



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

MEMORANDUM

Date: March 27, 2024
To: Chris Moore, Executive Director
From: Kiley Dancy and Hannah Hart, Staff
Subject: Summer Flounder Commercial Minimum Mesh Exemption Framework/Addendum Meeting 1

On Wednesday, April 10, 2024 the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's Summer Flounder, Scup, and Black Sea Bass Management Board (Board) will review draft alternatives, preliminary analysis, and initial public input on the Summer Flounder Commercial Minimum Mesh Exemption Framework/Addendum. The Council and Board should consider adopting a range of alternatives for inclusion in a public hearing document, to be developed and approved by the Board later this spring.¹ This memo provides action background, an overview of a revised action timeline, and a list of meeting materials for the Council and Board's consideration of this agenda item.

Action Background

This framework/addendum considers changes to two exemptions to the summer flounder commercial minimum mesh size requirements. This action was initiated in response to issues raised during a [Fall 2023 review of summer flounder commercial mesh regulations](#). The following issues have been identified for exploration through this action:

- **Small Mesh Exemption Program (SMEP) Area Revisions:** The Council and Board will consider modifications to the area associated with the SMEP for summer flounder, including evaluating suggested revisions made by fishing industry representatives during the Fall 2023 review process for this exemption.
- **Flynet Exemption Gear Definition Updates:** The Council and Board will consider modifying the regulatory definition of a flynet as it relates to the flynet exemption to the summer flounder commercial minimum mesh size. Modifications are being considered in light of changes in the use and configuration of commercial trawl gear since this exemption was put in place in the 1990s.

¹ The Commission's addendum process requires a minimum 30-day public comment period and optional public hearings, while the Council's framework process does not have a similar requirement. The comment period and hearing process is proposed to occur through the Commission's process, and comments received will be provided to both the Council and Board for consideration prior to final action.

Timeline and Action Plan Revisions

Since the initiation of the action, a Fishery Management Action Team (FMAT)/Plan Development Team (PDT) has been formed and met several times to work through some preliminary analysis and draft a range of alternatives for the Council and Board's consideration. The Council will host a [public input webinar](#) on April 2, 2024 to gather preliminary public feedback on the draft range of alternatives.

Earlier in 2024, the Council and Board separately reviewed a draft action plan that indicated final action would take place at a joint meeting in June. Since then, the FMAT/PDT has discussed the infeasibility of implementing the action by the goal date of November 1, 2024. As discussed at the December joint Council/Board meeting, this was an ambitious timeline with several associated challenges, including federal rulemaking timelines and the required public comment period associated with the Commission's addendum process, which lasts for a minimum of 30 days. Because it has become clear that achieving this timeline is no longer possible, the action plan has been revised for the Council and Board's consideration at the April meeting. Final action is now proposed to occur at the joint August meeting, to allow for additional analysis to be developed and incorporated into the public hearing document.

The action plan has also been revised to reflect additional membership to the FMAT/PDT, appointed by Commission representatives following the Board's February 14 webinar meeting.

Meeting Materials

Materials listed below are provided for the Council and Board's discussion of this agenda item. As noted below, some materials will be posted at a later date.

- 1) Revised Action Plan (*as of March 22, 2024*)
- 2) Summer Flounder Commercial Minimum Mesh Exemption Framework/Addendum Discussion Document with Draft Range of Alternatives

The following materials will be posted to the meeting page once they are available:

- 3) Summary of April 2, 2024 Summer Flounder Commercial Minimum Mesh Exemption Framework/Addendum Public Input Webinar and written comments

Documents from the prior review of these exemptions, including the Fall 2023 final review report and summary of previous public comments, can be found on the action page for this Framework/Addendum, at: <https://www.mafmc.org/actions/summer-flounder-commercial-mesh-exemptions>.



Summer Flounder Commercial Mesh Size Exemptions Framework/Addendum

Action Plan

As of March 22, 2024

Framework/Addendum Goal: This management action is being developed by the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission)’s Summer Flounder, Scup, and Black Sea Bass Board (Board). This action will evaluate potential changes to two exemptions to the summer flounder commercial minimum mesh size requirements, including 1) the Small Mesh Exemption Program (SMEP), and 2) the flynet exemption. Consideration of these changes is intended to modernize these requirements with consideration of current fishing industry gear use and practices and to provide additional flexibility to fishery participants while continuing to meet the conservation objectives of the FMP.

Alternatives to be Considered: The Council and Board have identified the issues below for exploration through this action. They may also identify other alternatives to address the objectives of the action at future meetings.

- **Small Mesh Exemption Program Area Revisions:** This action will consider modifications to the area associated with the SMEP for summer flounder, including evaluating suggested revisions made by fishing industry representatives during the Fall 2023 review process for this exemption.
- **Flynet Exemption Gear Definition Updates:** This action will consider modifying the regulatory definition of a flynet as it relates to the flynet exemption to the summer flounder commercial minimum mesh size. Changes would be considered in light of changes in the use and configuration of commercial trawl gear since this exemption was put in place in the 1990s.
- **Other alternatives:** This action may consider other alternatives, as appropriate. For example, this could include potential revisions to the timing associated with the SMEP, or administrative requirements associated with either exemption.

Fishery Management Action Team (FMAT) / Plan Development Team (PDT)

An FMAT/PDT is being formed to assist with development and analysis of potential alternatives. FMAT/PDT members are listed in the table below. Other Council, Commission, and NOAA Fisheries staff, as well as other experts, will be consulted as needed.

FMAT/PDT Member Name	Agency	Role/Expertise
Kiley Dancy	Mid-Atlantic Fishery Management Council	FMAT/PDT Co-Chair
Chelsea Tuohy	Atlantic States Marine Fisheries Commission	FMAT/PDT Co-Chair
Hannah Hart	Mid-Atlantic Fishery Management Council	FMAT/PDT Co-Chair
Laura Deighan	NMFS Greater Atlantic Regional Fisheries Office	Fisheries policy and legal requirements
Emily Keiley	NMFS Greater Atlantic Regional Fisheries Office	Fisheries policy and legal requirements

Marianne Randall	NMFS Greater Atlantic Regional Fisheries Office	National Environmental Policy Act requirements
Sara Turner	NMFS Greater Atlantic Regional Fisheries Office	Analysis and Program Support
Sam Truesdell	NMFS Northeast Fisheries Science Center	Population dynamics
Debra Duarte	NMFS Northeast Fisheries Science Center	Fisheries Monitoring and Research Division
Lorena de la Garza	NC Division of Marine Fisheries	Monitoring/Technical Committee, NC
Corinne Truesdale	RI Department of Environmental Management	Monitoring/Technical Committee, RI

Draft Timeline – *Subject to change*

December 2023	<ul style="list-style-type: none"> ● Council initiates framework action
February 2024	<ul style="list-style-type: none"> ● Board initiates addendum (February 14 webinar meeting)
January-March 2024	<ul style="list-style-type: none"> ● FMAT/PDT formed; first meetings ● Development of range of alternatives and draft document for meeting 1
April 2024	<ul style="list-style-type: none"> ● Public input meeting to provide feedback on draft alternatives ● Framework/addendum meeting 1: approve range of alternatives
April/May 2024	<ul style="list-style-type: none"> ● Continued analysis and development of draft public hearing document
Spring 2024 (timing TBD)	<ul style="list-style-type: none"> ● Board approves draft document for public comment (via webinar Board meeting or joint meeting)
June/July 2024	<ul style="list-style-type: none"> ● Public comment period (30 days minimum required for Commission addendum) and optional public hearings ● Advisory Panel meeting(s) and/or other public meeting(s) to provide input
August 2024	<ul style="list-style-type: none"> ● Framework/addendum meeting 2: final action
Fall 2024/Winter 2025	<ul style="list-style-type: none"> ● Development, review, and revisions of framework/addendum document(s) ● Federal rulemaking
TBD	<ul style="list-style-type: none"> ● Effective date of implemented changes



Summer Flounder Commercial Mesh Exemptions Framework/Addendum

Draft Range of Alternatives and Preliminary Analysis
Council and Board Joint Meeting, April 2024

1. Introduction

This management action is being developed jointly by the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission's (Commission) Summer Flounder, Scup, and Black Sea Bass Board (Board). The action was initiated by the Council in December 2023, and by the Board in February 2024, in response to a [review of summer flounder commercial minimum mesh size exemptions](#) conducted in the fall of 2023.

The joint framework/addendum will evaluate potential changes to two exemptions to the summer flounder commercial minimum mesh size requirements, including 1) the Small Mesh Exemption Program (SMEP), and 2) the flynet exemption. Consideration of these changes is intended to modernize these requirements with consideration of current fishing industry gear use and practices and to provide additional flexibility to fishery participants while continuing to meet the conservation objectives of the FMP. Additional information and documents can be found at: <https://www.mafmc.org/actions/summer-flounder-commercial-mesh-exemptions>.

This document describes the draft purpose and need for the action, draft range of alternatives, and preliminary analysis of the use of these exemptions.

1.1 Purpose and Need for Action

The draft purpose and need statements for this action are as follows:

- **Purpose 1:** Consider modifications to the westward boundary of the area associated with the Small Mesh Exemption Program to provide additional access and economic benefits to commercial fishing operators without compromising the conservation objectives of the FMP (Alternative Set 1).

Need for action 1: In the Fall of 2023, the Council contracted a review of the Small Mesh Exemption Program (SMEP), which allows trawl vessels to obtain a Letter of Authorization (LOA) to land more than 200 pounds of summer flounder east of longitude 72° 30.0'W, from November 1 through April 30, using mesh smaller than the minimum summer flounder mesh sizes of 5.5" diamond or 6.0" square. This exemption is designed to allow vessels to retain some bycatch of summer flounder while operating in other small-mesh fisheries. During this review, feedback from the commercial fishing industry indicated that the SMEP has become a very important program to maintain the economic viability of their businesses. Industry representatives recommended moving the demarcation line approximately 5 miles landward to facilitate the conduct of their fishing operations in other fisheries. The Council and Board recommended additional evaluation of this proposal, including further exploration of appropriate boundaries and the expected biological impacts to summer flounder.

- **Purpose 2:** Consider whether changes to the regulatory definition of a flynet, as pertaining to the flynet exemption to the commercial summer flounder minimum mesh size, are warranted based on changes in trawl gear configuration and use since the exemption’s original implementation (Alternative Set 2).

Need for action 2: Vessels fishing with a two-seam otter trawl flynet, with a specific configuration defined in the summer flounder regulations, are exempt from the summer flounder minimum mesh size requirements. The original intent of this exemption was to accommodate a specific fishery, concentrated in North Carolina and extending north to Cape Henlopen, Delaware. Available data indicate that the exemption is no longer being utilized today in that area/fishery. However, industry feedback indicates that the flynet exemption has become an important component of specific fisheries throughout the Greater Atlantic Region, although some of the net types being utilized under the flynet exemption (i.e., “high rise nets”) do not comply with the specific regulatory definition of a flynet. The term “high rise” net appears to be regional terminology for flynets and similar net types. The Monitoring Committee has identified this as a potential compliance and enforcement issue and/or indication of a potential need to revise the regulatory language. During the summer flounder mesh exemption review process, industry representatives proposed updating the definition of the term “flynet” to reflect modern gear configurations and use patterns under this exemption. Further review is needed to determine the implications of a gear definition change for this exemption, including ensuring that changes would not unintentionally incentivize an expansion of the use of this exemption in a manner that would negatively impact the summer flounder stock.

These exemptions are both annually reviewed by the Monitoring Committee and the Council and Board during the specifications process for setting or reviewing catch limits. Some changes can be made through the specifications process. However, the regulations list some restrictions on what types of changes to the SMEP can be recommended by the Monitoring Committee via specifications (see Section 2.6). In addition, the typical annual review of the flynet exemption is primarily to review data on the flynet fishery in North Carolina. A redefinition of the exempted gear type(s) would fall outside the scope of what could be modified via specifications. As such, the Council and Board were advised to initiate a framework/addendum to consider the issues described above.

1.2 Intersection Between the Exemptions

While these two exemptions were originally intended to apply to largely different fisheries operating in different areas, consideration should be given to how revisions to the flynet exemption may impact the use of and need for the small mesh exemption program. In particular, as discussed at the Council and Board’s December meeting, if a redefinition of “flynet” gear is developed such that it would cover most or all of the vessels participating in the SMEP, then a separate SMEP may not be necessary. Preliminary analysis of this intersection is provided in **Appendix C**, and the FMAT/PDT will continue to explore this issue prior to the next Council and Board meeting.

2. Small Mesh Exemption Program: Draft Alternatives and Preliminary Analysis

2.1 SMEP Background

Summer flounder moratorium permitted vessels fishing east of longitude 72° 30.0'W (Figure 2), from November 1 through April 30, and using mesh smaller than the required summer flounder minimum mesh sizes of 5.5-inch diamond or 6.0-inch square, may land more than 200 pounds of summer flounder. Participation in this program requires an LOA obtained through GARFO. Vessels must be enrolled in the program for a minimum of 7 days and may not fish west (landward) of the line. This exemption program was developed under Amendment 2 to the FMP and modified via Amendment 3 (both in 1993).

This exemption program was initially suggested by the New England Fishery Management Council and industry participants. It was designed to allow vessels to retain some bycatch of summer flounder while operating in other small-mesh fisheries. At the time it was determined that the exemption would not pose an issue for the stock because the mesh size requirement was designed to protect smaller summer flounder, which largely were not being caught in these offshore areas in the winter months.¹ The exemption was thus viewed as consistent with the conservation goals of the FMP while reducing discard waste in the summer flounder fishery.

When Amendment 2 was originally implemented, the possession threshold during this time period was 100 lb and the demarcation line was 71° 30.0'W, following the yellowtail closed area to 72° 30.0'W, and continuing until it intersected with the EEZ. Amendment 3 increased the threshold possession limit for smaller mesh vessels to 200 lb of summer flounder and simplified the SMEP area to the area east of 72° 30.0'W to resolve issues with compliance and enforcement created by the previous, irregular line. Otter trawl data from 1990 and 1991 indicated that summer flounder discards were about 13 percent east of 72° 30.0'W (and between 71° 30.0'W and 72° 30.0'W), compared to 11 percent east of 71° 30.0'W and 21 percent elsewhere. Data from the Northeast Fisheries Science Center winter flatfish survey indicated that 33.5 percent of summer flounder were under 14 in. east of 71° 30.0'W and 72 percent were under 14 in. west of that line, compared with 35 percent and 72 percent east and west of 72° 30.0'W, respectively. The amendment determined that changing the SMEP exemption area to the area east of 72° 30.0'W would result in a small increase in discards, but the increase would be offset by better compliance and the ability to modify the exemption program during the annual review. The amendment also noted that the new line avoided bisecting Hudson Canyon, which better allowed industry members to decide whether to participate in the SMEP and reduced navigational and trawling issues.

¹ The exemption was approved based on data (from 1985 to 1989) indicating 99.8 percent of summer flounder caught in the exemption area were equal to or greater than the size limit at the time of 13 inches, and 84.7 percent were greater than 15 in., compared to 88.6 percent and 50 percent outside the area, respectively.

2.2 SMEP Participation

Over the last 10 years, LOAs have been issued to an average of 68 vessels each year for the relevant November-April time periods, with a slight increasing trend over these years (Figure 1).

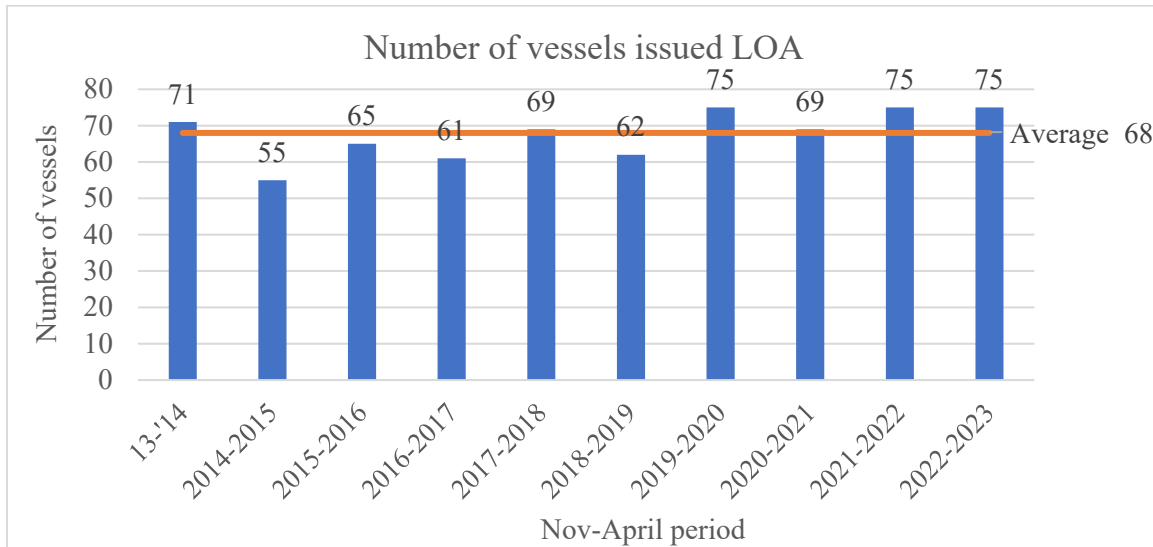


Figure 1: Number of vessels issued an LOA from November 2013 through April 2023. Some vessels held multiple LOAs within a season.

Because vessels with an active LOA are restricted to trips east of the demarcation line, many vessels hold several LOAs for varying lengths of time throughout a given November-April period. On average over the past 10 years, about 44% of vessels held the LOA for the full November-April time frame (Figure 2).

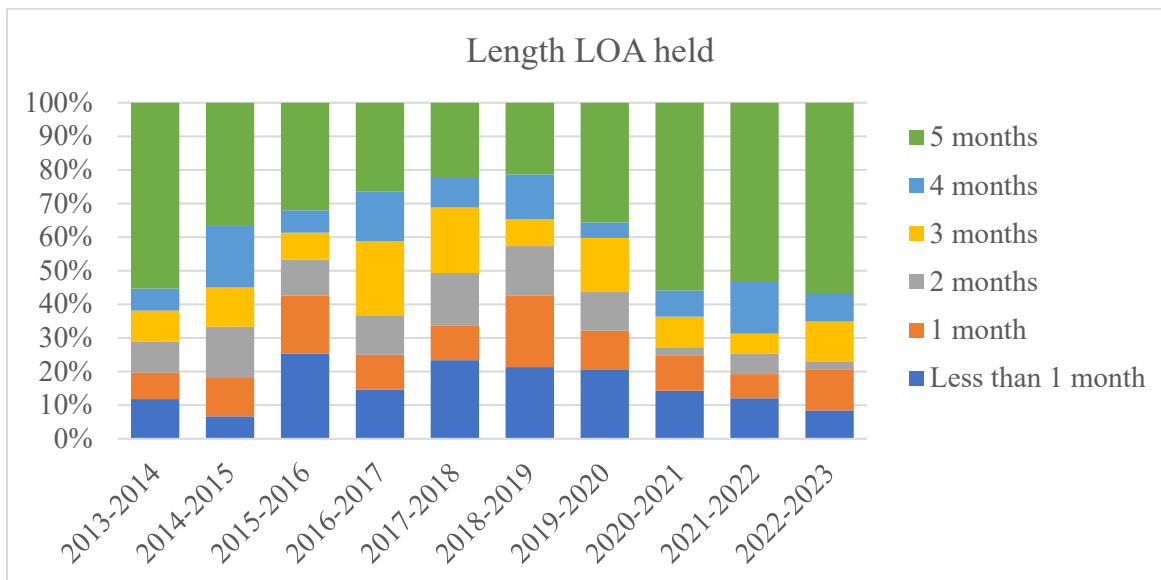


Figure 2: Active LOA length for each November-April SMEP season from November 2013-April 2023. Some vessels may be represented multiple times within the same season if they held multiple LOAs for less than 180 days.

2.3 Draft Range of Alternatives for SMEP Area Revisions

The draft alternatives below consider revisions to the area associated with the SMEP. Recent discussions have not suggested a need to modify the exemption timing (November 1-April 30). Some clarifications and revisions may also be needed regarding the administrative requirements and evaluation methodology associated with the exemption (see Section 2.6), but these are expected to be addressed administratively without requiring separate alternatives in the Framework/Addendum.

As discussed below, some consideration is needed regarding how potential revisions to the SMEP area would connect to or intersect with other management areas, specifically the scup gear restricted areas (GRAs) and the Frank R. Lautenberg Deep Sea Coral Protection Zone.

With all alternatives, the SMEP area overlaps portions of the Frank R. Lautenberg Deep Sea Coral Zone, where all bottom tending fishing gear is currently prohibited year-round.² Vessels using the SMEP are bottom trawls (see Section 2.4.1), and as such the portions of the SMEP area overlapping with the coral zones (see Figure 4) are unable to be fished by these gear types regardless of possession of the LOA.

Draft Alternatives:

Alt 1A: No Action/Status Quo.

This alternative would maintain the SMEP demarcation line at longitude 72° 30.0'W (Figure 2). Vessels issued an LOA for this program may fish west of this line from November 1 through April 30 using mesh smaller than the required summer flounder minimum mesh sizes of 5.5-inch diamond or 6.0-inch square and retain more than 200 pounds of summer flounder.

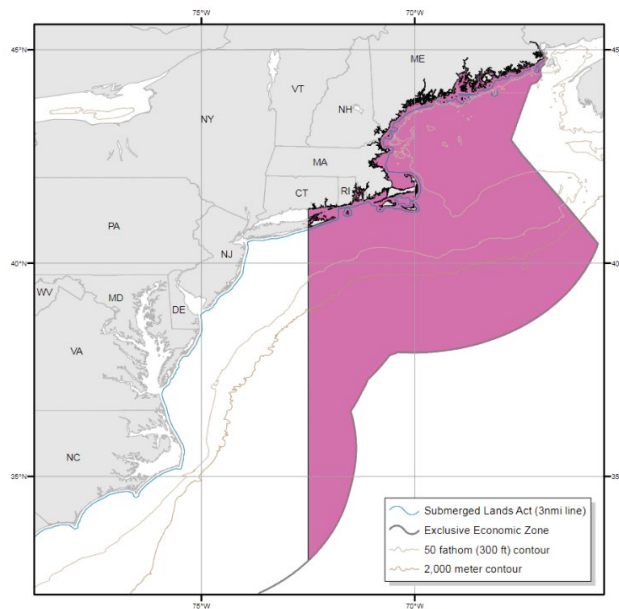


Figure 3: Status quo SMEP area (Alternative 1A).

² <https://www.mafmc.org/actions/msb-am16>

Alt 1B: Industry proposed revisions to SMEP area linked to coral zone boundaries.

Starting south of Long Island, this alternative would move the westward demarcation line approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W and then follow along the eastern border of the southern scup GRA to about 37°N latitude (Figure 4). Note that this alternative as currently drafted does not extend the line westward in Long Island Sound nor does it modify the southern portion of the SMEP south of the deep sea coral protection area (*public and Council/Board feedback is sought on whether this is appropriate*). The calculated additional area, excluding the deep-sea coral zones where bottom tending gear is prohibited, is 4,943 km² (1,441 nmi²). The timing of the exemption would remain unchanged (November 1-April 30).

Because this alternative proposes connecting the SMEP area to the scup GRAs³, it is important to note that modifications to the scup GRA boundaries may be considered in the next few years. The Council’s 2024 Implementation Plan includes a project⁴ that would build on past Council scup GRA analyses and assess if changes to the current GRAs are warranted, and if so, provided recommendations on potential changes. This project is expected to extend through 2025 and could potentially result in changes to the current boundary, timing, etc. of the southern scup GRA. However, given the expected project timeline changes to the scup GRA boundaries are unlikely to change prior to 2026.

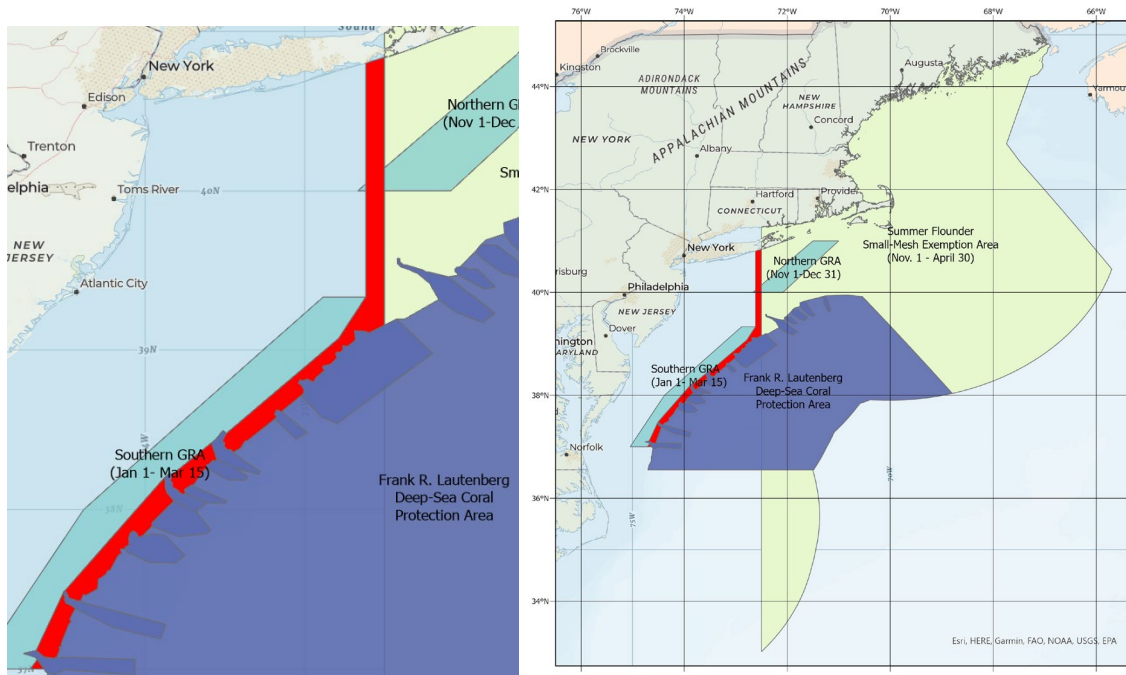


Figure 4: Draft Alternative 1B, industry proposal, for SMEP area.

³ The two scup GRAs are designed to reduce scup discards in small-mesh fisheries. Trawl vessels may not fish for or possess longfin squid, black sea bass, or silver hake in the Northern GRA from November 1 – December 31 and in the Southern GRA from January 1 – March 15 using mesh smaller than 5 inches.

⁴ <https://www.mafmc.org/newsfeed/2024/request-for-proposals-collaborative-strategies-to-adapt-scup-gear-restricted-areas-gra-to-changing-ocean-conditions>

Alt 1C: Extension of SMEP area without referencing coral zone boundaries.

While alternative 1B includes the area of interest to the fishing industry and reflects that bottom trawl gear is prohibited from the deep sea coral zone, the way in which alternative 1B follows the boundary of the coral area adds complexity to the regulations that may be unnecessary. Alternative 1C proposes a simplified extension of the SMEP to the eastern boundary of the southern scup GRA (Figure 5).

While this has the appearance of notably increasing the SMEP area size, the effective change is the same as alternative 1B given the restrictions on bottom tending gear in the deep sea coral area. There is already substantial overlap of the SMEP and coral zone where the SMEP is essentially irrelevant; this would increase that area of that overlap. The advantage of this alternative would be simplified boundaries to theoretically simplify compliance and enforcement.

The timing of the exemption would remain unchanged (November 1-April 30). Similar considerations regarding the intersection with the scup GRA, as described above under alternative 1B, apply here as well.

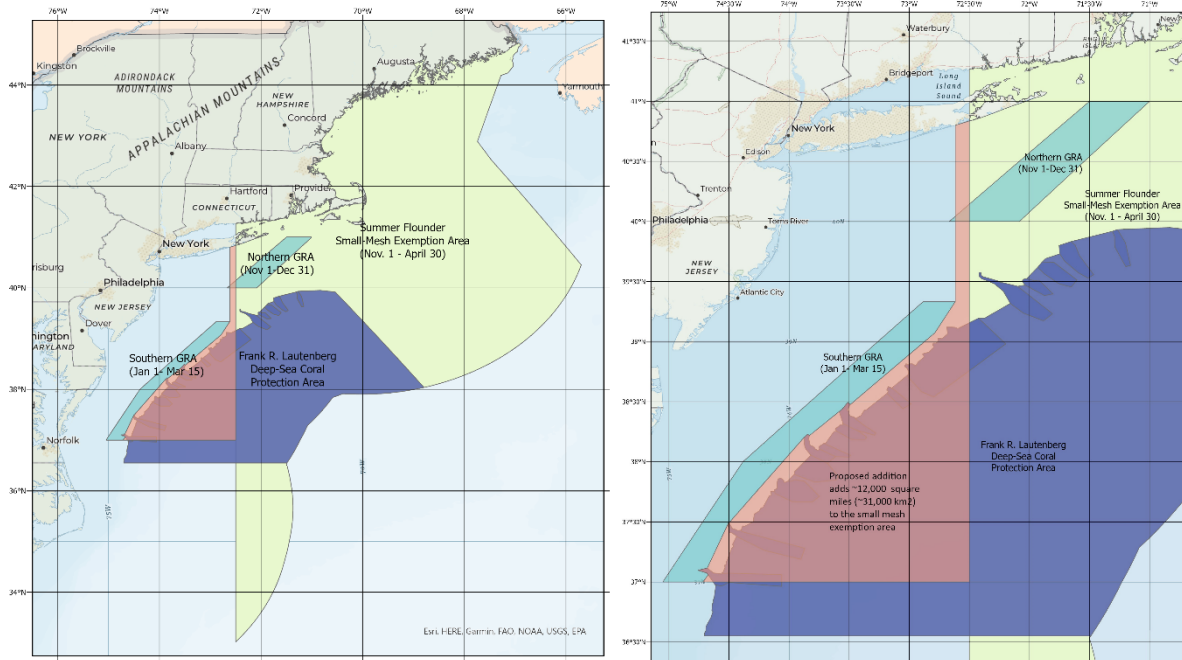


Figure 5: Draft alternative 1C, simplified proposed boundary modification that does not follow the coral area boundaries.

2.4 Preliminary Analysis

2.4.1 Characterization of Exemption Use

Vessel Trip Report (VTR) and Northeast Fisheries Observer Program (NEFOP) data, both linked to trips where vessels held an active SMEP LOA, were used to characterize use of this exemption program.

Gear Types and Mesh Size

VTR data from November 1, 2022 through April 30, 2023 indicate that over this time period, 90% of LOA trips were using bottom otter trawl gear, with the remaining 10% utilizing other or unknown gear types (small numbers of trips for unnamed “other” gear types, other bottom trawl types, scallop dredge, and sink gillnets). As some of these other gear types are non-trawl gears, these vessels would not be actively using the SMEP on every trip. Observer data for November 2013 through April 2022 indicate that 100% of observed trips over this time period associated with an active SMEP LOA were using bottom otter trawl gear.

A total of 6,771 hauls were observed on 1,246 trips associated with an active SMEP LOA from November 2013- April 2022. About 40% of these hauls used a mesh size at or above the summer flounder minimum mesh size of 5.5 inches, while 57% used mesh smaller than 5.5 inches and/or a small mesh codend liner (Table 1). The LOA/exemption is not necessary for vessels fishing with mesh over the 5.5-inch minimum size; however, many vessels holding LOAs are using a mix of different gear configurations on different trips or portions of trips while the LOA is active.

Table 1: Trips and hauls for observed bottom otter trawl trips with an active SMEP LOA, 2013-2022, by mesh size category (above and below the summer flounder 5.5” diamond mesh requirement).

Gear type and mesh size category	% of Hauls	Number of Unique Trips^a	Number of Unique Permits^a
≥5.5 inch ^b	40%	637	87
<5.5 inch ^b	57%	624	92
Unknown	3%	38	25
Total	100%	1,246	109

^a Number of trips and permits do not add to the total given that some trips and some permits are associated with use of multiple mesh size categories.

^b Observer mesh size data is reported as an average of 10 individual mesh measurements, in millimeters. For this analysis, mesh size was converted to inches and rounded to the nearest tenth of an inch, so conversion and rounding error may be present for some observations.

Target Species

Target species is reported for each haul in the observer data. 31% of observed hauls for active LOA holders over this time period were reported as targeting summer flounder, and 37% of trips (467 out of 1,246) had at least one haul targeting summer flounder. Other common target species on observed SMEP trips included longfin squid, scup, and skate, with other species accounting for less than 5% of hauls on these trips (Table 2).

Table 2: Top 10 target species on observed trips for vessels with an active SMEP LOA, 2013-2022, with percent of total observed hauls, number of unique trips, and number of unique permits. NK = unknown.

Target Species	Percent of Hauls	Number of Trips	Number of Permits
Summer Flounder	30.8%	467	92
Longfin Squid	23.7%	242	71
Scup	10.1%	173	53
Skate, NK	5.1%	94	30
Silver Hake (Whiting)	4.7%	85	24
Yellowtail Flounder	4.5%	84	35
Groundfish, NK	3.9%	86	17
Atlantic Herring	3.0%	68	8
Little Skate	2.3%	51	14
Flounder, NK	2.3%	42	22

The top targeted species differ somewhat when observed hauls for LOA trips are broken out by mesh size category (above and below the summer flounder minimum diamond mesh size of 5.5-inches). Larger mesh gear (greater than or equal to 5.5-inches) is generally used by LOA holders to target summer and yellowtail flounder, groundfish, and skate. Smaller mesh (less than 5.5 inches) LOA trips do target some summer flounder (25% of hauls), but otherwise are generally targeting species with smaller or no minimum mesh size requirements including longfin squid, scup, whiting, herring, and black sea bass (Table 3).

Table 3: Top 6 target species by mesh size category, above and below the summer flounder diamond minimum mesh size of 5.5 inches, for observed trips with an active SMEP LOA, November-April, 2013-2022.

Large Mesh (≥5.5 inch)	Percent of Large Mesh Hauls	Small Mesh (<5.5 inch)	Percent of Small Mesh Hauls
Summer Flounder	38.2%	Longfin Squid	41.3%
Yellowtail Flounder	12.0%	Summer Flounder	25.2%
Groundfish, NK	10.6%	Scup	14.9%
Skate, NK	9.2%	Silver Hake (Whiting)	7.7%
Flounder, NK	5.5%	Atlantic Herring	5.0%
Little Skate	5.5%	Black Sea Bass	1.7%

For all hauls targeting summer flounder, 49% were using mesh at or above the 5.5-inch minimum mesh size, while 47% used mesh smaller than 5.5-inches (Table 4).

Table 4: All hauls targeting summer flounder by mesh size category (above and below summer flounder min. mesh size), November 2013-April 2022, for observed trips tied to active SMEP LOA.

Mesh Size Category	Percent of hauls	Permits	Trips	Total observed catch (lb)
Large (≥5.5 inch)	49%	70	246	1,621,516
Small (<5.5 in)	47%	68	225	1,947,089
Unknown	4%	11	12	148,816
Grand Total	100%	92	467	3,717,421

Summer Flounder Catch and Discards

Of all observed hauls linked to SMEP LOAs from November 2013-April 2022, 74% of hauls caught summer flounder, and 86% of observed trips caught summer flounder at some point on the trip. Of the hauls targeting summer flounder, 97% caught summer flounder (Table 4).

Table 5: Observed trips, hauls, and permits for observer data linked to SMEP LOAs, November 2013-April 2022.

	Trips	Hauls	Permits
All observed SMEP LOA	1,246	6,771	109
Caught fluke	1,073	4,998	106
Targeted fluke	467	2,084	92
Targeted & caught fluke	466	2,022	92

For all observed trips that caught summer flounder, average summer flounder landings were 863 pounds per trip, compared to 1,587 pounds per trip on trips where targeting of summer flounder occurred. Average discards were 113 pounds of summer flounder for all trips, and 95 pounds for trips targeting summer flounder (Table 5). For most observed trips, discards of summer flounder appear to be relatively low by weight, but can still be a notable proportion of total summer flounder catch on those trips. On average, 19% of summer flounder caught were discarded on these observed trips, with 39% of trips discarding more than 10% of their summer flounder catch (or 21% for trips reporting targeting of summer flounder; Table 6).

Table 6: Statistics for landings and discards of summer flounder on a) all observed SMEP LOA trips with summer flounder catch, and b) observed SMEP LOA trips with hauls targeting summer flounder, November 2013-April 2022. Landings and discard values are in pounds.

a) All observed trips with summer flounder catch			
Fluke Landings		Fluke Discards	
Mean per trip	863	Mean per trip	113
Median per trip	300	Median per trip	15
% of trips landings >2,000 lb	11%	% of trips discards >2,000 lb	1%
% of trips landings >500 lb	42%	% of trips discards >500 lb	5%
% of trips landings >200 lb	58%	% of trips discards >200 lb	13%
% of trips no landings	7%	% of trips no discards	25%
b) Observed trips targeting summer flounder			
Fluke Landings		Fluke Discards	
Mean per trip	1,587	Mean per trip	95
Median per trip	1,000	Median per trip	23
% of trips landings >2,000 lb	22%	% of trips discards >2,000 lb	0.2%
% of trips landings >500 lb	75%	% of trips discards >500 lb	3%
% of trips landings >200 lb	92%	% of trips discards >200 lb	13%
% of trips no landings	0.2%	% of trips no discards	23%

Table 7: Statistics for percent of summer flounder discarded on a) all observed SMEP LOA trips with summer flounder catch, and b) observed SMEP LOA trips with hauls targeting summer flounder, November 2013-April 2022.

	a) All trips catching summer flounder	b) Trips targeting & catching summer flounder
Total observed trips	1,073	466
Avg % flk discarded per trip	19%	7%
Total % flk discarded across all trips	12%	6%
% of trips discarding more than 10% of flk catch	39%	21%

2.4.2 Presence of Juvenile and Undersized Summer Flounder in SMEP Area

Preliminary analysis of the presence and abundance of undersized (less than the 14-inch commercial fishery minimum size) and juvenile (less than 30 cm or 11.8 inches) is provided in **Appendix A**, based on NMFS bottom trawl survey length data from the Northeast Regional Habitat Assessment from 1990-2019. Additional work is needed to evaluate and interpret these results, including evaluating if trends differ by time period and further comparing the results between the current and proposed SMEP areas. The period of overlap between the bottom trawl survey timing and the SMEP timing is limited, given that the survey occurs only within a portion of the SMEP time frame (portions of March and April). As such, the data should be interpreted with caution. During this time, it appears that the availability of undersized summer flounder (less than 14 inches) is similar between the current SMEP area and the proposed expansion (11% and 12%, respectively, of summer flounder caught in each area; see Appendix A).

The FMAT/PDT are continuing to explore other sources of information to assess potential biological impacts.

2.5 Additional Planned Analysis

Additional analysis planned but not yet available for this document includes:

- Evaluate landings and discards by mesh size category (above and below 5.5 inches) for SMEP users.
- Map spatial extent of the use of the small mesh exemption program (using observer and/or VTR data).
- Evaluate extent of fishing activity west of the demarcation line.
- Look for additional sources of information to evaluate biological impacts, including potential length data from observer records.
- Economic analysis of potential changes.

2.6 Other Issues to be Addressed

As noted above, the Fall 2023 review of mesh exemptions raised some administrative and technical issues that should be addressed but would not require separate alternatives within this management action. The FMAT/PDT is considering how the following issues may be addressed:

Administrative requirements:

- Some confusion exists about the requirement that “Vessels fishing under the LOA shall not fish west of the line.” It appears that the intent of this language was to prohibit any vessel with an active LOA from fishing west of the line in any fishery; however, comments received in the fall of 2023 indicate that some vessels interpret this as a restriction on fishing west of the line within a single trip in which they have participated in the SMEP. GARFO intends to clarify this portion of the regulation.
- Regulations require that the LOA be held for at least 7 days. The FMAT/PDT’s understanding is that this was due to staff processing requirements at the time this exemption was implemented. The FMAT/PDT will continue to work with others at GARFO to determine whether this provision could be made more flexible.
- The regulations specify that the Monitoring Committee may recommend adjustments to the exempted area and boundary in 30-minute intervals of latitude and longitude, and to the seasons in 2-week intervals. This is thought to be due to data availability at the time. GARFO and the FMAT/PDT are looking into whether these restrictions on what the Monitoring Committee can recommend should be modified.

Evaluation methodology:

- Language differs between Amendment 3 and the regulations⁵ for determining the rescission of the exemption and should be reconciled. This may impact the methodology used in these evaluations going forward.
 - **Amendment 3:** “if the Regional Director determines after a review of Sea Sampling data that **vessels fishing seaward of the line** described above are discarding more than 10% of their summer flounder catch, the Regional Director may rescind the exemption.”
 - **Regulations:** “the Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that **vessels fishing under the exemption** are discarding more than 10 percent, by weight, of their entire catch of summer flounder per trip.”
- The methodology and data sources being used to calculate the impact of this program are the same as those available in 1993. Currently, the analysis relies solely on observed trips identified using a series of assumptions indicating a presumed use of the SMEP. This provides a limited snapshot due to limited observer coverage and is not based on confirmed use of the LOA. More accurate and robust data should be available through systems that are in place today, but which were not available in the 1990s, which would improve the ability to evaluate the utilization and impacts of the SMEP and provide more accurate information on trips that are actually fishing under the SMEP rather than relying on the assumptions inherent in the observer datasets. The Monitoring Committee noted that if continued use of observer data for this analysis is necessary, the methodology used may need to be revisited. The FMAT/PDT will continue to consider how evaluation methods might be improved going forward.

3. Flynet Exemption

3.1 Flynet Exemption Background

Since 1993, The flynet exemption in the Summer Flounder FMP, has provided an exemption to the minimum mesh size requirements for vessels fishing with a two-seam otter trawl flynet with specifications

⁵ [50 CFR 648.108\(b\)\(1\)](#)

defined in regulation (see draft Alternative 2A). No permits or special reporting are required to utilize this exemption.

The original intent of this exemption was to accommodate the use of a specifically defined gear in a specific fishery. Flynets were generally fished 10-12 ft off the bottom between September and April from North Carolina to Cape Henlopen, Delaware, and primarily targeted bluefish and sciaenids. North Carolina Division of Marine Fisheries provided additional data to support the exemption, indicating that summer flounder were landed as incidental catch in the flynet fishery and comprised only 1 to 3 percent of the total trip catch (based on 1982 to 1989 data). Comparatively, summer flounder made up 62 to 94 percent of nearshore bottom trawl total trip catch and 10 to 72 percent for deep water otter trawls. Although flynets caught a higher proportion of undersized summer flounder (58.1 percent) versus nearshore bottom trawls and deep water trawls (4.5 percent and 8.4 percent, respectively), summer flounder appeared in less than half of the flynet trawls and made up 0.2 to 0.8 percent of the catch between 1985 and 1988.

Amendment 2 also proposed an exemption for 4-seam, pelagic nets with large mesh of at least 32 in. in the wings, 50 feet (40 meshes) of 15 in. in the belly, decreasing in the body relative to the wings and extensions to mesh of 1.5 in. or less in the codend (referred to as “millionaire nets”). The exemption was requested primarily by New Jersey fishermen who stated that almost all summer flounder quickly escaped after entering these nets. This exemption was disapproved in the final rule because the record did not include sufficient information to determine its effect and because the net could be fished on the bottom by towing at a reduced speed, which could lead to increased discard mortality of undersized summer flounder.

Available data provided by the state of North Carolina indicate that the flynet exemption is no longer being utilized today in that area/fishery and discussions with surrounding states indicate that few landings of summer flounder using this gear type occur. However, industry feedback indicates that the flynet exemption has become an important component of specific fisheries throughout the Greater Atlantic Region, although some of the net types being utilized under the flynet exemption do not comply with the specific regulatory definition of a flynet. The term “high rise” net appears to be regional terminology for a flynet. Those nets may not meet the definition specified in regulation for this exemption (particularly regarding the number of seams), but industry feedback indicated that, in their opinion, there was little difference in the fishing characteristics of 2-seam flynets and high-rise nets. The term “flynet” refers mainly to the way in which the net opens at the mouth. Recommendations from industry from the Fall 2023 mesh exemptions review centered primarily on updating the regulatory definition of exempted gear types under the flynet exemption.

3.2 Draft Range of Alternatives for Flynet Exemption

Alternative 2A: Status quo.

Vessels fishing with a two-seam otter trawl flynet are exempt from the summer flounder minimum mesh size requirements. The regulatory definition of a fly net is a two-seam otter trawl with the following configuration:

- The net has large mesh in the wings that measures 8" to 64".
- The first body (belly) section of the net has 35 or more meshes that are at least 8".
- The mesh decreases in size throughout the body of the net to 2 inches (5 cm) or smaller towards the terminus of the net.

Alternative 2B: Modified flynet definition to remove references to two seams and 64" upper bound of mesh in wings.

This alternative would modify the flynet definition to remove 1) the reference to two seams and 2) the reference to the upper range of the mesh size in the wings of 64", as indicated in the highlighted portions of the definition below.

Vessels fishing with ~~an two-seam~~ otter trawl flynet are exempt from the summer flounder minimum mesh size requirements. The regulatory definition of a fly net is ~~an two-seam~~ otter trawl with the following configuration:

- The net has large mesh in the wings that measures 8" ~~to 64"~~ **or greater.**
- The first body (belly) section of the net has 35 or more meshes that are at least 8".
- The mesh decreases in size throughout the body of the net to 2 inches (5 cm) or smaller towards the terminus of the net.

Comments during the previous public input process suggested that the number of seams is not a critical component of the configurations for gears that should be included in this exemption, in terms of the way the net fishes or in terms of catch of summer flounder. These comments asserted that both two and four seam nets can be "high rise" type nets with larger mesh in the wings that prevents catching large amounts of summer flounder. Comments also suggested that some mesh in the wings of these nets is substantially greater than 64", and this "upper limit" in the regulations should be removed.

Alternative 2C: Rewrite definition to apply to flynet and high-rise gear with large mesh in the wings, with specifications informed by additional industry feedback and public comment.

This alternative would modify the flynet definition to describe flynet and high-rise nets with large mesh in the wings, with additional specific configuration details to be informed by industry feedback and public comment. This alternative may be preferable if it is determined that the definition alternative 2B does not adequately describe these net types. Preliminary input from industry and gear experts indicate that some components of the definition of trawl gear types are particularly important to distinguish gear types that are unlikely to target or catch substantial amounts of summer flounder, but additional input is needed to more precisely define these gear types. This revised definition could include listing specific net types, however, certain details on mesh configuration (mesh sizes and number of meshes in specific net locations) will be important to avoid any ambiguity in the definition that would exempt gear types that may catch summer flounder in greater amounts.

3.3 Preliminary Analysis

The sections below summarize preliminary analysis on use patterns and catch for flynet or high-rise type nets, based on observer data. Observer data is the primary source of information to compare use of these net types vs. other trawl net types. Specific gear and net configuration fields are not available from Vessel Trip Reports.

3.3.1 Gear Definitions and Descriptions

Several otter trawl net types used in the Greater Atlantic region may be relevant to an expanded or modified definition of a flynet for the purposes of the flynet exemption. However, defining some of these net types consistently and clearly can be a challenge. Most nets are made with custom specifications, and the exact configuration often varies even among net types that may be called by the same name. Terminology for a given net type can also vary by region and fishery.

During the mesh exemptions review process in the Fall of 2023, a few industry representatives provided input on the types of nets that may be appropriate to consider in an expanded flynet definition (Table 7). In summary, these net types are either two- or four-seam high-rise nets that have large mesh in the wings with mesh sizes that gradually decrease to the codend. The large mesh in the wings allows many flatfish to escape and is not ideal for targeting summer flounder.

Modifications to this list can be made prior to public hearings and final action as needed based on public and Council/Board input. Additional definitions related to gear configuration and net types, including definitions for other trawl types not proposed for potential inclusion in this exemption can be found in **Appendix B**.

Table 8: Possible flynet/high-rise net types recommended for consideration by some fishing industry comments during Fall 2023 mesh exemptions review. Definitions are from the [2021 Observer Operations Manual](#).

Net type	Description
Balloon Trawl	A two-seam trawl with a high mouth, lighter net material, and floats attached to the headrope so the footrope floats just above the bottom.
Eliminator Trawl	Typically a four-seam, three-bridle trawl with large mesh in the forward part of the net. Large meshes in the bottom belly act as a separator device for the escape of non-target groundfish species. Mesh sizes decrease as the net tapers towards the codend.
Flynet	A high profiled trawl with large wing mesh sizes that slowly taper to smaller mesh sizes in the body extension and codend. The headrope is usually slightly larger than the footrope. Uses a large number of floats to keep the net slightly off the bottom. *Regulatory definition for this exemption specifies two seams, but observer data show some reported use of four seam flynets.
Haddock Separator Trawl	A groundfish trawl with two codend extensions arranged one over the other. A codend is attached to the upper extension, and the bottom extension is left open with no codend attached. A horizontal mesh panel separates the upper and lower extensions.
Millionaire Trawl	A four-seam trawl typically used in the squid fishery. Very large openings in the mouth and large mesh in the wings.
Rope Separator Trawl	A four-seam bottom trawl net modified to include both a horizontal separator panel (consisting of parallel lines of fiber rope) and an escape opening in the bottom belly of the net below the separator panel.
Ruhle Trawl	A four-seam groundfish net with large meshes (8-foot meshes) in the wings and bottom belly of the net. The trawl must have kite panels that meet the regulated minimum surface area. ⁷ The Ruhle Trawl is a specific type of Eliminator Trawl.

Note that this suggested list originally included “**pelagic pair trawl**” and “**pelagic single trawl**” net types. It was determined that these net types apply almost exclusively to midwater trawls, which operate fully off the bottom and catch negligible amounts of summer flounder. As such, these net types were removed from this list.

Preliminary conversations with gear experts⁶ suggest that the mesh size in the wings, particularly in the middle part of the trawl behind the sweep, is the most important part to regulate for flatfish to escape. A larger mesh regulation and potentially a maximum number of meshes should be considered here, as allowing for too many large meshes may mean that the mesh will close up while the gear is towed.

⁶ Northeast Trawl Advisory Panel members Pingguo He and Mike Pol, pers. comm., March 2024.

The number of seams on an otter trawl primarily impacts the opening shape of a net. For example, a 4-seam compared to a 2-seam net creates a higher dome-shape opening. This sort of opening is designed primarily for fish that occupy or swim up just above the bottom, and is not ideal for catching flatfish that reside on the bottom. Therefore, the removal of the reference to the number of the seams in the regulatory definition of a flynet appear unlikely to directly impact the proportions of summer flounder targeted, caught, or discarded using this exemption, although it would expand the number of vessels that could theoretically use the exemption. As noted below, additional evaluation of the differences in catch characteristics between 2- and 4-seam nets is planned, but overall these net types do not appear to catch substantial amounts of summer flounder. Nets with more than 4 seams do exist (e.g., 6 seam nets), but are very uncommon for bottom trawls and are designed more for mid-water trawling.

3.3.2 Characterization of Flynet and High-Rise Gear Use

Observer data was used to characterize the use of flynet/high-rise type nets in comparison with other trawl net types. Observers record a “net type” field in addition to a broader gear category field, and also collect other information related to specific configuration of a trawl. Net type in the observer data is recorded based on what is reported to the observer by the captain⁷, and not all captains use the same terminology. In addition, net type information in the observer data is often missing or reported as “unknown.” Therefore, while observer data over a number of years can provide a general sense of the use of different gear types, it should be interpreted with caution, and industry feedback on these analyses will be helpful.

Prevalence vs. Other Trawl Types

The net types associated with potential revisions to the flynet definition (Table 7) were associated with about 13% of all observed bottom trawl hauls from 2014-2022 (regardless of target species; Table 8).

Table 9: Percent of hauls and observed trips by net category for all observed bottom trawl trips, 2014-2022. Includes all observed trawl trips regardless of target species or catch of summer flounder.

Net Category	Percent of Hauls	Observed trips ^a
NOT considered “flynet” or high-rise (e.g., flatfish trawl, groundfish trawl, etc.)	86.9%	8,534
Potential flynet/high-rise nets (e.g., balloon trawl, eliminator trawl, flynet, etc.)	13.1%	1,155

^aThis column indicates that this gear type was used at some point on a trip, not necessarily for every haul. Many vessels use multiple gear types within a single trip.

Target Species

For flynet or high-rise type gears identified for possible inclusion in a revised flynet definition, the top target species according to observer data are listed in Table 9. For all of these gear types combined, the largest proportion of hauls were targeting haddock or longfin squid. A good proportion of hauls also targeted scup, short-fin squid, black sea bass, and groundfish. Summer flounder was identified as the primary target species on about 3.7% of observed flynet/high-rise type gear hauls from 2007-2022.

For all of these species, flynet or high-rise gear types are only a portion of the net types used to target them, ranging from 1-62% of hauls vs. other trawl gear types (Figure 6).

⁷ Observers are also instructed to visually verify trawl gear components and configurations.

For confidentiality reasons, target species cannot be broken down for all individual net types. The FMAT/PDT is working to summarize some information in aggregated form; however, additional time is needed to ensure confidentiality. However, of the different industry recommended flynet/high-rise net types, only balloon trawls and flynets appear to have a meaningful percent of hauls targeting summer flounder, about 6-7% of their total hauls. Other industry recommended flynet/high-rise net types appear to very rarely report targeting summer flounder within a haul.

Table 10: Top target species recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.^a Species shown represent those target species collectively accounting for 90% of observed hauls.

Target Species^b	Percent of observed hauls	Observed trips
Haddock	20.1%	274
Squid, Atl Long-Fin	19.1%	383
Scup	9.9%	392
Squid, Short-Fin	8.7%	176
Sea Bass, Black	8.0%	283
Groundfish, NK	7.2%	114
Croaker, Atlantic	4.2%	122
Flounder, Summer (Fluke)	3.7%	237
Cod, Atlantic	3.1%	112
Flounder, Winter (Blackback)	2.3%	51
Herring, Atlantic	2.2%	89
Pollock	1.5%	59

^a Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

^b Observer records can include up to five target species per haul; for simplicity, only the first target species listed is included in this analysis.

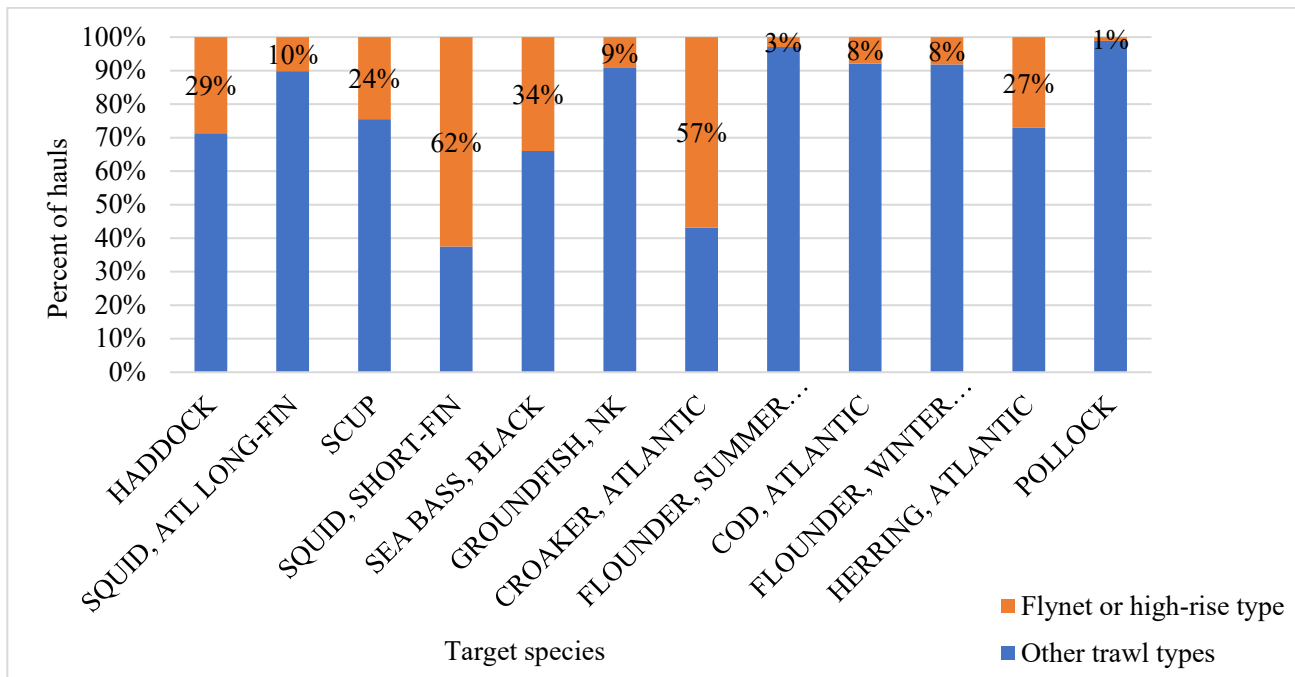


Figure 6: For top target species of flynet and high-rise type gear, percent of total observed trawl hauls represented by flynet-type gear vs. Other trawl types, from 2007-2022 observer data.

Caught Species

According to observer data from 2007-2022, the top species caught and landed with these trawl gear types are short-fin squid and Atlantic herring, followed by longfin squid, haddock, and scup (Table 10). The top discarded species by weight are spiny dogfish and winter skate, followed by unknown fish and little skate (Table 11).

Summer flounder represents 0.7% of the total observed catch by weight in these gear types, including 0.6% of observed landings and 0.9% of observed discards. Average total catch of summer flounder in these gear types is about 455 pounds per trip, with discards averaging about 100 pounds per trip.

Table 11: Top caught and landed species recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.^a Species shown represent those caught species collectively accounting for 90% of observed catch.

Species	Percent of total flynet/high-rise gear catch by weight	Percent of total flynet/high-rise gear landings by weight	Percent of total flynet gear trips with catch
Squid, Short-Fin	35.7%	41.6%	32.3%
Herring, Atlantic	11.0%	13.0%	20.36%
Squid, Atl Long-Fin	8.7%	10.1%	63.07%
Haddock	6.9%	7.7%	26.4%
Scup	5.2%	5.2%	48.6%
Butterfish	4.0%	3.8%	53.3%
Dogfish, Spiny	3.2%	0.1%	64.8%

Croaker, Atlantic	2.8%	3.2%	7.85%
Mackerel, Atlantic	2.4%	2.8%	26.09%
Skate, Winter (Big)	2.3%	0.6%	47.5%
Fish, Nk	1.6%	0.4%	19.4%
Sea Bass, Black	1.6%	1.5%	48.94%

^a Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, pelagic pair trawls, pelagic single trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

Table 12: Top *discarded species* recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.^a Species shown represent the top 10 discarded species, collectively totaling 69% of observed discarded weight in these gear types.

Species	Percent of total flynet/high-rise gear discards by weight	Observed trips
Dogfish, Spiny	20.0%	1,242
Skate, Winter (Big)	11.3%	790
Fish, Nk	7.7%	364
Skate, Little	7.2%	1,014
Butterfish	5.0%	867
Scup	4.9%	866
Squid, Short-Fin	4.3%	503
Haddock	3.1%	400
Skate, Nk	2.6%	197
Sea Robin, Northern	2.5%	806

^a Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, pelagic pair trawls, pelagic single trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

3.4 Additional Planned Analysis

Additional analysis planned but not yet available for this document includes:

- Further clarify and define which net types might be included under each alternative, including consulting further with gear experts to determine the critical elements of definition for this exemption.
- Spatial and temporal exploration of flynet/high-rise gear use using observer data, including overlap with the SMEP area and timing.
- Additional exploration of target species and catch by net type (inclusion in public documents to be limited by confidentiality constraints).
- Exploration of observer data for other net configuration fields that may provide information about how to define these gear types more clearly.
- Additional characterization of the use of 2 seam vs. 4 seam nets.
- Economic analysis of potential changes.

3.5 Other Issues to be Addressed

Similar to the SMEP evaluation methodology, there is differing language in the regulations⁸ vs. in Amendment 2 for evaluation of the flynet exemption. Specifically, there is differing language for

⁸ [https://www.ecfr.gov/current/title-50/part-648#p-648.108\(b\)\(2\)\(iv\)](https://www.ecfr.gov/current/title-50/part-648#p-648.108(b)(2)(iv)).

determining when this exemption should be rescinded based on the level of discards of summer flounder by vessels fishing under this exemption.

- **Amendment 2:** the NMFS Regional Administrator may withdraw the exemption if the “summer flounder catch in the flynet fishery exceeds 1% *of the total catch in the flynet fishery.*”
- **Regulations:** whether “vessels fishing under the exemption, on average, are discarding more than 1 percent *of their entire catch of summer flounder per trip.*”

The FMAT/PDT will continue to work with GARFO to identify ways to reconcile these differences for the Council and Board’s consideration at a future meeting.

Appendix A: Analysis of Juvenile and Undersized Summer Flounder in SMEP Area Using Fishery Independent Survey Data

The availability of juvenile and undersized summer flounder in the SMEP area (current and potential proposed) was investigated using fishery independent trawl survey data. The Northeast Regional Habitat Assessment Data Explorer⁹ includes mapped length data for state and federal trawl surveys. While the spatial and temporal overlap between the surveys and the SMEP area/timing are limited, some information is available to assess the abundance of juvenile (<30 cm or 11.8 inches) and undersized (<35.6 cm or 14 inches) summer flounder in the SMEP area during November 1-April 30, and how abundance varies for the proposed expanded area.

Data was first filtered to include records from 1990 to the most recent year of trawl survey data availability within NRHA, 2019. Subsequent exploration focused on spatial coverage and temporal alignment. The NMFS bottom trawl survey is the only survey that spans both the current and proposed areas within the November-April exemption timeframe. The NEAMAP, Massachusetts Bottom Trawl, Rhode Island Narragansett Bay Trawl and Long Island Sound Bottom Trawl surveys were all considered for inclusion in these analyses as they do intersect with the current SMEP area. However, these surveys occur well inshore and are unlikely to provide informative data on summer flounder relative to this exemption program. In addition, the NEAMAP and Massachusetts Bottom Trawl survey do not occur within the November-April time frame, and the Long Island Sound Bottom Trawl and Rhode Island Narragansett Bay Trawl do not occur within the proposed expanded SMEP area (Table 12, Figure 7, Table 13).

Table 13: Survey and timing available to potentially evaluate summer flounder within SMEP area (current and proposed).

Survey	Months Surveyed
Connecticut Long Island Sound Trawl	4, 5, 6, 8, 9, 10, 11
Massachusetts Bottom Trawl	5, 9, 10
NEAMAP Bottom Trawl	5, 6, 9, 10
NMFS Bottom Trawl	1, 2, 3, 4, 5, 6, 9, 10, 11
Rhode Island Narragansett Bay Trawl	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

⁹ <https://nrha.shinyapps.io/dataexplorer/#/>

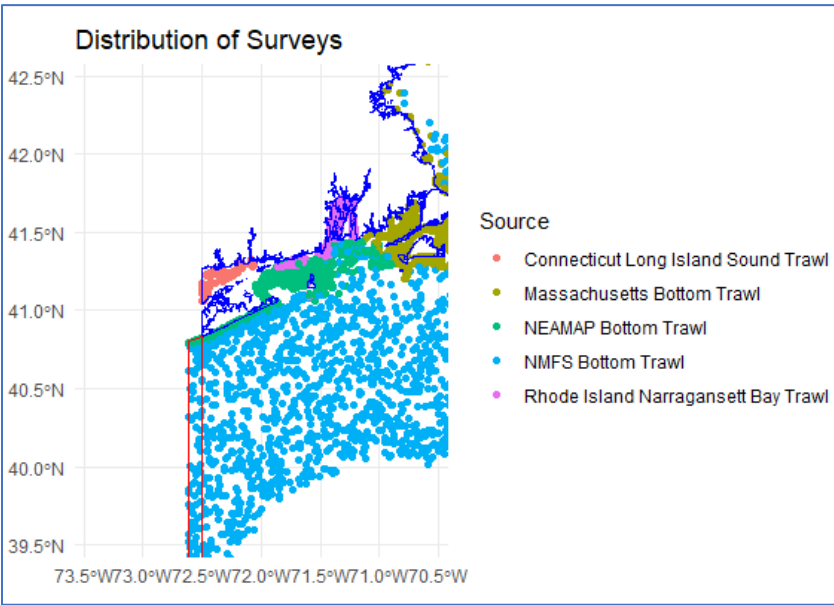


Figure 7: Distribution of surveys available to potentially evaluate summer flounder within SMEP area (current and proposed).

Table 14: Summary of the number of records from each survey in the current Small Mesh Exemption Area and the Proposed Exemption Area by date and life stage, 1990-2019. Only NMFS covers both proposed and current areas for the Nov 1-April 30th SMEP timing.

Survey	Season	Stage 30cm	Legal size 35.6cm	Small Mesh Exemption Area	Number of Records
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Adult	legal sized	current	25
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Adult	undersized	current	12
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Juv	undersized	current	16
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	411
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	235
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	161
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	2602
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	1051
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	495
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	668
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	proposed	16
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	404
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	proposed	17
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	248
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	proposed	26
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	legal sized	current	1543
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	legal sized	proposed	403
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	undersized	current	561
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	undersized	proposed	125
NMFS Bottom Trawl	Nov 1 - Apr 30	Juv	undersized	current	345
NMFS Bottom Trawl	Nov 1 - Apr 30	Juv	undersized	proposed	59
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	1319
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	proposed	38
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	251
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	proposed	16
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	94
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	proposed	19
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Adult	legal sized	current	129
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Adult	undersized	current	54
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Juv	undersized	current	87
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	2007
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	788
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	450

Figure 8 shows the spatial distribution of legal sized vs. undersized summer flounder from the NMFS bottom trawl survey length data, while Figure 9 shows juvenile vs. adult summer flounder.

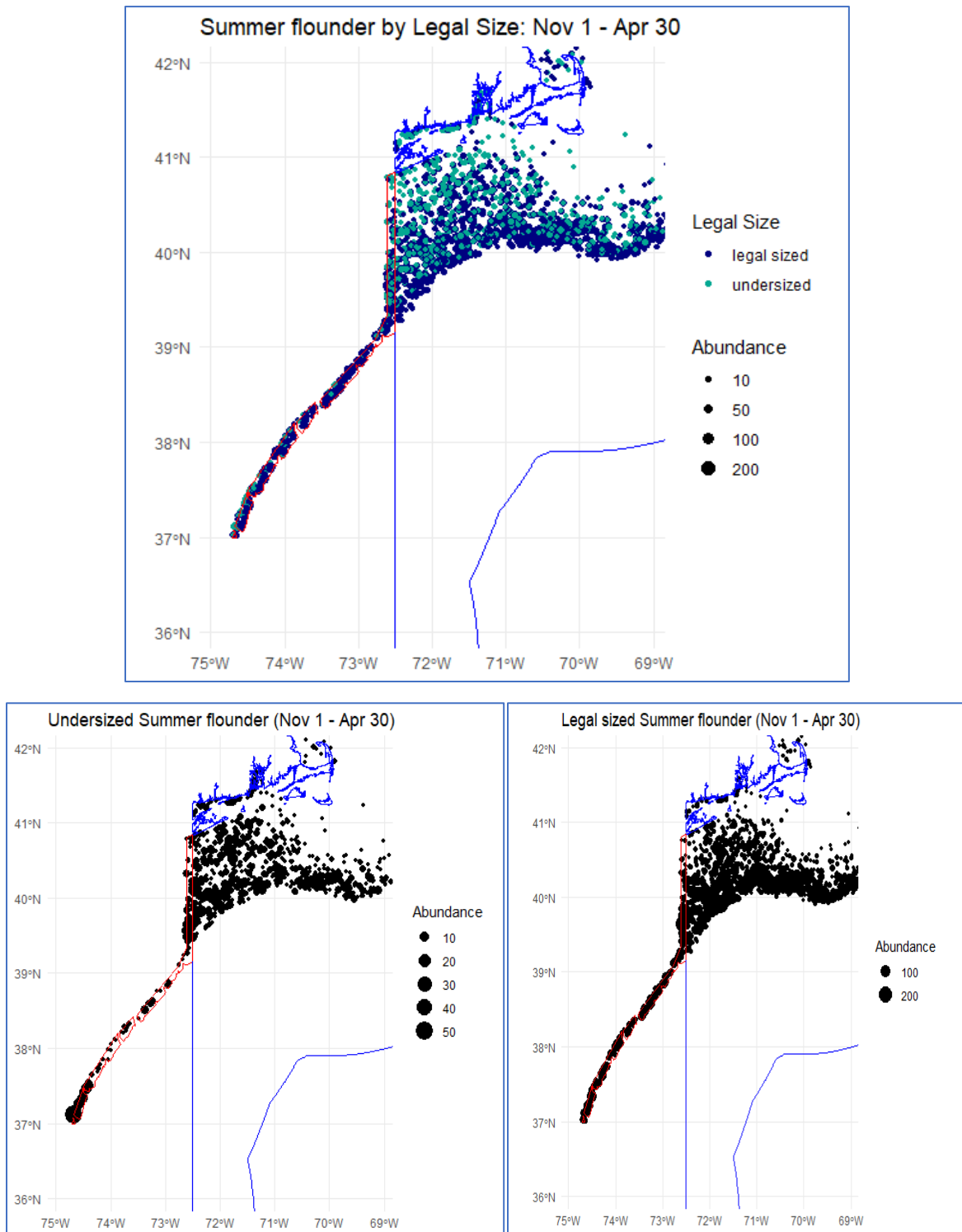


Figure 8: Spatial extent of observations of undersized vs. legal sized (above and below 14-inch commercial minimum size) for NMFS bottom trawl survey data, 1990-2019. The current SMEP area is represented by the blue line, with potential additional area (excluding deep sea coral zones, see draft alternatives 1B and 1C) outlined in red.

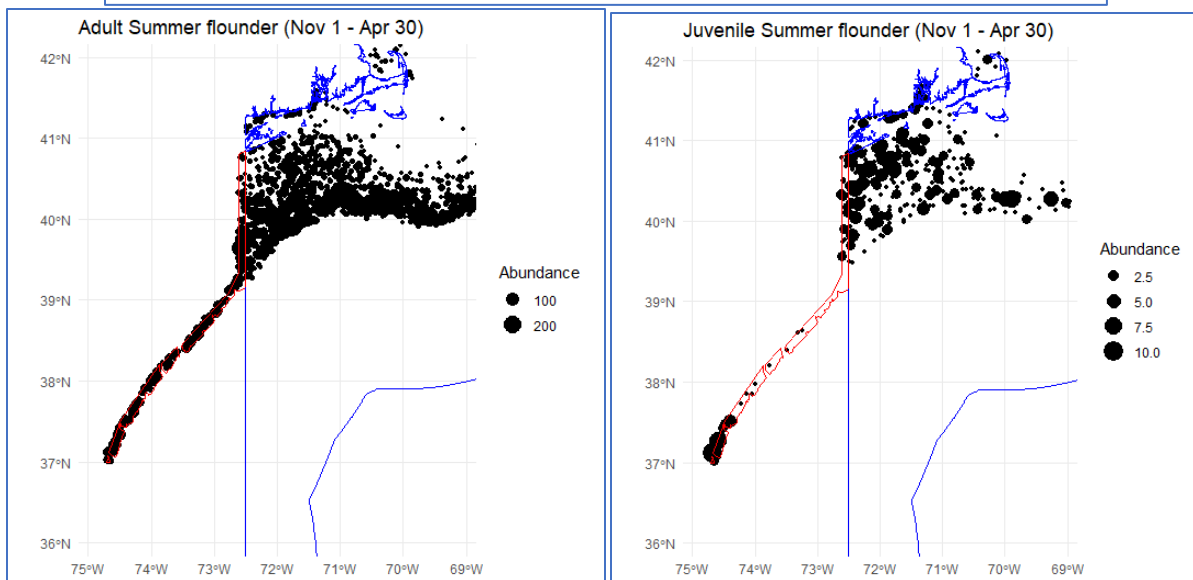
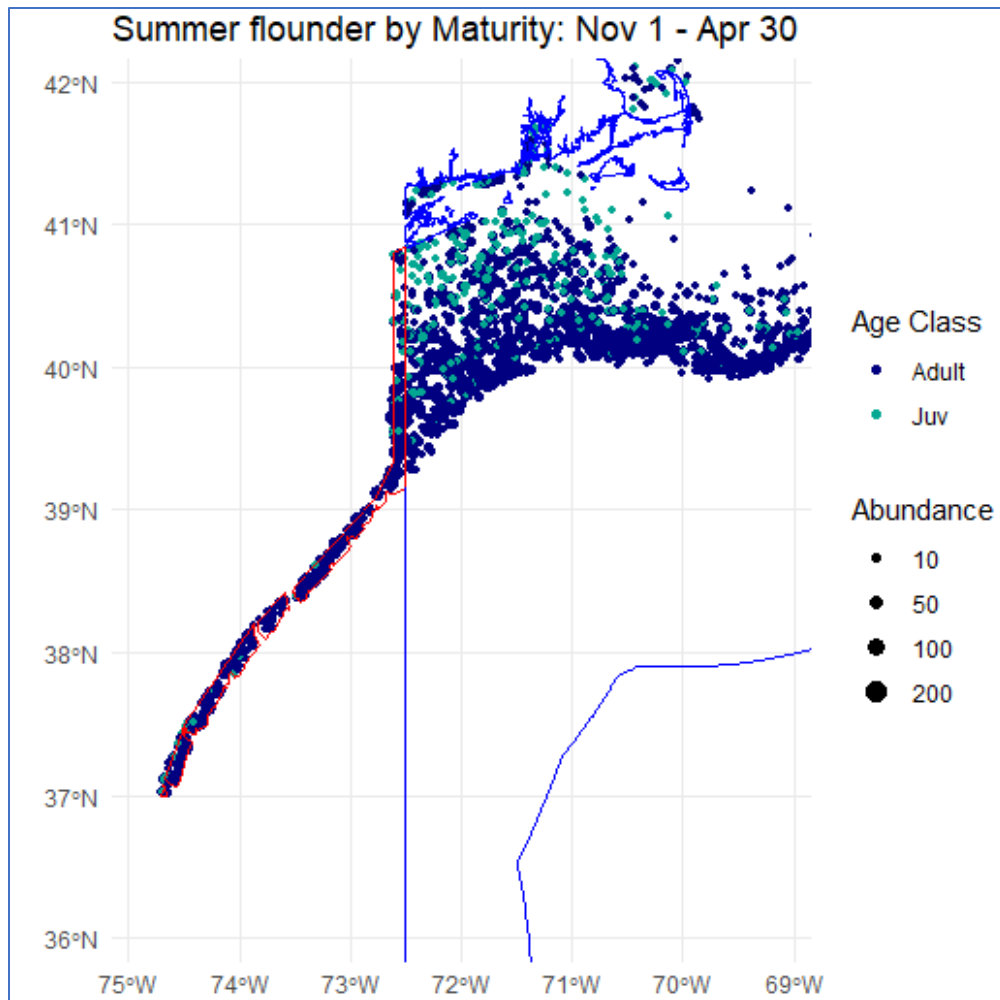


Figure 9: Spatial extent of observations of juvenile vs. mature summer flounder (above and below 30 cm) for NMFS bottom trawl survey data, 1990-2019. The current SMEP area is represented by the blue line, with potential additional area (excluding deep sea coral zones, see draft alternatives 1B and 1C) outlined in red.

Figure 10 shows the summer flounder distribution by length category for all NRHA surveys with summer flounder data (NMFS Bottom Trawl, Connecticut Long Island Sound Trawl, New Jersey Ocean Stock Assessment, Rhode Island Narragansett Bay Trawl, Massachusetts Bottom Trawl, NEAMAP Bottom Trawl), within and outside the current SMEP and proposed expanded area. This preliminary work used an aggregated data set beginning in 1990; future work will identify whether more recent data sets suggest alternative patterns that could impact the interpretation of the data.

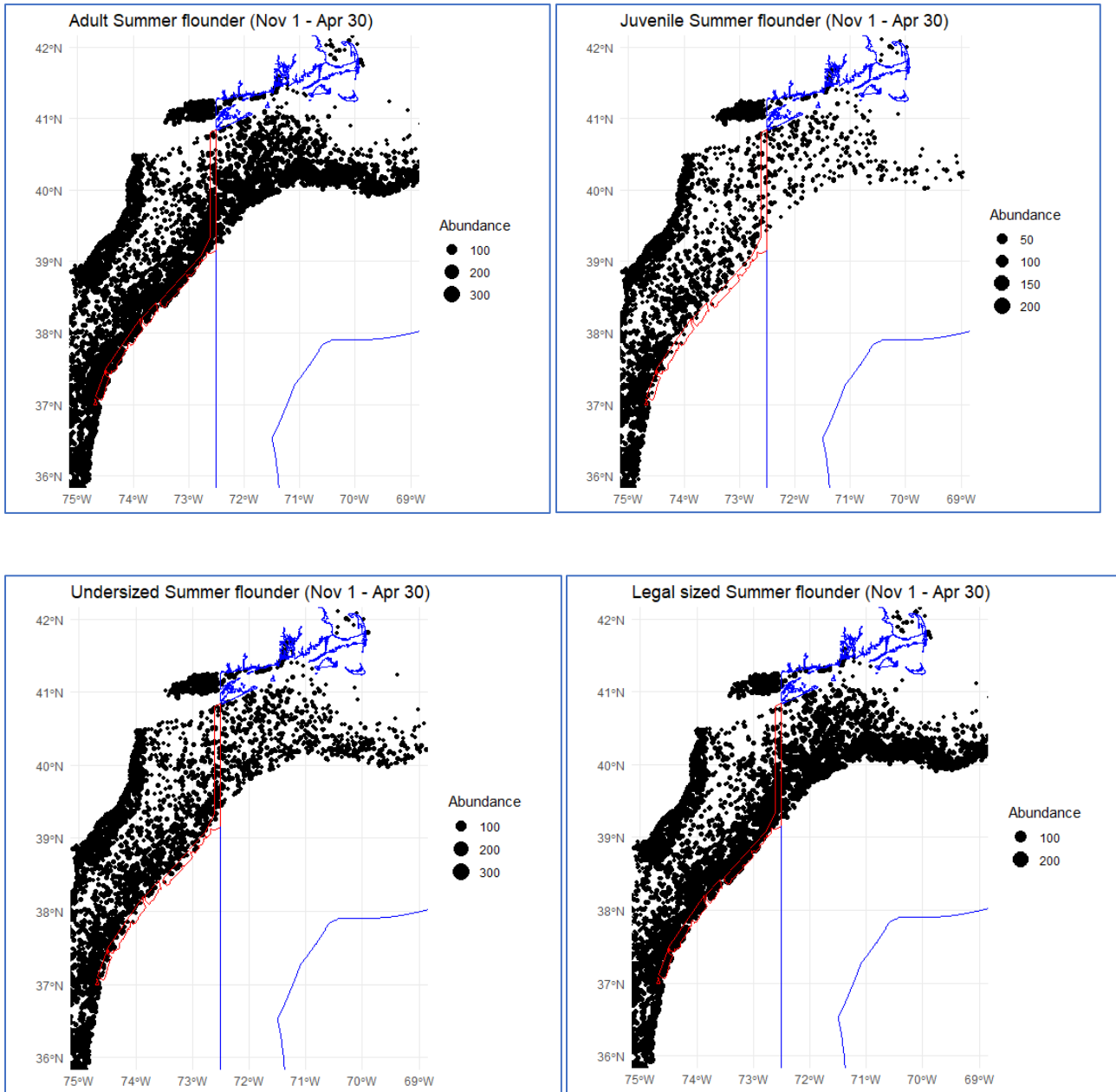


Figure 10: Summer flounder trawl survey distribution within and outside the SMEP area from November-April, 1990-2019, for all trawl surveys in NRHA with summer flounder data for this time period.

As indicated in Table 14, most summer flounder captured by the survey during this time period are legal sized adult fish. The proportions of summer flounder under the commercial minimum size (under 14 inches, including both mature and immature fish) appear to be similar between the current SMEP area (11% of summer flounder survey catch in this area) and the proposed expanded SMEP area (12% of summer flounder survey catch in this area).

Table 15: Percentage of total summer flounder in the NMFS bottom trawl (November 1-April 30, 1990-2019) in each category outside the SMEP, within the current SMEP, and within the proposed expanded area.

Location	Legal Size	Maturity	Total Abundance	Percent of total	Percent within evaluated area
current	legal sized	Adult	13525	28.9	89%
current	undersized	Adult	1216	2.6	8%
current	undersized	Juv	448	1.0	3%
outside	legal sized	Adult	13191	28.2	47%
outside	undersized	Adult	6702	14.3	24%
outside	undersized	Juv	8403	18.0	30%
proposed	legal sized	Adult	2913	6.2	88%
proposed	undersized	Adult	310	0.7	9%
proposed	undersized	Juv	90	0.2	3%

Appendix B: Additional Trawl Net Definitions and Descriptions

Figure 11 provides a generalized schematic of a bottom trawl for reference. Definitions of various trawl gear components and other possibly useful definitions are provided in Table 15.

Additional specialized trawl types that were NOT suggested as potentially meeting a revised flynet/high-rise definition are listed in Table 16, although some of these gear types may be appropriate to further investigate for potential inclusion.

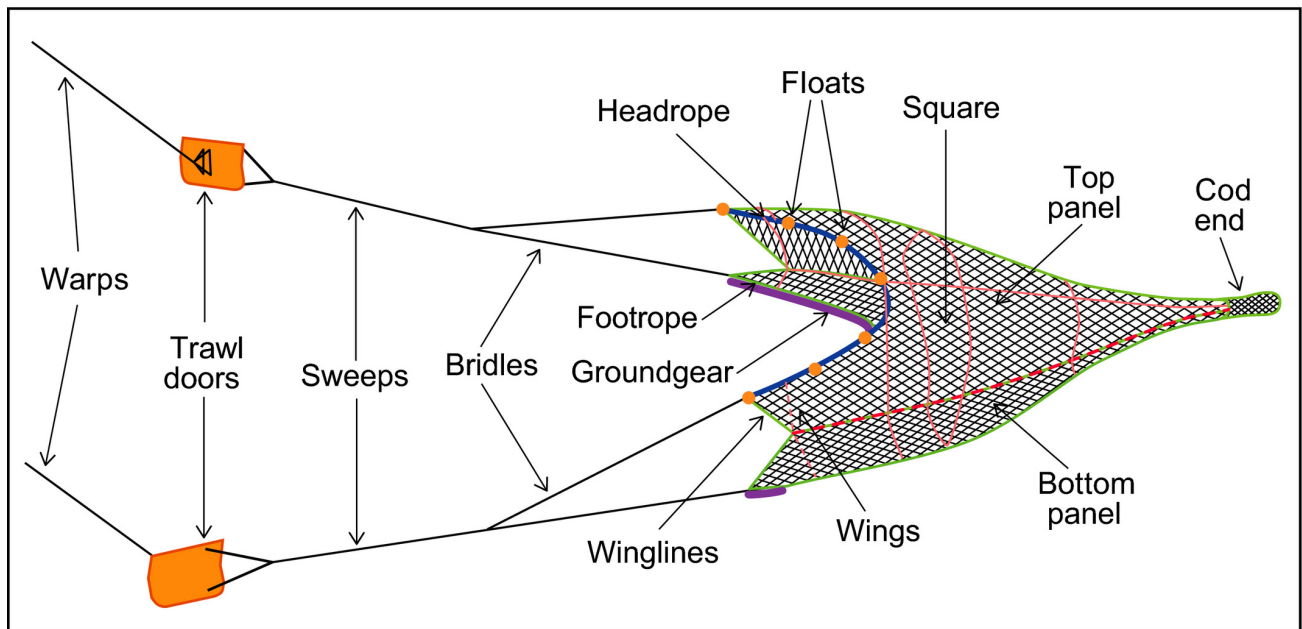


Figure 11: Schematic of a typical bottom trawl. Source: McConnaughey RA, Hiddink JG, Jennings S, et al. *Choosing best practices for managing impacts of trawl fishing on seabed habitats and biota. Fish Fish.* 2020; 21: 319–337. <https://doi.org/10.1111/faf.12431>.

Table 16: General definitions of trawl gear components or gear categories. Definitions are from the [2021 Observer Operations Manual](#) unless otherwise noted.

Term	Definition
Top wings	Two sections of netting, usually shaped diagonally opposite one another, that form the upper mouth of the trawl. The headrope is attached from one top wing end to the other, along the diagonal flymesh edges and across the bosom, or center part, of the square.
Lower wings	Two narrow sections of netting fitted between the lower belly and the top wings to form the lower lip of the trawl net (see FIGURE 15). The footrope is attached from one wing end to the other, along the flymesh edges and across the lower belly bosom meshes. The lower wings are subject to the most abrasion, and consequently they are the sections which have to be continually repaired or replaced when working rough bottom substrate.
Headrope	Distance from the upper bridle on one side of the net to the upper bridle on the other side of the net.
Footrope/sweep	Distance from the lower bridle on one side of the net to the lower bridle on the other side of the net.
Bridle	Connects the wings of the net to the ground cable, which eventually leads to the doors. In the pair trawl fishery, the bridle is a line coming directly off a net wing, connecting to a warp.
Square	The section of netting fitted between the top body and the two top wings, so that it partially overhangs the footrope.
Codend	Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together, and a codline or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held, until released onboard the vessel. The codend is the section of the trawl net most often affected by mesh size regulations. The size of the codend depends on the species being targeted and regulations.
Codend Liner	A section of small mesh net sewn into the inside of the codend bag, the purpose of which is to restrict the escapement of smaller species, e.g., squid. On midwater trawls, the liner is referred to as a brailer, and may extend halfway up the belly of the net.
Fishing circle	The section of the net located behind the wings and before the belly. It is the row of mesh which creates the largest complete circle in the net.
Excluder/Separator or Device	A modification to a common bottom trawl that helps prevent the capture of non-target species. It can redirect or allow those species to naturally swim toward an escape outlet once inside trawl. Alternatively, it can inhibit some species from entering the trawl. An excluder/separator device may be present without an escape outlet.
Kites	Canvas panels attached to the headrope to keep the mouth open.
Otter trawl	The otter trawl is an active fishing gear that is towed through the water column, targeting benthic and pelagic species. It is constructed of twine webbing, so that when fully assembled and rigged, it will take the shape of a funnel while being towed along the bottom of the ocean (bottom otter trawl), or in the water column (midwater otter trawl). Floats on the headrope and a weighted footrope are used to keep the mouth of the net opened vertically. For nets being towed by a single vessel, the mouth of the net is held open horizontally by attaching each wing to an otter board or trawl door. Each door is fitted with chains that attach to the ground cables, which lead to the net. The doors are also attached to the towing vessel via steel cables, referred to as wires or warps. The resistance created by the forward motion of the doors in the water forces them to pull apart, opening in opposite directions, thus keeping the mouth of the net open.

Bottom-tending mobile gear (Regulations)	<i>Bottom-tending mobile gear</i> means gear in contact with the ocean bottom, and towed from a vessel, which is moved through the water during fishing in order to capture fish, and includes otter trawls, beam trawls, hydraulic dredges, non-hydraulic dredges, and seines (with the exception of a purse seine).
Midwater Trawls (Regulations)	Trawl gear that is designed to fish for, is capable of fishing for, or is being used to fish for pelagic species, no portion of which is designed to be or is operated in contact with the bottom at any time. The gear may not include discs, bobbins, or rollers on its footrope, or chafing gear as part of the net.

Table 17: Specialized net type definitions for nets that are *NOT* likely to fall under a revised flynet/high-rise net definition. Note that the 2021 Observer Operations Manual states that it lists specialized net types that may be observed in the bottom trawl fishery; however, other specialized net types may exist that are not included on this list. Observers are instructed to never assume net types or any other gear configurations and to always confirm with the captain when collecting observer data.

Gear	Definition Source	Definition	Notes
Pelagic net	2021 Observer Operations Manual	Mid-Water or Pelagic Trawls are similar to otter trawls but are used to target species that run in schools near the surface of the water, such as mackerel or herring. A single midwater trawl gear is pulled by one boat and uses different trawl doors, designed to hold the mouth of the net open higher in the water column, as opposed to sliding across the seafloor.	Suggested for inclusion by at least one industry rep. when reviewing list of net types, but appears relevant only to midwater trawls. Available data suggests negligible catch of summer flounder. Removed from lists of flynet/high-rise gear above.
	Am2 Proposed Rule (1993)	Owners or operators of vessels fishing with a four-seam otter trawl pelagic net with the following configuration, provided that no other nets or netting with mesh smaller than 5 ½ inches (14.0 cm) are on board: (i) The wings of the net have mesh that measures 32 inches (81.3 cm) or greater; (ii) The first body section (belly) of the net consists of 40 meshes of 15 inches (38.1 cm) or greater; and (iii) The mesh in the remaining portion of the net decreases in size to a mesh size as small as 1 ½ inches (3.81 cm) or smaller in the terminal portion of the net.	
Box trawl	2021 Observer Operations Manual	A four-seam, high-rise trawl.	Not suggested by previous comments, but based on description, may warrant further investigation
Shuman trawl	2021 Observer Operations Manual	Contains very large meshes in the mouth and has a very high-opening net that may have canvas kites on the headrope to keep the mouth open. Typically fished just off the bottom.	Not suggested by previous comments, but based on description, may warrant further investigation
Sweepless trawl	2021 Observer Operations Manual	A Raised Footrope Trawl in which there is no chain sweep and the drop chains are heavier.	

Gear	Definition Source	Definition	Notes
Flounder trawl	<i>2021 Observer Operations Manual</i>	May be either (1) A two-seam, low-rise net, where the headrope is at least 30 percent longer than the footrope or (2) a two-seam, low-rise net, where the top panel of the net contains a section of large meshes (at least 12-inch mesh) behind the headrope.	
Flatfish trawl	<i>2021 Observer Operations Manual</i>	Any net used to target flatfish that does not meet the specific definition of a flounder trawl.	
Shrimp trawl	<i>2021 Observer Operations Manual</i>	A very small mesh trawl used to target shrimp. Must have a grate consisting of parallel bars that excludes non-target species.	
Scallop trawl	<i>2021 Observer Operations Manual</i>	A trawl, or pair of trawls, used to target sea scallops.	
Large mesh belly panel trawl	<i>2021 Observer Operations Manual</i>	A trawl with a large mesh (30-32") installed in the first belly for a total of about 8 feet of large mesh, attached 5 meshes behind the footrope and stretching from gore to gore.	
Raised footrope trawl	<i>2021 Observer Operations Manual</i>	Trawl gear configured in such a way that, when towed, the gear is not in contact with the ocean bottom. Floats attached to the headrope provide lift. No ground gear is used (bare wire or chain sweep) and drop chains (12-inch or 42-inch) may be attached.	

Regulatory Definitions

Some net types potentially falling under a revised flynet/high-rise net definition have specific definitions in the federal regulatory text, including fly nets, haddock separator trawls, Ruhle trawls, and rope separator trawls. Many of these are associated with specific measures under the Northeast Multispecies FMP.

*Flynet*¹⁰

Vessels fishing with a two-seam otter trawl fly net with the following configuration, provided that no other nets or netting with mesh smaller than 5.5 inches (14.0 cm) are on board:

- (i) The net has large mesh in the wings that measures 8 inches (20.3 cm) to 64 inches (162.6 cm).
- (ii) The first body section (belly) of the net has 35 or more meshes that are at least 8 inches (20.3 cm).
- (iii) The mesh decreases in size throughout the body of the net to 2 inches (5 cm) or smaller towards the terminus of the net.

*Haddock separator trawl*¹¹

A groundfish trawl modified to a vertically-oriented trouser trawl configuration, with two extensions arranged one over the other, where a codend shall be attached only to the upper extension, and the bottom extension shall be left open and have no codend attached. A horizontal large-mesh separating panel constructed with a minimum of 6.0-inch (15.2-cm) diamond mesh must be installed between the selvages joining the upper and lower panels, as described in [paragraphs \(a\)\(3\)\(iii\)\(A\) and \(B\)](#) of this section, extending forward from the front of the trouser junction to the aft edge of the first belly behind the fishing circle. The horizontal large-mesh separating panel must be constructed with mesh of a contrasting color to the upper and bottom extensions of the net that it separates.

- **Two-seam bottom trawl nets.** For two seam nets, the separator panel will be constructed such that the width of the forward edge of the panel is 80–85 percent of the width of the after edge of the first belly of the net where the panel is attached. For example, if the belly is 200 meshes wide (from selvedge to selvedge), the separator panel must be no wider than 160–170 meshes wide.
- **Four-seam bottom trawl nets.** For four seam nets, the separator panel will be constructed such that the width of the forward edge of the panel is 90–95 percent of the width of the after edge of the first belly of the net where the panel is attached. For example, if the belly is 200 meshes wide (from selvedge to selvedge), the separator panel must be no wider than 180–190 meshes wide. The separator panel will be attached to both of the side panels of the net along the midpoint of the side panels. For example, if the side panel is 100 meshes tall, the separator panel must be attached at the 50th mesh.

*Ruhle trawl*¹²

Four-seam bottom groundfish trawl designed to reduce the bycatch of cod while retaining or increasing the catch of haddock, when compared to traditional groundfish trawls. A Ruhle Trawl must be constructed in accordance with the standards described and referenced in this paragraph [§ 648.85\(b\)\(6\)\(iv\)\(J\)\(3\)](#). The mesh size of a particular section of the Ruhle Trawl is measured in accordance with [§ 648.80\(f\)\(2\)](#), unless insufficient numbers of mesh exist, in which case the maximum total number of meshes in the section will be measured (between 2 and 20 meshes).

- (i) The net must be constructed with four seams (i.e., a net with a top and bottom panel and two side panels), and include at least the following net sections as depicted in Figure 1 of this part (this figure is also available from the Administrator, Northeast Region): Top jib, bottom jib, jib side panels (× 2), top wing, bottom wing, wing side panels (× 2), bunt, square, square side panels (× 2), first top belly, first bottom belly, first belly side panels (× 2), and second bottom belly.

¹⁰ [https://www.ecfr.gov/current/title-50/part-648#p-648.108\(b\)\(2\)](https://www.ecfr.gov/current/title-50/part-648#p-648.108(b)(2))

¹¹ [https://www.ecfr.gov/current/title-50/part-648#p-648.85\(a\)\(3\)\(iii\)\(A\)](https://www.ecfr.gov/current/title-50/part-648#p-648.85(a)(3)(iii)(A))

¹² [https://www.ecfr.gov/current/title-50/part-648#p-648.85\(b\)\(6\)\(iv\)\(J\)\(3\)](https://www.ecfr.gov/current/title-50/part-648#p-648.85(b)(6)(iv)(J)(3))

(ii) The top and bottom jibs, jib side panels, top and bottom wings, and wing side panels, bunt, and first bottom belly (the first bottom belly and all portions of the net in front of the first bottom belly, with the exception of the square and the square side panels) must be at least two meshes long in the fore and aft direction. For these net sections, the stretched length of any single mesh must be at least 7.9 ft (240 cm), measured in a straight line from knot to knot.

(iii) Mesh size in all other sections must be consistent with mesh size requirements specified under [§ 648.80](#) and meet the following minimum specifications: Each mesh in the square, square side panels, and second bottom belly must be 31.5 inches (80 cm); each mesh in the first top belly, and first belly side panels must be at least 7.9 inches (20 cm); and 6 inches (15.24 cm) or larger in sections following the first top belly and second bottom belly sections, all the way to the codend. The mesh size requirements of the top sections apply to the side panel sections.

(iv) The trawl must have at least 15 meshes (240 cm each) at the wide end of the first bottom belly, excluding the gore.

(v) The trawl must have a single or multiple kite panels with a total surface area of at least 19.3 sq. ft. (1.8 sq. m) on the forward end of the square to help maximize headrope height, for the purpose of capturing rising fish. A kite panel is a flat structure, usually semi-flexible, used to modify the shape of trawl and mesh openings by providing lift when a trawl is moving through the water.

Rope separator trawl¹³

A rope separator trawl is defined as a four-seam bottom trawl net (i.e., a net with a top and bottom panel and two side panels) modified to include both a horizontal separator panel and an escape opening in the bottom belly of the net below the separator panel, as further specified in [paragraphs \(e\)\(1\)](#) through [\(3\)](#) of this section.

(1) **Mesh size.** The minimum mesh size applied throughout the body and extension of a rope separator trawl must be 6-inch (15.2-cm) diamond mesh or 6.5-inch (16.5-cm) square mesh, or any combination thereof. Mesh in the bottom belly of the net must be 13-inch (33-cm) diamond mesh. Unless otherwise specified in this part, the codend mesh size must be consistent with mesh size requirements specified in [§ 648.80](#). The mesh size of a particular section of the rope separator trawl is measured in accordance with [§ 648.80\(f\)\(2\)](#), unless insufficient numbers of mesh exist, in which case the maximum total number of meshes in the section will be measured (between 2 and 20 meshes).

(2) **Separator panel.** The separator panel must consist of parallel lines made of fiber rope, the ends of which are attached to each side of the net starting at the forward edge of the square of the net and running aft toward the extension of the net. The leading rope must be attached to the side panel at a point at least 1/3 of the number of meshes of the side panel above the lower gore, and the panel of ropes shall slope downward toward the extension of the net. For example, if the side panel of the net is 42 meshes tall, the leading rope must be attached at least 14 meshes above the lower gore. The forward 2/3 of the separator ropes that comprise the separator panel must be no farther than 26 inches (66 cm) apart, with the after 1/3 of the separator ropes that comprise the separator panel being no farther than 13 inches (33 cm) apart. The ends of the aftermost rope shall be attached to the bottom belly at a point 1/6 of the number of meshes of the after end of the bottom belly below the lower gore. The separator ropes should be of sufficient length not to impinge upon the overall shape of the net without being too long to compromise the selectivity of the net. The separator ropes may not be manipulated in any way that would inhibit the selectivity of the net by causing the separator ropes to dip toward the bottom belly of the net and obscure the escape opening, as defined in [paragraph \(e\)\(3\)](#) of this section.

(3) **Escape opening.** The escape opening must be positioned in the bottom belly of the net behind the sweep and terminate under the separator panel, as described in [paragraph \(e\)\(2\)](#) of this section. Longitudinal lines may be used to maintain the shape of the escape opening, as necessary. The escape opening shall be at least 18 meshes in both length and width.

¹³ [https://www.ecfr.gov/current/title-50/part-648#p-648.84\(e\)](https://www.ecfr.gov/current/title-50/part-648#p-648.84(e))

Appendix C: Preliminary Analysis of Intersection Between the Exemptions

As noted above in Section 1.2, consideration should be given to how revisions to the flynet exemption may impact the use of and need for the small mesh exemption program. Additional evaluation is needed on the intersection between these exemptions, but preliminary information is provided below. Table 17 indicates that about 8% of the hauls for observed trips with an active SMEP LOA were using gear that may be considered “flynet” or “high-rise” gear, while 92% were using other or unknown gear types. There are some differences in top target species (Table 18) and top caught species (Table 19) between the two net type categories for vessels using the SMEP LOA, in particular with non-flynet type nets targeting summer flounder more than any other species and catching more benthic species like skate and flounder. Figure 12 indicates that most trips with flynet or high-rise type gear are occurring in statistical areas either completely or partially within the SMEP exempted area, although the timing of the trips has not yet been investigated relative to SMEP timing.

Table 18: Percent of hauls and number of trips by net category for observed trawl trips with an active SMEP LOA (November-April, 2013-2022). Includes all observed trawl trips on vessels with a SMEP LOA regardless of target species or catch of summer flounder. Cannot display data for individual net types for confidentiality reasons.

Net Type	Percent of Hauls	Observed trips*
NOT considered “flynet” or high-rise, or unknown net type	92.1%	1,326
Potential flynet/high-rise nets	7.9%	117

*This column indicates that this gear type was used at some point on a trip, not necessarily for every haul. Because many vessels use multiple gear types within a single trip, any percentages calculated from the observed trips column will not add to 100%.

Table 19: Top species targeted using non-flynet/high-rise nets compared to industry recommended flynet/high-rise nets, based on primary target species by haul recorded in observed trawl trips on vessels with a SMEP LOA (2013-2023). The top species (>3% of observed hauls) for each net category are listed for the combined net category. Percent of hauls is the percent of total hauls within each net category.

Net Category	Percent of hauls	Observed trips ^a
NOT considered “flynet” or high-rise		
Flounder, Summer (Fluke)	33.1%	499
Squid, Atl Long-Fin	23.0%	255
Scup	8.8%	171
Skate, Nk	5.5%	103
Flounder, Yellowtail	4.8%	93
Groundfish, Nk	4.7%	88
Hake, Silver (Whiting)	4.7%	87
Potential Flynet/High-Rise Nets		
Scup	25.8%	30
Squid, Atl Long-Fin	25.5%	22
Herring, Atlantic	19.4%	37
Flounder, Summer (Fluke)	6.7%	12
Skate, Nk	5.7%	8
Hake, Silver (Whiting)	4.9%	10
Butterfish	3.1%	6

^a This column indicates that this species was targeted at some point on a trip, not necessarily for every haul. Many vessels use multiple gear types within a single trip.

Table 20: Top species caught in non-flynet/high-rise nets compared to industry recommended flynet/high-rise nets by haul recorded in observed trawl trips on vessels with a SMEP LOA (2013-2023). The top species for each net category are listed for the combined net types as a percentage of total catch. Percent of hauls is the percent of total hauls within each net category catching a given species.

Net Category	Proportion of total catch	Percent of hauls
NOT considered “flynet” or high-rise		
Skate, Nk	12.2%	15.0%
Scup	8.8%	42.4%
Skate, Winter (Big)	8.7%	54.1%
Skate, Little	8.1%	39.9%
Squid, Atl Long-Fin	7.3%	60.2%
Flounder, Summer (Fluke)	6.9%	75.9%
Fish, Nk	6.1%	6.8%
Hake, Silver (Whiting)	5.9%	57.1%
Herring, Atlantic	5.8%	6.3%
Dogfish, Spiny	5.8%	48.9%
Potential Flynet/High-Rise Nets		
Herring, Atlantic	45.4%	23.7%
Scup	14.6%	36.0%
Squid, Atl Long-Fin	7.7%	55.1%
Hake, Silver (Whiting)	5.2%	59.6%
Butterfish	4.7%	48.0%
Fish, Nk	4.0%	6.9%
Dogfish, Spiny	3.5%	41.0%

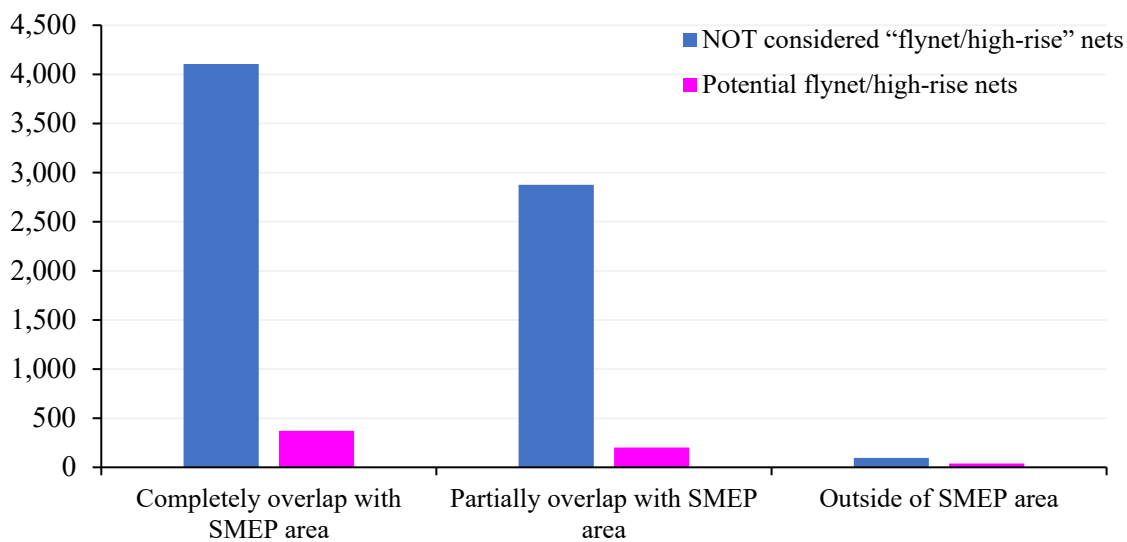


Figure 12: Number of hauls for observed trawl trips with an LOA (2013-2023) in statistical areas that completely overlap with, partially overlap with, or are completely outside of the SMEP area. Includes all observed trawl trips on vessels with a SMEP LOA regardless of target species or catch of summer flounder.