

# DRAFT – SUBJECT TO CHANGE

## Appendix 1: Increasing Recreational Access to Southern Flounder Through Sector Allocation Parity

### ISSUE

Provide the North Carolina Marine Fisheries Commission (NCMFC) with an option to increase recreational access to the Southern Flounder fishery by accelerating the shift to sector allocation parity in 2025 rather than in 2026 as originally scheduled in the Southern Flounder Fishery Management Plan (FMP) Amendment 3.

### ORIGINATION

At the August 2024 NCMFC business meeting, the NCMFC passed a motion “to ask the DMF Director to ask the DEQ Secretary to modify the Annual FMP Review Schedule to amend the Southern Flounder FMP for the review of the plan to begin in 2024. The intent is to allow for more recreational access while maintaining the rebuilding requirements of the North Carolina Southern Flounder FMP Amendment 3 (Amendment 3)”.

### BACKGROUND

A coast-wide stock assessment update of Southern Flounder completed in 2019 concluded the stock was overfished and overfishing was occurring (Flowers et al. 2019). To rebuild the spawning stock biomass (SSB) to the target by 2028, a 72% coast-wide reduction in Total Allowable Catch (landings and dead discards; TAC), measured in pounds, was adopted.

Amendment 3 was adopted in May 2022 and implemented a quota-based approach to reduce North Carolina’s portion of the catch from the terminal year (2017) of the assessment by 72% to help rebuild the stock to the target SSB (NCDMF 2022). The quota was set so the Total Allowable Landings (TAL) that establishes annual maximum fishing limits (in pounds) for all participants does not exceed a pre-determined amount. Quota management includes paybacks for more precise management and to account for quota overages. The quota that met the required reductions and the NCMFC allocation motion was 548,034 pounds of TAC, which results in 532,352 pounds of TAL. This TAL was further divided into commercial and recreational sector allocations. The allocation was set to 70% commercial and 30% recreational for 2021 through 2024, moving to 60% commercial and 40% recreational in 2025, and 50% commercial and 50% recreational beginning in 2026 (Table 1.1).

#### *Commercial Fisheries*

The TAL allocated to the commercial sector from the overall quota are 372,646 pounds of southern flounder for 2021 through 2024, 319,411 pounds in 2025, and 266,176 pounds beginning in 2026 (Table 1.1).

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Table 1.1. Allocations in pounds for commercial and recreational fisheries for the North Carolina Southern Flounder Fishery that maintains overall reductions of 72%. An asterisk (\*) indicates that Recreational Commercial Gear License (RCGL) gear removals are not included in the Total Allowable Landings.

Year	Allocation	Total Allowable Catch	Dead Discards	Total Allowable Landings	Commercial Fisheries	Recreational Fisheries*
					Total Allowable Commercial Landings	Total Allowable Recreational Landings
2021	70/30	548,034	15,682	532,352	372,646	159,706
2022	70/30	548,034	15,682	532,352	372,646	159,706
2023	70/30	548,034	15,682	532,352	372,646	159,706
2024	70/30	548,034	15,682	532,352	372,646	159,706
2025	60/40	548,034	15,682	532,352	319,411	212,941
2026	50/50	548,034	15,682	532,352	266,176	266,176

### *Commercial Gear Sub-Allocations*

Given the large reduction needed to achieve sustainable harvest and the importance of maintaining each sector within its allowed landings, it was most practical to separate the commercial gears into two categories: pound nets and mobile gears. Mobile gears include those that target Southern Flounder, primarily gigs and gill nets, and “other” gears that do not target Southern Flounder such as shrimp trawls, crab pots, and fyke nets.

Allowed landings in the commercial sector were sub-allocated into the two commercial gear categories. Due to the scheduled shift in allocation between commercial and recreational sectors, it was prudent to evaluate the sub-allocations for the commercial fishery. Amendment 3 adopted sub-allocations so the pound net fishery could maintain its 2017 harvest of 186,458 pounds because of the increased monetary investment of operating and maintaining pound net gear (Table 1.2).

Table 1.2. Allocations in pounds for the North Carolina Southern Flounder commercial and recreational fisheries and associated sub-allocations for each sector that maintains overall reductions of 72% but maintains the current level of sub-allocation for the pound net fishery. An asterisk (\*) indicates that RCGL gear removals are not included in the Total Allowable Landings.

Year	Allocation	Total Allowable Catch	Dead Discards	Total Allowable Landings	Total Allowable Commercial Landings	Commercial Gear		Total Allowable Recreational Landings	Recreational Gear*	
						Mobile Gears	Pound Nets		Hook-and-line	Gigs
2021	70/30	548,034	15,682	532,352	372,646	186,188	186,458	159,706	142,206	17,500
2022	70/30	548,034	15,682	532,352	372,646	186,188	186,458	159,706	142,206	17,500
2023	70/30	548,034	15,682	532,352	372,646	186,188	186,458	159,706	142,206	17,500
2024	70/30	548,034	15,682	532,352	372,646	186,188	186,458	159,706	142,206	17,500
2025	60/40	548,034	15,682	532,352	319,411	132,953	186,458	212,941	189,608	23,333
2026	50/50	548,034	15,682	532,352	266,176	79,718	186,458	266,176	237,010	29,166

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## Commercial Areas Allocation

Because of the migratory nature of Southern Flounder, management areas were established in Amendment 3 to allow more equitable access by fishermen across the state with seasonal openings varying by area (Figure 1.1). After investigating North Carolina Trip Ticket data by waterbody, the fishery was split into two areas for mobile gears and three areas for pound nets. Management area sub-allocations were determined by 2017 landings (Table 1.3)

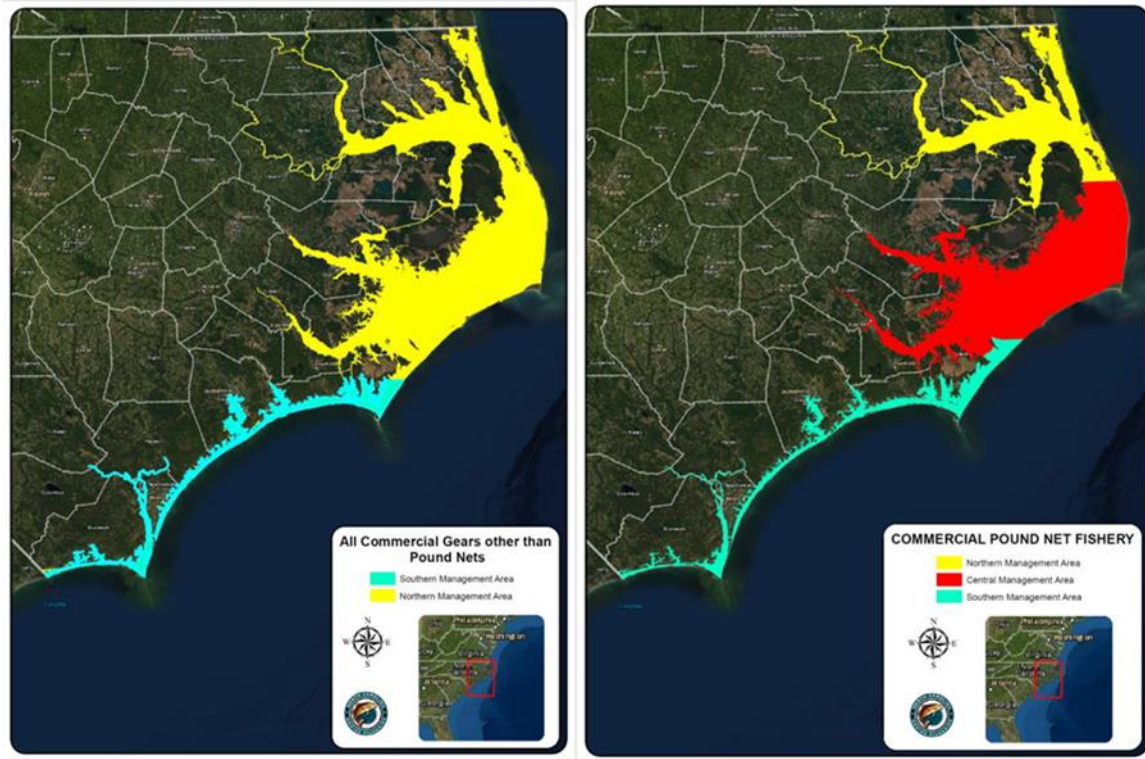


Figure 1.1. Boundary descriptions for the two mobile gear (left) and three pound net (right) management areas adopted in Amendment 3.

Table 1.3. Total allowable landings (in pounds) for the North Carolina Southern Flounder commercial fishery and associated sub-allocations for each gear management area adopted in Amendment 3.

Commercial Gear Sector	Allocation %	Management Area/Total Allowable Landings			
		Northern	Central	Southern	Total Allowable Landings
Mobile Gears	70	123,879	-	62,309	186,188
	60	88,460	-	44,493	132,953
	50	53,040	-	26,678	79,718
Pound Nets	70	39,700	121,756	25,002	186,458
	60	39,700	121,756	25,002	186,458
	50	39,700	121,756	25,002	186,458

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## *Recreational Fisheries*

The TAL allocated to the recreational sector, including hook-and-line and gigs, from the overall quota will change from 159,706 pounds in 2021 through 2024, to 212,941 pounds in 2025, and from 2026 onward the TAL will be 266,176 pounds (Table 1.1).

The recreational allocation was further refined to allow an annual harvest of 89% of the recreational TAL for the hook-and-line fishery and 11% of the recreational TAL for the recreational gig fishery. However, it was determined that concurrent seasons for the recreational hook-and-line and gig fisheries be maintained to keep from undermining the success of achieving necessary reductions.

## *Landings and Reductions*

Under Amendment 3, commercial landings have been closely monitored by the Trip Ticket Program to maintain total landings near the quota in near real-time for each gear and management area sub-allocation. This approach is not realistic for the recreational sector; thus, a one-fish bag limit and restricted harvest seasons have been used to constrain recreational landings. Total recreational landings are estimated through the Marine Recreational Information Program (MRIP) and the DMF Gig Mail surveys and those data are not available until after the fishing season. A restructuring of the license database in 2023 disrupted the division's ability to establish a sampling of eligible anglers for mail surveys. As a result, the mail surveys could not be administered, and survey estimates are not available for 2023. Since the mail survey estimates are used in determining if the recreational fishery exceeded their TAC, recreational gig data from 2022 was used as a proxy for 2023. Dead discards for both sectors are not available until after the fisheries close but are added to make sure that the sector's total allowable catch is not exceeded each year. Management under Amendment 3 achieved a 59% harvest reduction in 2022, and 68% in 2023 (Table 1.4). However, the 72% target reduction has not been met through 2023 due to overages in the recreational fishery (Table 1.5).

In 2022, total removals from the recreational fishery (226,995 pounds) exceeded its TAC by an estimated 56,340 pounds (Table 1.5). This overage was deducted from the 2023 recreational TAC and the season was reduced to two weeks ([Proclamation FF-31-2023](#)). Despite this adjustment, recreational removals increased to 241,609 pounds in 2023, resulting in an overage of 127,294 pounds. The overage was deducted from the 2024 recreational TAC (170,655 pounds), leaving 43,361 pounds in adjusted TAC which was less than the predicted recreational dead discards (47,291 pounds), causing the DMF to not open the recreational season in 2024. A major contributor to recreational overages has been the higher than expected dead discards in the hook-and-line fishery, which have remained at or above the level observed in 2017 (39,080 pounds) despite shortened seasons. Regardless of the closed season in 2024, expected dead discards and landings that were allowed by the NC Wildlife Resources Commission in internal waters will be used to adjust the TAC for the 2025 season.

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Table 1.4. Catch estimates with target and actual reductions from the North Carolina Southern Flounder fishery, 2017-2023. (North Carolina Trip Ticket Program and MRIP). \*Target reductions under Amendment 2.

Year	Total Landings	Dead Discards	Total Removals	2017 Total Removals	Target reduction	Actual reduction
2017	1,901,256	56,008	1,957,264	1,957,264	.	.
2018	1,452,590	36,670	1,489,259	1,957,264	.	.
2019	1,233,695	41,309	1,275,003	1,957,264	62%*	34.9%
2020	905,149	45,266	950,415	1,957,264	72%*	51.4%
2021	1,071,541	52,132	1,123,673	1,957,264	72%*	42.6%
2022	540,494	62,668	603,162	1,957,264	72%	69.2%
2023	576,013	48,457	624,470	1,957,264	72%	68.1%

Table 1.5. Recreational Total Allowable Catch (TAC) and catch estimates in pounds with adjusted TAC based on overage reductions, 2022-2024. Estimates are based on data from the Marine Recreational Information Program (MRIP) and recreational gig survey. An asterisk (\*) indicates that the value is estimated from the previous year.

Year	TAC	Adjusted TAC	MRIP Landings	Gig Landings	Total Landings	MRIP Dead Discard	Gig Dead Discard	Total Dead Discard	Total Removals	Overage deducted from next year's TAC
2022	170,655	170,655	166,091	7,882	173,973	52,771	251	53,022	226,995	56,340
2023	170,655	114,315	192,168	7,882*	200,050	41,308	251*	41,559	241,609	127,294
2024	170,655	43,361	not yet available							

In response to the closed recreational season in 2024, at the August 2024 NCMFC business meeting, the NCMFC passed a motion to request modification of the Annual FMP Review Schedule to amend the Southern Flounder FMP for the review of the plan to begin in 2024 to allow more recreational access to the fishery while maintaining Amendment 3 rebuilding requirements.

## *Socioeconomic Analysis*

### Commercial

Southern Flounder has historically been one of the top harvested species by the commercial fleet in North Carolina. From 2014 until 2021 Southern Flounder was in the top five species ranked by ex-vessel value (point of sale value). In 2022 and 2023 the ex-vessel value dropped below one million dollars from a high of over seven million dollars in 2017 (Table 1.6). Participation in the fishery decreased from 1,759 participants in 2014 to 492 in 2023.

Using IMPLAN modelling software and expenditure estimates from NOAA's Fisheries Economics of the U.S. (FEUS) report, the indirect impacts of the Southern Flounder fishery to the state economy at-large can also be estimated. By assuming the flounder industry contributes to these expenditure categories at a proportion equal to their contribution to total commercial ex-vessel values, estimates of the total economic impact of flounder harvest can be generated. For a detailed explanation of the methodology used to estimate the economic impacts please refer to the NCDMF's [License and Statistics Section Annual Report](#).

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Overall, the large economic impact of Southern Flounder to the state’s commercial fishing industry is reflected in its effect on the state economy. Total impacts vary slightly year-over-year, though these values remain relatively consistent from a state-impact perspective until 2020. The ex-vessel value has declined significantly since 2014, with a precipitous decline in 2020 due to restrictive management and high supply of Summer Flounder. This reduced value has persisted through 2022 and 2023. These years had the lowest landings and ex-vessel value of Southern Flounder in the last ten years.

Flounder landings as a proportion of total commercial catch has decreased from a peak of 7% in 2017 to the current low of 2% (Figure 1.2).

Table 1.6. Commercial Southern Flounder economic contribution estimates from 2023-2014 reported in 2023 dollars.

Year	Pounds Landed	Ex-Vessel Value	Job Impacts	Income Impacts	Value Added Impacts	Sales Impacts
2023	375,963	\$837,570	492	\$1,633,087	\$2,854,513	\$3,665,223
2022	366,510	\$979,684	568	\$2,190,945	\$3,699,221	\$4,939,489
2021	485,024	\$1,626,653	674	\$3,820,854	\$6,005,097	\$8,767,231
2020	479,905	\$1,244,878	630	\$3,128,717	\$5,072,299	\$7,024,328
2019	800,080	\$3,669,245	1,086	\$9,300,809	\$13,624,054	\$21,729,471
2018	903,842	\$4,640,012	1,263	\$10,491,007	\$17,252,260	\$23,825,993
2017	1,396,384	\$7,039,608	1,662	\$18,245,416	\$27,209,451	\$42,008,243
2016	899,932	\$4,593,509	1,357	\$12,121,629	\$18,679,737	\$27,651,565
2015	1,202,952	\$4,916,044	1,463	\$12,849,015	\$19,860,767	\$29,247,840
2014	1,673,511	\$6,229,650	1,759	\$15,135,194	\$22,775,298	\$34,894,849

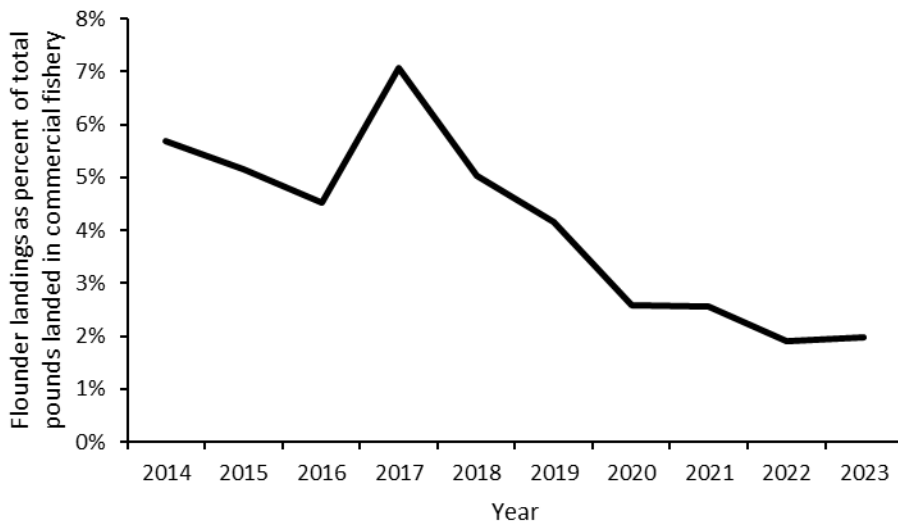


Figure 1.2. The pounds of Southern Flounder landed as a percent of total commercial finfish landed in North Carolina from 2014-2023

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## Recreational

The economic impact estimates of Southern Flounder recreational fishing represent the economic activity generated from trip expenditures. These estimates are a product of annual trip estimations originating from the NOAA Fisheries Marine Recreational Information Program (MRIP) effort data by area and mode (i.e., shore, for-hire, private/rental vessel, and man-made), and trip expenditure estimates from the NCDMF economics program biennial socioeconomic survey of Coastal Recreational Fishing License holders (Dumas et al. 2009; Crosson 2010; Hadley 2012; Stemle 2018). The product of these estimates provides an annual estimate of trip expenditures made by all licensed anglers for a given year. For this analysis, a recreational flounder trip is defined as any trip in which flounder was the primary or secondary target species by the angler, or if Southern Flounder was caught during that trip.

Additionally, these data are used to generate state-level economic impact estimates of recreational flounder fishing in North Carolina. Using IMPLAN statistical software, these direct expenditure estimates for recreational flounder fishing produce indirect output impacts to the state economy across four categories: sales, labor income, value-added impacts, and employment. Additionally, all imputed expenditure estimates are adjusted for inflation based on 2023 prices, as this was the most recent year of expenditure survey data. For a detailed explanation of the methodology used to estimate the economic impacts please refer to the NCDMF's [License and Statistics Section Annual Report](#).

Since 2020 trips have declined with 2023 having the lowest number of trips in the time series (Table 1.7). The number of flounder trips as a percentage of total recreational trips ranged from a high of 5% in 2015 to a low of 1% in 2022 (Figure 1.3). The relative number of flounder trips increased to 3% in 2023.

It should be noted that not included in these estimates, but presented in NCDMF overall recreational impacts models, are the durable good impacts from economic activity associated with the consumption of durable goods (e.g., rods and reels, other fishing related equipment, boats, vehicles, and second homes). Durable goods represent goods that have multi-year life spans and are not immediately consumable. Some equipment related to fishing are considered durable goods. However, we cannot estimate the durable good expense of anglers for a given species. Durable good expenses and impacts are estimated on an annual basis and serve to supplement angler expenditures outside of trip-based estimates.

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Table 1.7. Recreational flounder economic contribution estimates from 2023-2014 reported in 2023 dollars.

Year	Trips	Expenditure	Job Impacts	Income Impacts	Value Added Impacts	Sales Impacts
2023	414,322	\$107,560,907	736	\$33,825,714	\$52,588,610	\$91,413,988
2022	515,638	\$111,446,340	711	\$33,956,950	\$52,603,145	\$92,802,221
2021	518,636	\$124,895,817	736	\$37,060,764	\$57,416,999	\$103,850,738
2020	891,057	\$236,224,061	1,521	\$76,653,218	\$109,987,034	\$195,316,448
2019	1,118,505	\$291,045,600	1,880	\$88,935,317	\$135,155,036	\$244,036,124
2018	1,179,891	\$308,646,579	2,003	\$96,804,743	\$146,722,413	\$261,904,279
2017	1,234,219	\$313,229,181	2,066	\$97,779,917	\$147,510,316	\$270,355,489
2016	1,676,500	\$435,414,429	2,935	\$139,973,659	\$208,013,684	\$377,002,717
2015	1,723,014	\$446,698,257	2,901	\$138,075,359	\$224,369,794	\$373,979,472
2014	1,619,852	\$435,654,166	2,887	\$135,636,199	\$201,597,395	\$360,751,939

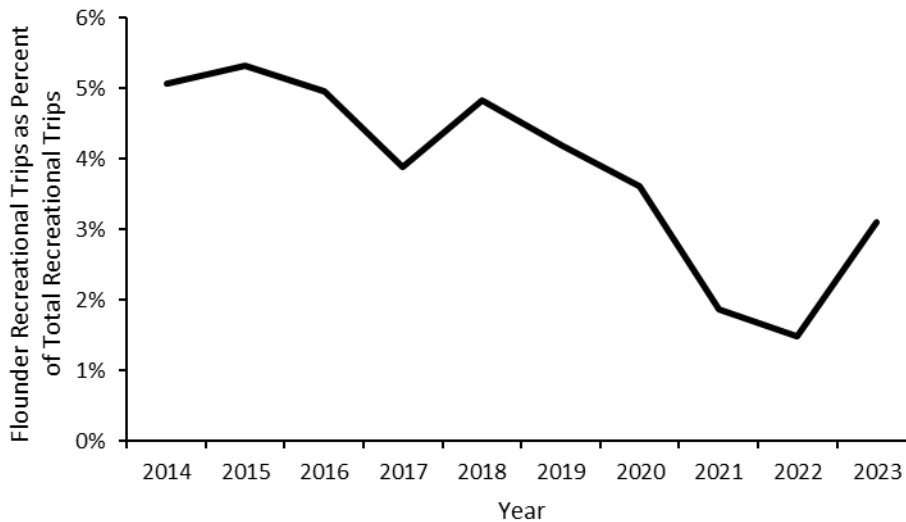


Figure 1.3. The number of flounder trips as a percent of total recreational fishing trips in North Carolina from 2014-2023.

## AUTHORITY

*North Carolina General Statutes*

G.S. 113-134 RULES

G.S. 113-182 REGULATIONS OF FISHING AND FISHERIES

G.S. 113-182.1 FISHERY MANAGEMENT PLANS



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## G.S. 143B-289.52 MARINE FISHERIES COMMISSION – POWERS AND DUTIES

### *North Carolina Marine Fisheries Commission Rules*

15A NCAC 03H .0103 PROCLAMATIONS, GENERAL

15A NCAC 03M .0503 FLOUNDER

15A NCAC 03M .0512 COMPLIANCE WITH FISHERY MANAGEMENT PLANS

### **DISCUSSION**

The most straightforward approach to immediately address recreational access in time for a 2025 recreational season is to expedite the sector (commercial/recreational) allocation transition to 50/50 in 2025 rather than 2026 as prescribed in Amendment 3 by amending the plan (Amendment 4). This would result in a 66.7% increase in recreational TAL by adding 106,470 pounds from the commercial sector to the recreational sector allocation in 2025 (Table 1.2). Under the Amendment 3 allocation shift schedule to 60/40 in 2025, there would likely be a short recreational season in 2025. Expediting the shift to 50/50 in 2025 reduces the possibility of recreational catch overages that may mitigate the need for future season closures, though may not increase the length of the recreational season. However, maintaining Amendment 3 rebuilding requirements does not provide substantial harvest opportunities for any fishing sector regardless of allocation, and given recreational landings and discard levels in recent years, even with a shift to 50/50 allocation, season closures in 2026 and beyond remain a possibility due to overages. This allocation shift is a short-term approach to address recreational access. Long-term, more comprehensive approaches for recreational and commercial management will be addressed during subsequent development of Amendment 5.

### *Recreational Season*

Estimated recreational landings from 2022 and 2023 indicate an increase in catch over shorter seasons (Tables 1.8). Even with a shift to 50/50 allocation, a recreational season that maintains the one fish bag limit from Amendment 3 would need to be brief (e.g., between two and four weeks) to maintain allowable landings (266,176 pounds; Table 1.2) while accounting for dead discards. The recreational catch estimates from 2024 will be available in 2025. These estimates will be used to determine if recreational catch estimates exceeded the adjusted TAC (43,361 pounds) in 2024. Any overages will be subtracted from the 2025 TAL.

Table 1.8. Recreational harvest estimates during 2022 and 2023 from the Marine Recreational Information Program (MRIP) and recreational gig survey. An asterisk (\*) indicates the 2022 estimate was used because data from 2023 were not available.

Year	Hook-and-line Landings	Gig Landings	Total Landings	Hook-and-line Dead Discard	Gig Dead Discard	Total Dead Discard	Total Catch	Season length
2022	166,091	7,882	173,973	52,771	251	53,022	226,995	4 weeks
2023	192,168	7,882*	200,050	41,308	251*	41,559	241,609	2 weeks

### *Commercial Implications*

The Amendment 3 management strategy provides guidance on the shift in landings from the commercial to the recreational sector. Per Amendment 3, the pound net TAL allocation will be maintained at 186,458 pounds and the poundage shifted to recreational landings will come from the commercial mobile gear TAL allocation (Tables 1.2; 1.3). This will leave 79,718 pounds of TAL for mobile gears, minus any overages that may have occurred in 2024. While the number of

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participants in the Southern Flounder commercial fishery declined precipitously following adoption of Amendment 2 (2019) and declined further following adoption of Amendment 3 (2022), participation remains relatively high considering the constrained season (Table 1.9). Based on recent mobile gear landings trends, the scheduled allocation shift will result in a mobile gear season that will likely last one or two days, which may be non-consecutive.

Table 1.9. Commercial Southern Flounder pounds landed, number of trips landing southern flounder, and number of commercial participants and dealers participating in the fishery.

Year	Pounds	Trips	Participants	Dealers
2018	903,842	13,320	912	186
2019	800,080	10,036	781	175
2020	479,905	3,485	522	144
2021	485,024	3,142	541	139
2022	366,510	1,927	485	125
2023	375,963	2,157	430	118

The 70% commercial, 30% recreational allocation (Tables 1.1; 1.2) from Amendment 3 is based on historical harvest for each sector through 2017. Different allocation scenarios have the potential to significantly reduce available harvest in a sector which may have ramifications for the viability of those sectors. Under the Amendment 3 allocation schedule, and the shift proposed in this Amendment, allocations for some sectors may be too low to viably prosecute.

Shifting allocation between sectors is within the authority of the MFC (G.S. 113-134, 113-182, 113-182.1, and 143B-289.52). Allocation changes may have positive or negative impacts on different sectors of the southern flounder fishery. Amendment 5 will further examine long-term management for sector.

## MANAGEMENT OPTIONS

### *Status Quo*

Status quo would maintain the allocation transition schedule from Amendment 3, moving to 60% commercial and 40% recreational in 2025, and 50% commercial and 50% recreational beginning in 2026. This does not immediately address the NCMFC motion to increase recreational access to the Southern Flounder fishery. The motion would be addressed by a more comprehensive amendment process.

### *Expedited Allocation Shift*

Expedite the sector (commercial/recreational) allocation transition to 50/50 in 2025 rather than in 2026 as prescribed in Amendment 3. This option immediately addresses the NCMFC motion to increase recreational access to Southern Flounder. Long-term, more comprehensive approaches for recreational and commercial management will be addressed during subsequent development of Amendment 5 to the NC Southern Flounder FMP.

## RECOMMENDATIONS

Will be completed following the FMP Advisory Committee Workshop