL, it is not anticipated that the accountability measures will be triggered.

Recreational catch described by combined party/charter vessel trip reports (VTRs) is reported in Table 3. Reported harvest and discards have remained between approximately 10,000 – 16,000 fish since 2012. Previous work with the advisors and other blueline tilefish recreational fishermen has suggested VTR reporting compliance began to encompass at least the primary headboats targeting blueline tilefish in 2012. Recreational landing and discard estimates are available from the Marine Recreational Information Program (MRIP), but blueline tilefish intercepts are rare occurrences and the estimates are often associated with very high percent standard errors (Table 4). In an effort to improve tilefish management, the Greater Atlantic Regional Fisheries Office initiated private recreational permitting and reporting for tilefish anglers in August 2020. As shown in Table 5, the number of private recreational permits issued and VTRs submitted during the first two full years following implementation have remained relatively similar; however, there seems to be a mismatch between the number of permits issued and the number of trips reported annually. Council staff has been working on continued outreach efforts to try and improve overall awareness of and compliance with these permitting and reporting requirements.

Given the high level of uncertainty in MRIP estimates as well as the limited numbers of private recreational VTRs submitted, the MC has used an alternative approach to estimating private angler performance in past years. This recommendation is based on application of a Delphi Approach⁵ and is calculated by applying 105.16% of charter vessel landings to estimate private angler landings (Table 6). Staff recommends continued use of this approach to evaluate recreational performance for similar reasons stated above.

⁵ The Delphi method was run in 2016 to estimate recreational landings for charter, headboat, and private anglers. The Delphi method was used to develop a recreational time series for blueline tilefish through extrapolation of survey results. A ratio was used to back calculate private recreational landings in relation to charter landings from vessel trip reports. This method had been peer reviewed and accepted as best available science by SEDAR 50 and further recommended by the MC in 2019.

Table 2. Commercial blueline tilefish landings (live weight) from Maine-Virginia by year from 2000-2022. Source: NMFS unpublished dealer data.

Year	Landings (pounds)
2000	2,446
2001	955
2002	269
2003	7,601
2004	5,827
2005	2,031
2006	3,039
2007	21,068
2008	8,495
2009	9,626
2010	8,388
2011	8,179
2012	9,624
2013	26,781
2014	215,928
2015	73,644
2016	14,235
2017	10,734
2018	13,068
2019	22,759
2020	31,918
2021	26,446
2022	13,943

Table 3. Blueline tilefish party/charter VTR landings and reported discards from Maine-Virginia, 2012-2022.

Year	Number of Trips	Landings (Numbers of Fish)	Reported Discards (Numbers of Fish)	Estimated Discards^a (Numbers of Fish)
2012	103	10,051	338	201
2013	120	11,838	128	237
2014	138	15,849	254	317
2015	170	14,391	292	288
2016	158	15,493	246	310
2017	129	10,164	115	203
2018	221	12,432	99	249
2019	167	10,711	176	214
2020	149	9,670	174	193
2021	222	13,610	69	272
2022	236	13,183	63	264

^a Recreational discards are calculated as 2% of total landings.

Table 4. Recreational blueline tilefish MRIP landings and discard estimates and associated percent standard of error by mode from Maine-Virginia by mode. Source: NMFS unpublished MRIP data.

**Note 2020 MRIP estimates were likely impacted by limited sampling efforts due to COVID-19.*

Year	MRIP Landings (Numbers of fish)	Percent Standard Error (Landings)	MRIP Discards (Number of fish)	Percent Standard Error (Discards)	Mode
2015	4,663	77.2	0	-	Private/Rental
2016	1,222	58.8	0	-	Charter
2016	97,477	86.275	19,356	88.4	Private/Rental
2017	12,122	89.05	0	-	Private/Rental
2018	6	94.5	5	100	Party
2018	2,083	112.85	310	75.3	Charter
2018	2,989	107.8	0	-	Private/Rental
2019	0	0	7	22.5	Party
2019	2,272	88.6	21	107.8	Charter
2019	4,839	85.9	0	-	Private/Rental
2020*	41	94.8	47	66.8	Party
2020*	1,061	119.4	10	123.9	Charter
2020*	481	104.1	0	-	Private/Rental
2021	5,773	78.1	2,887	38.1	Charter
2021	4,4200	87.65	4,595	91	Private/Rental
2022	0	0	7	16.8	Party
2022	25,382	57.45	83	107	Charter
2022	65,714	74.55	19,871	85.4	Private/Rental

Table 5. Private recreational permits, VTRs, and number of blueline tilefish reported each year since private recreational permitting and reporting requirements were implemented. Source: NMFS unpublished CAMS data.

Year	Number of Private Rec. Permits	Number of Private Rec. VTRs	Landings (number of fish)
2020	340	8	84
2021	814	34	319
2022	790 <i>(as of Oct. 2022)</i>	33	396

Table 6. Party and charter blueline tilefish catch (number of fish) from Maine-Virginia using VTR data from 2015-2022 as well as estimates of private/rental catch using the Delphi method (Delphi=105.16% of charter).

Year	Party* (VTR; Number of fish)	Charter* (VTR; Number of fish)	Private Rental (Delphi; Number of fish)	Total catch- Party/charter VTRs and Delphi private/rental estimates (Number of fish)
2015	12,381	2,298	2,417	17,095
2016	13,746	2,057	2,163	17,966
2017	8,735	1,632	1,716	12,083
2018	4,796	7,885	8,291	20,972
2019	3,247	7,679	8,075	19,000
2020	6,045	3,625	3,812	13,482
2021	10,112	3,510	3,691	17,313
2022	9,337	3,846	4,044	17,227

* Recreational discards are calculated as 2% of total landings.

OFL/ABC Recommendations

In 2021, the SSC recommended an ABC of 100,520 pounds (45.60 mt) to the Mid-Atlantic management area for 2022-2024. Considering this recommendation, recent fishery performance, lack of an updated assessment, and the high degree of uncertainty within the recreational sector, **staff recommend no changes to the previously adopted ABC of 100,520 pounds (45.60 mt) for 2024.**

Recreational Management Measures

The recreational blueline tilefish season is open from May 1 – October 31 and the possession limit depends on the type of fishing vessel. Anglers fishing from private/rental vessels are allowed to keep up to three blueline tilefish per person per trip. Anglers fishing from a for-hire vessel that has been issued a valid federal Tilefish Party/Charter Permit but does not have a current U.S. Coast Guard safety inspection sticker can retain up to five blueline tilefish per person per trip. Finally, anglers on for-hire vessels that have both a valid federal Tilefish Party/Charter Permit and a current U.S. Coast Guard safety inspection sticker can retain up to seven blueline tilefish per person per trip.

Over the past several months, Council staff has received feedback related to the current recreational blueline tilefish season of May 1 – October 31, and suggestions to shift the recreational blueline tilefish season back about two weeks to better match the recreational black sea bass season in most states (Table 7). In some areas, anglers report it is common to catch black sea bass when targeting blueline tilefish or to stop and target black sea bass on their way out to blueline tilefish fishing grounds. Therefore, the recommendation has been to shift the blueline tilefish season to May 15 – November 15 in an effort to minimize regulatory black sea bass discards as well as to help control temporal efforts on both fisheries. It was noted that shifting the blueline tilefish recreational season to better align with the black sea bass season in most states may be particularly important for states with the highest proportion of blueline tilefish landings (Table 7).

For-hire VTR data from 2018-2022 suggests that during the first two weeks of May there are relatively few blueline tilefish fishing trips reported, and most trips occur in states with a mid-May black sea bass season start date. Of the blueline tilefish trips reported in states with a mid-May black sea bass season start date, about 43% of those fishing trips reported catching both blueline tilefish and black sea bass (Table 8). Trips that reported catching both blueline tilefish and black sea bass also reported that proportionally about 33% of their total catch was black sea bass, all which were discarded given the black sea bass season in most states does not open until mid-May in most years. Compared to for-hire VTR data from 2018-2022 from the last two weeks of May, the number of fishing trips targeting blueline tilefish increases as well as the number of trips catching both species; however, proportionally the number of black sea bass caught compared to total catch is relatively the same (Table 9). The combination of angler feedback as well as VTR data suggests shifting the recreational blueline tilefish season to May 15 – November 14 would help reduce black sea bass discards with minimal impact on the recreational fishery and would result in no change to the number of days of the current blueline tilefish recreational season. For these reasons, **staff recommend modifying the recreational blueline tilefish season from May 1 – October 31 to May 15 – November 14.**

Table 7: 2022 and 2023 (proposed) black sea bass seasons by state and associated average reported for-hire landings each year by state from 2012-2022. Source: NMFS unpublished CAMS data. *Note: 2023 black sea bass season adjustments in some states have not gone into effect yet and could potentially be modified depending on state rule making.*

State	2022 BSB Open Season <i>(some states have multiple open/close dates due to season/mode specific bag limits)</i>	2023 <u>Proposed</u> BSB Seasons <i>(some states have multiple open/close dates due to season/mode specific bag limits)</i>	Ave. annual For-hire VTR blueline tilefish landings/year (number of fish)
Maine	May 19-Sept 21; Oct 18-Dec 31	May 19-Sept 21; Oct 18-Dec 31	-
New Hampshire	Jan 1-Dec 31	Jan 1-Dec 31	48
Massachusetts	May 21-Sept 4	May 20-Sept 7	-
Rhode Island	May 22- Dec 31 (private/shore); June 18-Dec 31 (for-hire)	May 22-Dec 31 (private/shore); June 18-Dec 31 (for-hire)	1
Connecticut	May 19-Dec 1 (private/shore) May 19-Dec 31 (for-hire)	May 19-June 23 and July 8- Dec 1 (private/shore); May 19-Dec 31 (for-hire)	-
New York	June 23- Dec 31	June 23-Dec 31	121
New Jersey	May 17-Jun 19; July 1- Aug 31; Oct 7-Oct 26; Nov 1-Dec 31	May 17-Jun 19; July 1-Aug 31; Oct 1-Dec 31	5,214
Delaware	May 15-Dec 11	May 15-Sept 30; Oct 10-Dec 31	254
Maryland			246
Virginia		May 15-July 15; July 27-Dec 31	5,449

Table 8: For-hire VTR data from 2018-2022 with reported blueline tilefish and black sea bass catch during the first two weeks of May.

During first two weeks of May when the blueline tilefish (BLT) season is open, and black sea bass (BSB) is closed in most states (2018-2022)	
Number of trips (all states)	17
Number of trips (states with post May 15 BSB season)	14
Number of trips catching both BLT and BSB	6
Total BSB discards (number of fish)	496
Total BLT landed (number of fish)	1,011
Proportion of BSB caught	33%

Table 9: For-hire VTR data from 2018-2022 with reported blueline tilefish and black sea bass catch during the last two weeks of May.

During first two weeks of May when the blueline tilefish season is open, and black sea bass is closed in most states (2018-2022)	
Number of trips (all states)	66
Number of trips catching both BLT and BSB	37
Total BSB discards (number of fish)	2,429
Total BLT landed (number of fish)	4,093
Proportion of BSB caught	37%



Blueline Tilefish Fishery Performance Report

February 2023

The Mid-Atlantic Fishery Management Council's (Council) Tilefish Advisory Panel (AP) met via webinar on April 20, 2023, to review the Blueline Tilefish Fishery Information Document and develop the following Fishery Performance Report. The primary purpose of this report is to contextualize catch histories by providing information about fishing effort, market trends, environmental changes, and other factors. The trigger questions listed below were posed to the AP to generate discussion of observations in the blueline tilefish fishery. Please note: Advisor comments described below are not necessarily consensus or majority statements.

Advisory Panel members present: Fred Akers (Private), Carl Forsberg (For-Hire/Commercial), and Laurie Nolan (Commercial).

Others present: Paul Nitschke (NEFSC), Joe Cimino (Council Member), Doug Potts (GARFO), Hannah Hart (Council Staff), and José Montañez (Council Staff).

Trigger questions

1. What factors have influenced recent catch (markets/economy, environment, regulations, other factors)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

Factors Influencing Catch

Low quota and trip limits constrain effort/landings for both the commercial and recreational sectors. The low blueline trip limits discourage any sort of directed fishing effort, and most trips catching blueline tilefish are typically trips that are targeting other species and incidentally catching blueline tilefish or multi-species trips.

Market/Economic Conditions

One AP member commented that the price of blueline is sufficient to drive commercial effort, as seen by the landings in 2013 through 2015 prior to the established management in the Mid-Atlantic, but because of the low quota and trip limits most blueline activity is represented by fill-in trips or incidental catch. The same AP member commented that market and economics cannot be considered as a condition driving the fishery due to the constraining quota and trip limits.

An AP member expressed that industry participants may put together a directed trip by mixing blueline, goldens, and other fish, but this activity is also hindered by current fishing regulations. The AP member also noted that any blueline direct trips are not financially feasible due to the

overall cost of a fishing trip (e.g., fuel, ice, crew, etc.) and the current, post COVID-19 economic reality does not make this any better.

General Management Issues

Some AP members reiterated some of the comments above about the low quota and trip limits constraining overall blueline tilefish effort/landings.

Recreational Fishery Issues

An AP member commented that they go recreationally fishing for both blueline and golden tilefish far offshore in areas where both species are present. In these areas they do not commonly see other anglers, other than during times of year when there is a tuna tournament. Given their lack of interactions with other private recreational tilefish anglers, the AP member expressed concern with annual MRIP estimates. Another AP member commented that this also gives them concern about tilefish kept estimates from the Large Pelagic Survey (LPS) data presented in a recent Golden Tilefish Management Track Assessment Working Group data meeting and the number of estimated tilefish caught through that database. Both AP members expressed general concern with using tilefish MRIP estimates and suggested using them with extreme caution or not at all. One of the AP members expressed similar sentiment about the LPS data.

The AP member commented that recreational fishing may also be limited by cost due to the amount of fuel it takes to travel this far offshore.

The same AP member expressed that the 3-fish private recreational bag limit discourages private recreational directed effort. The AP member commented that they often go fishing in areas where both blueline and golden tilefish can be caught to make the trip worth their while. The AP member also expressed concern that the 3-fish bag limit may also contribute to regulatory discards. He expressed that when fisherman catch the 3 fish bag limit, they are faced with the decision to either continue to fish for the day targeting other species (e.g., golden tilefish) and discard any blueline caught or to stop fishing and head back to shore for the day. The AP member expressed that this can be especially problematic if they catch their blueline limit early in the day before having the chance to catch any other species they are targeting. The AP member noted they have tried to use descending devices to increase the fish's chance of survival but is unsure if these devices are effective for blueline.

Two AP members expressed support to delay the recreational blueline tilefish season to better align the blueline tilefish season with the black sea bass season. In New Jersey, the black sea bass season in 2024 will open on May 17. The AP member commented that when they go fishing for tilefish, it is not uncommon for them to stop at a wreck on their way out to the tilefish grounds, to target black sea bass. The AP member expressed that shifting the blueline tilefish season back two weeks will help control temporal effort on both fisheries as well as minimize any regulatory discards. The AP member spoke in support of the suggested May 15 – November 15 staff has been hearing about and was not particularly concerned if the two season start dates were off by a few days as a result of the state specific black sea bass regulations from year to year.

One AP member noted they use the eFin logbook reporting application and suggested adding a question to get additional data on what other species private recreational anglers are catching when targeting tilefish. They expressed adding this question will help with overall accountability for the recreational sector.

An AP member expressed the need for NOAA to add a link or reference to the tilefish permitting and reporting requirements on their Highly Migratory Species (HMS) permit renewal website. The AP member noted almost every private vessel fishing deep enough to catch tilefish likely has an HMS permit. The AP member noted making this same comment in the past and understands staff has been working to get this information on the HMS webpage. The AP member encouraged staff to continue to work through this effort and with HMS to improve the overall awareness of and compliance with the tilefish permitting and reporting requirements.

Research Priorities

An AP member expressed support for the expansion of the South Atlantic deepwater longline survey into the Mid-Atlantic and looks forward to seeing the outcomes of that work.

Public Input

No additional comments



Blueline Tilefish Fishery Information Document

April 2023

This Fishery Information Document provides a brief overview of the biology, stock condition, management system, and fishery performance for blueline tilefish with an emphasis on 2022. Data sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, catch accounting and monitoring system (CAMS), and Marine Recreational Information Program (MRIP) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/tilefish/>.

Key Facts

- There has been no change to stock status (unknown) since the 2017 assessment.
- Recreational permitting/reporting requirements are in place for private tilefish anglers.
- ABC = 100,520 pounds, Commercial ACL = 27,140 pounds, Recreational ACL = 73,380 pounds.
- The commercial fishery is open year-round with a trip limit of 500 pounds gutted (heads and fins attached) weight. Once 70% of the quota has been landed, the trip limit decreases to 300 pounds gutted weight.
- The recreational fishery is open from May 1 – October 31. Bag limits are as follows: 3 fish for private recreational; 5 fish for non-USCG inspected for-hire vessels; 7 fish for USCG inspected for-hire vessels.
- Commercial landings decreased by ~47% from 2021 to 2022 (26,446 to 13,943 pounds) and the price per pound decreased by ~21% from \$3.31 to \$2.59 from 2021 to 2022.
- Using the Delphi ratio and party/charter VTRs to estimate 2022 recreational performance indicates that the total recreational catch does not exceed the ACL.
- In 2022, VTR from party/charter vessels indicated about a 3% decrease in catch compared to 2021 (13,622 to 13,183 fish).

Basic Biology

Blueline tilefish are primarily distributed from Campeche, Mexico northward through the Mid-Atlantic (Dooley 1978). Several recently completed studies suggest that blueline tilefish from the eastern Gulf of Mexico through the Mid-Atlantic are comprised of one genetic stock (SEDAR 50 Data Workshop). This homogenous stock inhabits the shelf edge and upper slope reefs at depths of 150-840 feet (46-256 m) and temperatures between 59-73°F (15-23°C) where they are considered opportunistic predators that feed on prey associated with substrate (crabs, shrimp, fish, echinoderms, polychaetes, etc.; Sedberry et al. 2006 and Ross and Huntsman 1982). They are sedentary in nature and burrow into sandy areas in close association with rocky outcroppings (SEDAR 2017).

Blueline tilefish are long-lived fish reaching sizes up to about 36 inches (91 cm) and exhibit dimorphic growth with males attaining larger size-at-age than females. Males are predominant in the size categories greater than 26 inches (66 cm) fork length. Blueline tilefish are classified as indeterminate spawners, with up to 110 spawns per individual based on the estimates of a spawning event every 2 days during a protracted spawning season from approximately February through November. Additionally, an aging workshop conducted to support the blueline tilefish assessment has called into question the ability to accurately age blueline tilefish, so previous age determinations may no longer be accurate (SEDAR 2017).

Status of the Stock

Prior to management of blueline tilefish in the Mid-Atlantic, NMFS listed blueline tilefish as overfished, but overfishing was not occurring based on the Southeast Data, Assessment, and Review (SEDAR) 32 conducted in 2013 (SEDAR 2013). More recently, updated stock status information was identified through the 2017 benchmark assessment, SEDAR 50. Genetic work conducted for SEDAR 50 suggests a genetically homogenous population off the entire Atlantic coast but does not suggest what catch may be appropriate off various parts of the coast. In SEDAR 50, the blueline tilefish stock was split in two, north and south of Cape Hatteras to allow each Council (Mid and South Atlantic) to set their own specifications. The stock south of Cape Hatteras was determined to be not overfished with overfishing not occurring. The assessment did not provide stock status information relevant to the stock north of Cape Hatteras, which includes the Mid-Atlantic management area, due to insufficient data. The next SEDAR operational stock assessment for blueline tilefish is tentatively scheduled for 2024. This operational assessment will be used to inform the next blueline tilefish specifications package for 2025 and beyond.

Management System and Fishery Performance

Management

The Mid-Atlantic Fishery Management Council (Council or MAFMC) established management of blueline tilefish north of the Virginia/North Carolina border through Amendment 6 to the Tilefish Fishery Management Plan.¹ In 2016, initial measures were set using a data limited approach and the Delphi Method (Southwick and Associates 2016).

Following the 2017 SEDAR 50 assessment, no recommendations were made for the region north of Cape Hatteras. Given the region north of Cape Hatteras extends beyond the MAFMC's management area of the Virginia/North Carolina border, the MAFMC and South Atlantic Fishery Management Council (SAFMC) formed a joint blueline tilefish subcommittee. The subcommittee agreed it would be appropriate to use the Data Limited Toolkit to develop acceptable biological catch (ABC) recommendations for the respective Scientific and Statistical Committees (SSC). This offered an opportunity to partition the blueline tilefish ABC that crossed the two management areas (north of Cape Hatteras). *The MAFMC SSC developed the 2019-2021 blueline tilefish ABC recommendation of 100,520 pounds at its March 2018 meeting. This ABC of 100,520 pounds was again adopted in 2021 for the 2022-2024 fishing year.* The SAFMC's SSC proposed blueline tilefish ABC of 55,968 pounds for the area between the North Carolina/Virginia Board and Cape

¹ Source: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5c1810d98a922d4272fd4f21/1545081051493/Blueline+Tilefish+Amendment_Final+EA_09-12-2017.pdf

Hatteras and an ABC of 178,000 pounds for the area south of Cape Hatteras (total ABC of 233,968 pounds) for 2020-2022. This was done through the Abbreviated Framework Amendment 3 to the Snapper Grouper Fishery FMP for the South Atlantic Region.²

In the Mid-Atlantic, commercial vessels can fish year-round and are limited to a 500 pounds gutted (heads and fins attached) weight trip limit until 70% of the commercial total allowable landings (TAL) has been landed. Once 70% of the TAL is landed, the trip limit is reduced to 300 pounds gutted weight. In 2022, the commercial annual catch limit (ACL) was 27,140 pounds and the TAL was 26,868 pounds (Table 1).

The recreational blueline tilefish season is open from May 1 to October 31 and the possession limit depends on the type of vessel being used. Anglers fishing from private/rental vessels are allowed to keep up to three blueline tilefish per person per trip. Anglers fishing from a for-hire vessel that has been issued a valid federal Tilefish Party/Charter Permit but does not have a current U.S. Coast Guard safety inspection sticker can retain up to five blueline tilefish per person per trip. Finally, anglers on for-hire vessels that have both a valid federal Tilefish Party/Charter Permit and a current U.S. Coast Guard safety inspection sticker can retain up to seven blueline tilefish per person per trip. In 2022, the Recreational ACL was 73,380 pounds and the TAL was 71,912 pounds (Table 1).

Table 1. Summary of commercial and recreational catch and landings limits set for 2022-2024.

Management Measures	Recreational (pounds)	Commercial (pounds)
ABC	100,520	
ACL	73,380	27,140
ACT	73,380	27,140
TAL	71,912	26,868

Commercial Fishery

Commercial landings (Maine-Virginia) have been generally low (less than 20,000 pounds) throughout the time series except for 2013-2015, when more restrictive regulations to the south of Virginia were implemented, and there was a lack of management measures in federal waters north of Virginia and in state waters off New Jersey, therefore, driving effort northward (Figure 1 and Table 2).

In 2022, 1,641 open access commercial/incidental tilefish permits (valid for both golden and blueline tilefish) were issued³ and total blueline tilefish landings were about 13,943pounds (Table 2). Landings from Rhode Island, New York, and New Jersey accounted for the majority of total 2022 commercial landings (Table 3).

² Source: <https://safmc.net/documents/snapper-grouper-abbreviated-framework-amendment-3/>

³ Source: <https://www.greateratlantic.fisheries.noaa.gov/public/public/web/NEROINET/aps/permits/data/index.html>

As proposed by the SSC during Amendment 6 to the Tilefish Fishery Management Plan, blueline tilefish commercial discards are calculated as 1% of overall commercial landings resulting in about 139 pounds for 2022. Thus, total commercial catch was approximately 14,082 pounds, about 48% under the ACL (27,140 pounds). Commercial blueline landings have been below the commercial ACL each year since the establishment of management in the Mid-Atlantic region, except for 2020 when commercial landings were about 31,918 pounds (total catch about 32,237 pounds).

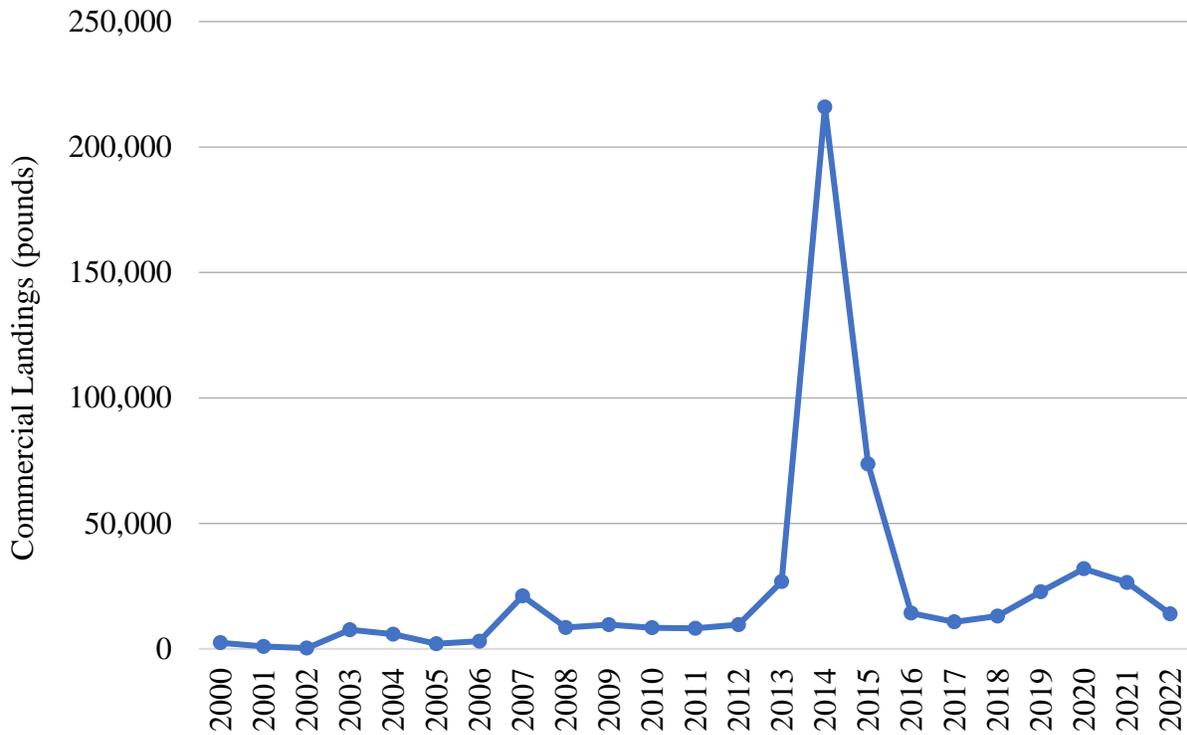


Figure 1. Commercial blueline tilefish landings (live weight) from Maine-Virginia by year from 2000-2022. Source: NMFS unpublished dealer data.

Table 2. Commercial blueline tilefish landings (live weight) from Maine-Virginia by year from 2000-2022. Source: NMFS unpublished dealer data.

Year	Landings (pounds)
2000	2,446
2001	955
2002	269
2003	7,601
2004	5,827
2005	2,031
2006	3,039
2007	21,068
2008	8,495
2009	9,626
2010	8,388
2011	8,179
2012	9,624
2013	26,781
2014	215,928
2015	73,644
2016	14,235
2017	10,734
2018	13,068
2019	22,759
2020	31,918
2021	26,446
2022	13,943

Table 3. Commercial blueline tilefish landings (live weight) from Maine-Virginia by state in 2021-2022. Source: NMFS unpublished dealer data. (C=Confidential)

State	2021	2022
MA	675	--
RI	1,176	3,905
CT	--	C
NY	1,737	2,117
NJ	2,466	5,623
MD	16,045	1,304
VA	4,347	915
Total	26,446	13,943

The primary gear type used to commercially land blueline tilefish varies from year to year. In past years bottom longlines, trawls, and handlines accounted for the majority of landings. In 2022, about 55% of the commercial blueline tilefish landings (by weight) reported by federal VTR data were caught with bottom trawls and about 37% with bottom longline gear. Handlines accounted for 6% of landings, while all other gear types accounted for about 2% of 2022 commercial blueline tilefish landings (Table 4). Table 5 presents 2022 landings by trip in pounds bins. In 2022, trips landing 200 pounds or more blueline tilefish, caught a variety of other species. The most common non-targeted species observed within the blueline tilefish fishery was scup and golden tilefish (Table 6).

Table 4. Commercial blueline tilefish landings (live weight) in 2022 by gear from Maine-Virginia. Source: NMFS unpublished CAMS data.

Gear	2022	
	Landings (pounds)	Proportion of total landings
Trawl	7,650	55%
Longline	5,246	37%
Handline	901	6%
Other/Unknown	226	2%
Total	14,023	100%

Table 5. Number of commercial trips catching blueline tilefish in 2022 by specific pound bins from Maine-Virginia. Source: NMFS unpublished CAMS data.

Pound Range	Trips (N)
400+	4
300 – 399	6
200 – 299	12
100 – 199	19
1 – 99	174
Total	231

Table 6. Non-targeted species observed in 2022 when at least 200 pounds of blueline tilefish were landed. Source: NMFS unpublished CAMS data.

Species	Trips (N)	Pounds
Scup	4	27,900
Golden tilefish	20	25,285
Summer flounder	3	4,685
Black sea bass	2	768
Bluefish	1	644
Monkfish	1	149
Loligo squid	2	130
Dory John	1	27

Statistical areas 626, 622, 616, 632 and 621 account for the majority of catch from 2020-2022 (Figure 2 and Table 7). A further breakdown by year/area may violate data confidentiality rules.

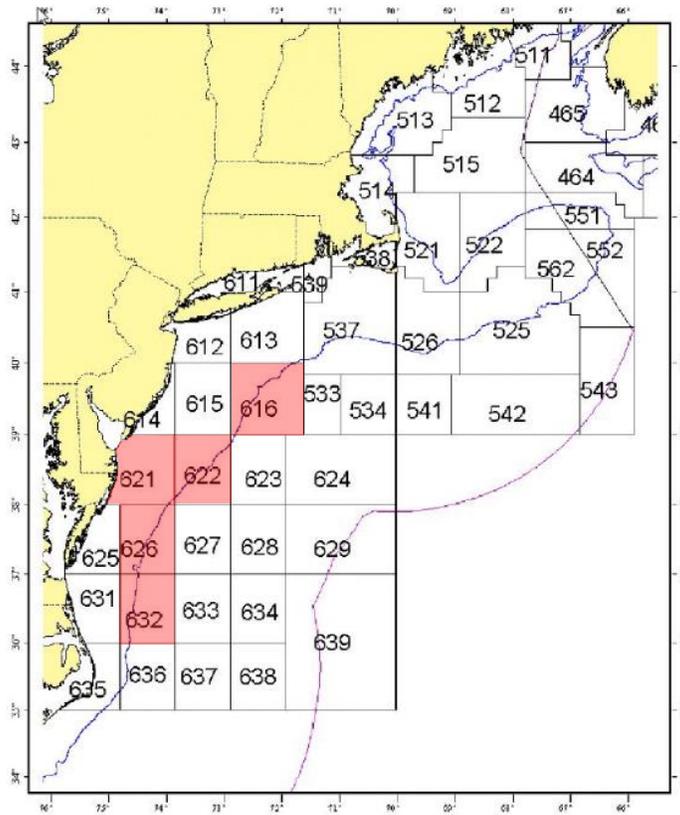


Figure 2. Top 5 NMFS statistical areas for total 2020-2022 blueline tilefish landings identified with commercial VTRs. Source: NMFS unpublished CAMS data.

Table 7. Top 5 statistical areas summarizing blueline tilefish landings greater than 5,000 pounds from Maine-Virginia for 2020-2022. Source: NMFS unpublished CAMS data.

Stat Area	2020-2022 Landings (pounds)
626	26,050
622	14,246
616	11,638
632	8,436
621	7,056

Commercial blueline tilefish ex-vessel value and price are described in Figures 3. Since 2000, the ex-vessel value has averaged at about \$61,075 per year with a high in 2014 at about \$558,226 and a low in 2002 at about \$651. However, since the implementation of blueline tilefish management by the Council through secretarial interim action in 2016, the ex-vessel value has averaged at about \$58,039 per year and about \$2.98 per pound. In 2022, the ex-vessel value was \$36,148 at about \$2.59 per pound. All revenue and price values were adjusted to the 2022 dollar to account for inflation.

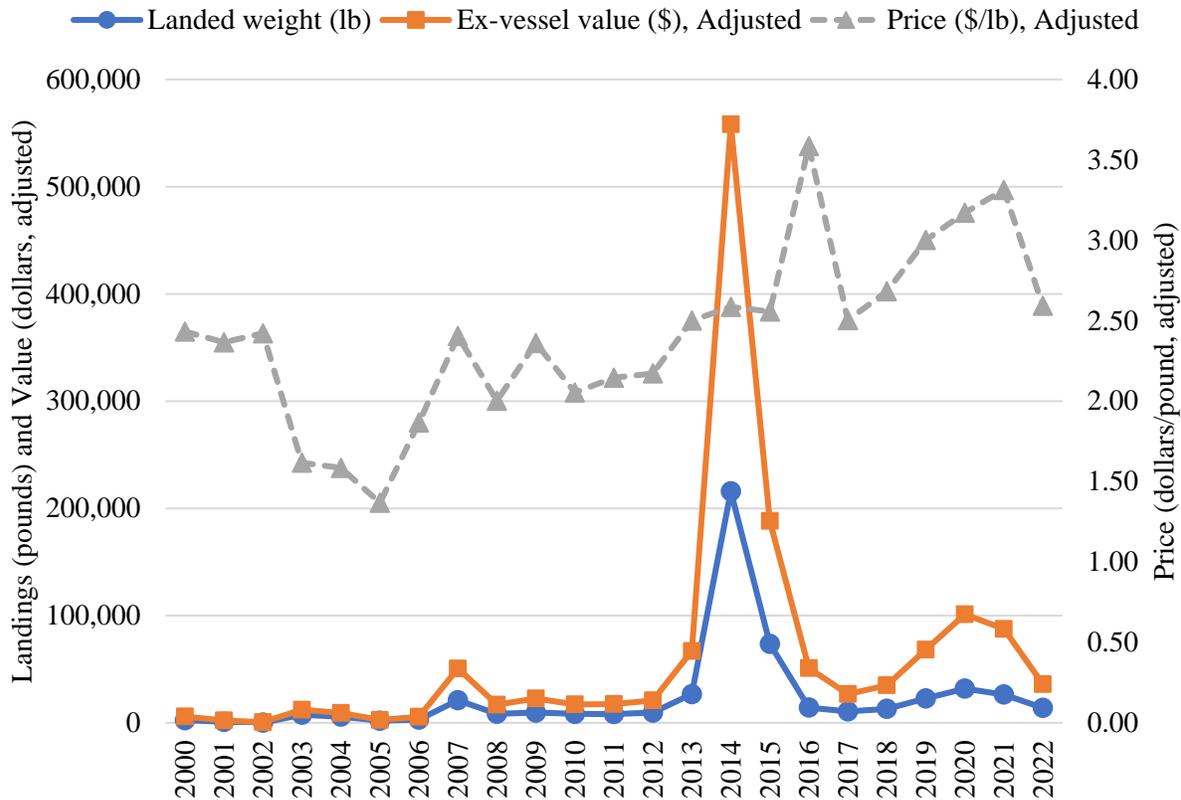


Figure 3: Landings, ex-vessel value, and price for blueline tilefish from Maine through Virginia combined, 2000-2022. Ex-vessel value and price are inflation-adjusted by the Gross Domestic Product Price Deflator indexed for 2022 (<https://fred.stlouisfed.org>). Source: NMFS unpublished dealer data.

Recreational Fishery

In 2022, 703 open access tilefish permits (valid for both blueline and golden tilefish) were issued to party/charter vessels.⁴ Permitted tilefish party/charter vessels are required to submit vessel trip reports (VTR); however, in past years, stakeholders believe that VTR reporting compliance for blueline tilefish was especially low for headboats prior to 2012 and in general for charter vessels.

⁴ Source: <https://www.greateratlantic.fisheries.noaa.gov/public/public/web/NEROINET/aps/permits/data/index.html>

Advisors and other blue-line tilefish recreational fishermen have suggested that starting in 2012, VTR reporting compliance began to encompass at least the primary headboats targeting tilefish. Table 8 provides the available VTR landings for blue-line tilefish since 2012. In 2022, party/charter vessels reported landing 13,183 blue-line tilefish. Based on previous SSC input, for-hire discards are calculated as 2% of overall landings resulting in 264 fish for 2022. Thus, total for-hire catch was about 13,447 fish (Table 8). Until recently, blue-line tilefish landings by private anglers were only estimated via MRIP, however intercepts in MRIP are an exceedingly rare event with an associated high level of uncertainty (PSE ranging from 100-30%; Table 9).

Table 8. Blue-line tilefish party/charter VTR landings and reported discards from Maine-Virginia, 2012-2022. Estimated discards were calculated as 2% of total reported party/charter landings
Source: NMFS unpublished CAMS data.

Year	Number of Trips	Landings (Numbers of Fish)	Reported Discards (Numbers of Fish)	Estimated Discards^a (Numbers of Fish)
2012	103	10,051	338	201
2013	120	11,838	128	237
2014	138	15,849	254	317
2015	170	14,391	292	288
2016	158	15,493	246	310
2017	129	10,164	115	203
2018	221	12,432	99	249
2019	167	10,711	176	214
2020	149	9,670	174	193
2021	222	13,610	69	272
2022	236	13,183	63	264

^a Recreational discards are calculated as 2% of total landings.

Table 9. Recreational blueline tilefish MRIP catch estimates from Maine-Virginia by mode. Source: NMFS unpublished MRIP data. *Note 2020 MRIP estimates were likely impacted by limited sampling efforts due to the COVID-19 pandemic.

Year	MRIP Catch (Numbers of fish)	Mode
2015	4,663	Private/Rental
2016	1,222	Charter
2016	116,833	Private/Rental
2017	12,122	Private/Rental
2018	11	Party
2018	2,392	Charter
2018	2,989	Private/Rental
2019	7	Party
2019	2,294	Charter
2019	4,839	Private/Rental
2020*	88	Party
2020*	1,072	Charter
2020*	481	Private/Rental
2021	8,659	Charter
2021	48,795	Private/Rental
2022	7	Party
2022	25,466	Charter
2022	85,585	Private/Rental

Private Recreational Angler Permitting and Reporting

To improve tilefish management and reporting, the Greater Atlantic Regional Fisheries Office (GARFO) implemented mandatory private recreational permitting and reporting for blueline and golden tilefish anglers in August 2020. Outreach materials and webinars were provided by GARFO and the Council to support the final rule and the Council has been working on continued outreach efforts to improve overall awareness and compliance with these permitting and reporting requirements.

Under this rule, private recreational vessels (including for-hire operators using their vessels for non-charter, recreational trips) are required to obtain a federal vessel permit to target or retain blueline or golden tilefish north of the Virginia/North Carolina border. These vessel operators are also required to submit VTRs electronically within 24 hours of returning to port for trips where tilefish were targeted or retained. For more information about these requirements can be found here on the [Recreational Tilefish Permitting and Reporting webpage](#) and [FAQs](#).

Permitting

Federal private recreational tilefish vessel permits can be obtained through [Fish Online](#). This new permit is required even if a vessel already holds a for-hire tilefish permit. Call the GARFO Permit Office at 978-282-8438 for questions about the permitting process.

Reporting

NOAA Fisheries is encouraging anglers not already using another electronic VTR system to utilize NOAA Fish Online, which is available through a mobile app or a web-based portal. Other systems that may be suitable for recreational anglers include SAFIS eTrips/mobile and SAFIS eTrips Online. You can access information about approved applications and other aspects of electronic reporting on the [NOAA Fisheries website](#).

Additionally, there was an app released in 2020, prior to the implementation of the reporting requirement, to make the reporting process increasingly easy and convenient. Harbor Light Software's *eFin Logbook* has received certification from NOAA Fisheries as an approved application through which anglers can report their trips. Funded by the Council, *eFin Logbook* is a user-friendly application designed specifically for recreational tilefish anglers. The app is available for use on all Apple and Android mobile devices (iPhone, iPad, Android phone, and Android tablet).

At present, *eFin Logbook* can only be used by tilefish recreational anglers to satisfy reporting requirements. Future modifications may expand its capabilities to other reporting and personal fishing log applications. For-hire operators, many of whom have other reporting requirements, are encouraged to choose different software. To learn more about other electronic reporting options and decide which one is right for you, visit the [NOAA Fisheries Greater Atlantic Region Electronic Reporting Web Page](#).

As of October 2022, 790 tilefish permits have been issued for private recreational anglers. This permit allows recreational anglers to both target and land both blueline and golden tilefish. For the 2022 fishing year, 33 private recreational trips were reported by recreational anglers with landings equal to 396 fish and only 3 fish reported as discards.

Currently, there is no average weight that can be applied to blueline tilefish across the coast as average weights vary significantly. Thus, recreational catch is summarized in numbers of fish. For 2022, MRIP reported 85,248 blueline tilefish caught through the private/rental mode (Table 9), however, only 396 fish were reported through the new private angler permitting/reporting requirements. VTR data indicated that 13,447 fish caught (including estimated discards; Table 8) via the for-hire fleet. Therefore, total recreational removals are estimated to be 98,768 fish based on private/rental MRIP data and for-hire VTR data or 13,587 fish based on private/rental and for-hire VTR data. Catch in pounds can be estimated using a range of accepted weights (3-6 pounds from NY to VA, as indicated by the tilefish advisors) across the coast (Table 10). In Amendment 1 to the Tilefish FMP, 3.65 pounds was proposed as an accepted average weight for blueline tilefish.

Table 10. Coastwide total recreational blueline tilefish catch (in pounds) calculated using reasonable assumed weights. Blueline tilefish catch from 2015-2019 and 2021-2022 uses party/charter VTRs and private/rental MRIP data. Blueline tilefish catch from 2020-2022 was also calculated using VTRs from party, charter, and private/rental boats. Private/rental VTR reporting requirement were implemented by GARFO in August 2020. *Note 2020 MRIP estimates were likely impacted by limited sampling efforts due to the COVID-19 pandemic, therefore catch in pounds for 2020 was calculated using VTR data only.*

Year	3 Pounds	4 Pounds	5 Pounds	6 Pounds
2015	58,305	77,740	97,175	116,610
2016	404,918	539,890	674,863	809,835
2017	68,195	90,927	113,659	136,390
2018	47,188	62,918	78,647	94,377
2019	47,583	63,444	79,305	95,166
2020 <i>(with private/rental VTR)</i>	29,633	39,511	49,388	59,266
2021 <i>(with private/rental MRIP)</i>	188,031	250,708	313,385	376,062
2021 <i>(with private/rental VTR)</i>	42,624	56,832	71,040	85,248
2022 <i>(with private/rental MRIP)</i>	297,096	396,128	495,160	594,192
2022 <i>(with private/rental VTR)</i>	41,553	55,404	69,255	83,106

In 2021, Tilefish Monitoring Committee members questioned whether MRIP had improved enough to warrant the use of the MRIP survey to monitor the recreational component while private recreational reporting became more established. To monitor the recreational fishery, the MC recommended using the Delphi method⁵ to estimate landings for the private angler. This is an interim fix to not having robust estimates of private recreational landings and will be used until more data is available or an improved method is developed. Private recreational catch is now also available through the VTRs, but the values differ substantially from those reported by MRIP. Party/charter landings will continue to be monitored using the most updated VTRs to assess the catch and landings in numbers of fish (Table 11). In 2022, using the Delphi method and party/charter VTRs, total recreational catch was about 17,227 fish (Table 11) and when applying the average weight of 3.65 pounds total catch was approximately 62,880 pounds, or about 14% below the recreational ACL (Figure 4). Figure 4 shows total recreational catch converted to pounds by applying the averaged weight of 3.65 pounds to estimate private/rental catch throughout the timeseries.

⁵ The Delphi method was utilized in 2016 and offered recreational landings for charter, headboat, and private anglers. The Delphi method was used to develop a recreational time series for blueline tilefish through extrapolation of survey results. A ratio was used to back calculate private recreational landings in relation to charter landings from vessel trip reports. This method had been peer reviewed and accepted as best available science by SEDAR 50 and further recommended by the MC through 2020.

Table 11. Party and charter blueline tilefish catch (number of fish) from Maine-Virginia using VTR data from 2015-2022 and private recreational catch using MRIP data from 2015-2019 and 2021-2022, VTR data from 2020-2022, as well as estimates of private/rental catch using the Delphi method (Delphi=105.16% of charter). VTR discards were calculated as 2% of overall reported landings for a given mode.

Year	Party (Number of fish)	Charter (Number of fish)	Private Rental (MRIP 2015-2019 and 2021-2022, VTR 2020-2022; Number of fish)	Private Rental (Delphi; Number of fish)	Total catch-Party/charter VTRs and Delphi estimates (Number of fish)
2015	12,381	2,298	4,663	2,417	17,095
2016	13,746	2,057	116,833	2,163	17,966
2017	8,735	1,632	12,122	1,716	12,083
2018	4,796	7,885	2,989	8,291	20,972
2019	3,247	7,679	4,839	8,075	19,000
2020	6,045	3,625	MRIP = 481* Private VTR = 86	3,812	13,482
2021	10,112	3,510	MRIP = 48,795 Private VTR = 333	3,691	17,313
2022	9,337	3,846	MRIP = 85,585 Private VTR = 404	4,044	17,227

*2020 MRIP estimates were likely impacted by limiting sampling efforts due to the COVID-19 pandemic.

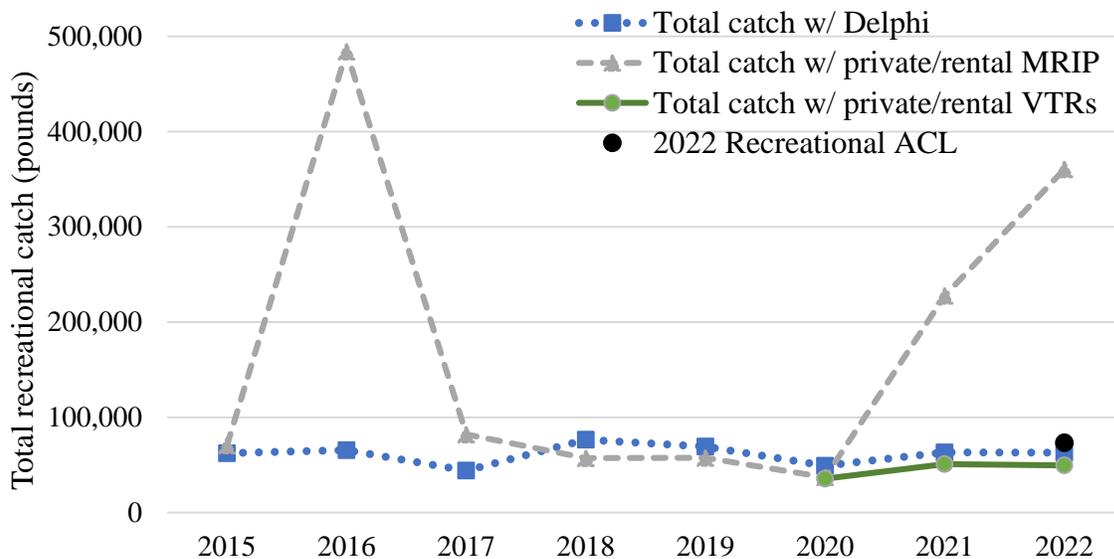


Figure 4. Total recreational catch (in pounds) from 2015-2022. The dotted blue line represents total catch using the Delphi method for private/rental catch, dashed grey line uses MRIP estimates for private/rental catch, and the solid green line uses VTRs for private/rental catch. The 2022 recreational ACL is represented by the black circle. All catch was converted to pounds of fish using an average weight of 3.65 pounds. *Note 2020 MRIP estimates were likely impacted by limited sampling efforts due to the COVID-19 pandemic.*

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