#4b

## Joint Monkfish/ Skate Plan Development Team Completed tasking from the March 19, 2025, Joint Committee meeting September 9, 2025

# TASKING #1:

Monkfish DAS use relative to DAS allocated for permits A, B, C, D by management area; identify number of unique permits that are in confirmation of permit history (CPH); include unique number of vessels. FY 2018, 2019, 2021-2024. These are vessels using only a Monkfish DAS, not vessels using a combination of Monkfish and Northeast Multispecies DAS on a given trip and are not specifically filtered for vessels with both monkfish and skate permits.

Purpose: Understand DAS use for directed fishery; would help show change in size of fleet over time.

#### Notes about the data:

- These data only include Monkfish DAS, not Northeast Multispecies DAS, thus, total monkfish effort, especially in the north for monkfish C and D permits, is not comprehensive of all monkfish fishing effort. Tasking #2 has additional information for other declaration codes and should be used to gain a better understanding of monkfish effort.

#### Main takeaways:

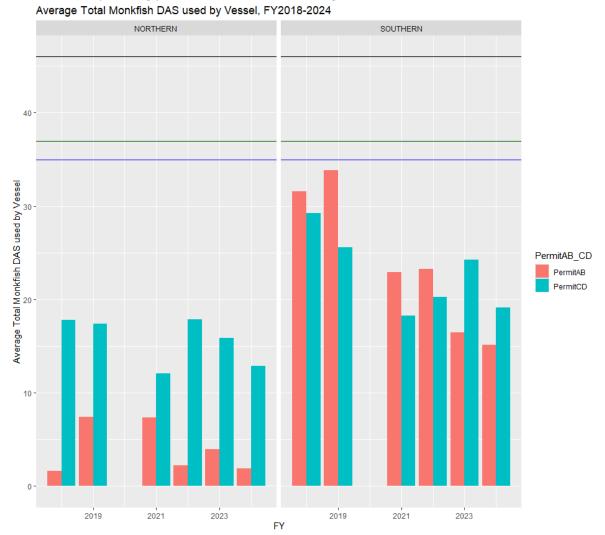
- Evaluating Monkfish DAS data is most useful/informative for the southern management area, which primarily rely on Monkfish DAS, versus the northern management area, which rely on both Monkfish and Northeast Multispecies DAS.
- There are a few vessels exceeding their Monkfish DAS allocation, however, on average, all vessels in both management areas are using fewer Monkfish DAS than allocated (Table 1, Figure 1).
- There is a general trend of reduced monkfish fishing effort (number of permits using a Monkfish DAS and total Monkfish DAS use) over time, particularly in the southern management area where there is a substantial decline in total monkfish DAS used from FY 2018 2024.
- Few vessels consistently use high Monkfish DAS usage (exact values unable to be reported due to data confidentiality depending on the fishing year), while most vessels used between ~15-30 Monkfish DAS in the southern area in FY 2023 and FY 2024.

Monkfish PDT observations about the Monkfish DAS data (some of these data are represented in the histograms below, while other data are only described here and not in the figures due to data confidentiality reasons):

|                   | # of vessels (in  | order of FY)       | Monki                                      | fish DAS use observations                                |  |  |  |  |
|-------------------|---|--------------------|--|--|--|--|--|--|
|                   | FY 2018,<br>2019, 2021  | FY 2022 -<br>2024  | FY 2018, 2019, 2021                        | FY 2022 - 2024   |  |  |  |  |
| Vessels fishing i | in one or both of   | the management     | areas (i.e., the # of active vessels could | be double counted across the Northern and Southern       |  |  |  |  |
| Area rows; for v  | Area rows; for vessels that fished in both management areas, the annual vessel DAS usage would not be the vessel's TOTAL DAS use in a given |                    |  |  |  |  |  |  |
|                   | fishing year) (data/histograms not provided below due to data confidentiality reasons)  |                    |  |  |  |  |  |  |
| Northern          | 34, 31, 20  | 29, 27, 24         |  | Most vessels used < 15 Monkfish DAS while 4 vessels      |  |  |  |  |
| Management        |   |                    | DAS in FY18 and FY19; 3 vessels            | used 15 Monkfish DAS in FY22, with higher Monkfish       |  |  |  |  |
| Area              |   |                    | used ~15 Monkfish DAS in FY21,             | DAS usage unable to be reported due to data              |  |  |  |  |
|                   |   |                    | with higher Monkfish DAS usage             | confidentiality; in FY23 ~6 vessels used ~18-25          |  |  |  |  |
|                   |   |                    | unable to be reported due to data          | Monkfish DAS/vessel and consistent across FY23 and       |  |  |  |  |
|                   |   |                    | confidentiality. Mix of permit             | FY24 where most vessels used <5-10 Monkfish              |  |  |  |  |
|                   |   |                    | categories A/C and B/D by FY.              | DAS/vessel, with higher Monkfish DAS usage unable to     |  |  |  |  |
|                   |   |                    |  | be reported due to data confidentiality.                 |  |  |  |  |
| Southern          | 87, 78, 46  | 46, 42, 42         | ~12-17 vessels used ~40 Monkfish           | ~17 vessels used ~20-30 Monkfish DAS, ~7 vessels         |  |  |  |  |
| Management        |   |                    | DAS in FY18-19, the majority with          | using 34-42 Monkfish DAS, and ~12 vessels using 5-15     |  |  |  |  |
| Area              |   |                    | permits B & D, with a smaller              | Monkfish DAS in FY22; majority of vessels are using      |  |  |  |  |
|                   |   |                    | number of vessels exceeding 40             | between 15-30 Monkfish DAS, with ~6 vessels using 30-    |  |  |  |  |
|                   |   |                    | Monkfish DAS and a larger number           | 40+ Monkfish DAS and ~9 vessels using < 15 Monkfish      |  |  |  |  |
|                   |   |                    | of vessels using between 10-30             | DAS in FY23; FY24 shows a similar patterns with the      |  |  |  |  |
|                   |   |                    | Monkfish DAS. In FY21, Monkfish            | vast majority of vessels using 10-25 Monkfish DAS.       |  |  |  |  |
|                   |   |                    | DAS use was mixed across permits           |  |  |  |  |  |
|                   |   |                    | A&C and B&D, with an average of            |  |  |  |  |  |
|                   |   |                    | ~15 Monkfish DAS used/vessel.              |  |  |  |  |  |
|                   | Vessel  | ls fishing in only | one management area in a given fishin      | g year (Figure 2 & Figure 3)                             |  |  |  |  |
| Northern          | 21, 24, 15  | 17, 18, 8          | Most vessels used between ~8-20            | Greatest # of vessels, esp. permit C, used between 10-20 |  |  |  |  |
| Management        |   |                    | Monkfish DAS/FY                            | Monkfish DAS/FY in FY22-23 and very few DAS in           |  |  |  |  |
| Area (Figure 2)   |   |                    |  | FY24 (most data are confidential < 3 vessels)            |  |  |  |  |
| Southern          | 56, 48, 19  | 21, 18, 18         | Across FY18 –19, between 12-20+            | Across FY22-24, ~ 3-5 vessels used > 30 Monkfish DAS,    |  |  |  |  |
| Management        |   |                    | vessels used ~22-35+ Monkfish DAS          | ~5-7 vessels used ~15-22 Monkfish DAS, and ~4-6          |  |  |  |  |
| Area (Figure 3)   |   |                    | and in FY21, ~5 vessels using 25-30        | vessels used ~7-15 Monkfish DAS                          |  |  |  |  |

|                 |            |                   | Monkfish DAS; ~20 vessels used between 10-22 Monkfish DAS in FY18-19 and in FY21, ~13 vessels |  |
|-----------------|------------|-------------------|---|--|
|                 |            | Vassals fishing i | used 7-15  n both management areas in a given fi  | shing year (Figure 4)                                |
|                 | T          |                   |   | 9  |
| Northern        | 13, 7, 5   | 12, 9, 16         | Very low Monkfish DAS use/vessel;   | Very low Monkfish DAS use/vessel; no patterns in     |
| Management      |            |                   | no patterns in Monkfish DAS by  | Monkfish DAS by permit category (mix of A-D permits  |
| Area (Figure 4) |            |                   | permit category (mix of A-D permits   | every fishing year)                                  |
|                 |            |                   | every fishing year)   |  |
| Southern        | 31, 30, 26 | 25, 24, 24        | Greatest number of vessels used ~30-  | ~10 vessels used between 15-30 Monkfish DAS in FY22; |
| Management      |            |                   | 46 DAS/year in FY18-19 and ~15-20   | the greatest number of vessels used ~22 Monkfish DAS |
| Area (Figure 4) |            |                   | DAS in FY21; no patterns in   | in FY23; the greatest number of vessels used ~15     |
|                 |            |                   | Monkfish DAS by permit category   | Monkfish DAS in FY24 with ~4 vessels that used >30   |
|                 |            |                   | (mix of A-D permits every fishing   | Monkfish DAS; no patterns in Monkfish DAS by permit  |
|                 |            |                   | year)   | category (mix of A-D permits every fishing year)     |

Figure 1. Average Monkfish DAS used per active vessel (for vessels that used at least one Monkfish DAS), by monkfish permit category (A and B; C and D), by fishing year 2018 – 2024, and management area.



Notes: Blue horizontal line indicates 35 Monkfish DAS (current DAS cap for the North), green horizontal line indicates 37 Monkfish DAS (prior and current DAS cap for the South), and black horizontal line indicates 46 Monkfish DAS (total DAS usage cap across both management areas). FY 2020 excluded due to the global pandemic and limited data and fishing disruptions.

Table 1. Number of vessels using Monkfish DAS, total number of Monkfish DAS used, and average number of Monkfish DAS used per active vessel, by permit categories A & C and B & D.

| Monkfish<br>Permit Category | Fishing<br>Year | # of Vessels using<br>Monkfish DAS | Total<br>Monkfish<br>DAS Used | Average # of Monkfish DAS used per Active Vessel (DAS allocation) |
|-----------------------------|-----------------|------------------------------------|-------------------------------|---|
|                             | N               | orthern Fishery Mana               | agement Area                  |   |
| (46                         | DAS alloca      | ation across NFMA &                | SFMA from FY                  | 2018-2022;  |
|                             |                 | 35 DAS in NFMA FY                  | 2023-2024                     |   |
| A & C                       | 2018            | 15                                 | 264                           | 18  |
|                             | 2019            | 13                                 | 184                           | 14  |
| С                           | 2021            | 4                                  | 42                            | 10  |
|                             | 2022            | 9                                  | 141                           | 16  |
| A & C                       | 2023            | 10                                 | 84                            | 8   |
|                             | 2024            | 8                                  | 64                            | 8   |
|                             | 2018            | 19                                 | 261                           | 14  |
|                             | 2019            | 18                                 | 326                           | 18  |
| B & D                       | 2021            | 16                                 | 191                           | 12  |
|                             | 2022            | 20                                 | 300                           | 15  |
|                             | 2023            | 17                                 | 309                           | 18  |
|                             | 2024            | 16                                 | 167                           | 10  |

# Southern Fishery Management Area (37 DAS cap in SFMA from FY2018-2022; 46 DAS allocation across NFMA & SFMA and 37 DAS in SFMA FY2023-2024)

| Monkfish Permit Category | Fishing Year | # of Vessels using<br>Monkfish DAS | Total Monkfish<br>DAS Used | Average # of Monkfish DAS used per Active Vessel (DAS allocation) |
|--------------------------|--------------|------------------------------------|----------------------------|---|
|                          | 2018         | 14                                 | 491                        | 35  |
|                          | 2019         | 11                                 | 441                        | 40  |
| Δ.                       | 2021         | 5                                  | 166                        | 33  |
| А                        | 2022         | 8                                  | 273                        | 34  |
|                          | 2023         | 8                                  | 164                        | 20  |
|                          | 2024         | 7                                  | 124                        | 18  |
|                          | 2018         | 25                                 | 741                        | 30  |
|                          | 2019         | 25                                 | 777                        | 31  |
| В                        | 2021         | 15                                 | 270                        | 18  |
| D                        | 2022         | 14                                 | 238                        | 17  |
|                          | 2023         | 12                                 | 166                        | 14  |
|                          | 2024         | 12                                 | 163                        | 14  |
|                          | 2018         | 17                                 | 507                        | 30  |
|                          | 2019         | 15                                 | 431                        | 29  |
| С                        | 2021         | 11                                 | 191                        | 17  |
| C                        | 2022         | 11                                 | 184                        | 17  |
|                          | 2023         | 6                                  | 141                        | 24  |
|                          | 2024         | 8                                  | 129                        | 16  |
|                          | 2018         | 31                                 | 896                        | 29  |
|                          | 2019         | 27                                 | 643                        | 24  |
| D                        | 2021         | 15                                 | 283                        | 19  |
| U                        | 2022         | 13                                 | 302                        | 23  |
|                          | 2023         | 16                                 | 393                        | 25  |
|                          | 2024         | 16                                 | 330                        | 21  |

*Notes:* Management area was identified by the declared management area; there are currently 211 permits in Confirmation of Permit History (CPH) (number of permits that are CPH cannot be broken down by individual year as the database does not have this information).

Figure 2. Histogram of Monkfish DAS by vessel for FY 2018-2024 for vessels fishing only in the Northern Management Area during a given fishing year. White boxes with red outline indicate confidential data. Blue dashed vertical line is 37 DAS (prior and current DAS cap for the South), red dashed vertical line is 35 DAS (current DAS cap for the North).

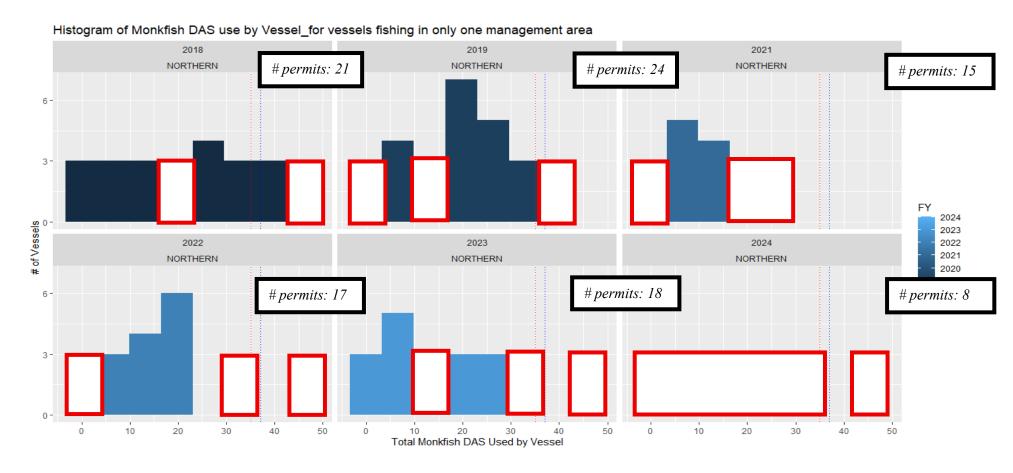


Figure 3. Histogram of Monkfish DAS by vessel for FY 2018-2024 for vessels fishing only in the Southern Management Area during a given fishing year. White boxes with red outline indicate confidential data. Blue dashed vertical line is 37 DAS (prior and current DAS cap for the South), red dashed vertical line is 35 DAS (current DAS cap for the North).

*Note:* a few vessels appear to exceed the DAS cap; this is likely due to a combination of factors such as DAS carryover, data entry errors, misunderstanding of regulations, enforcement considerations, etc.

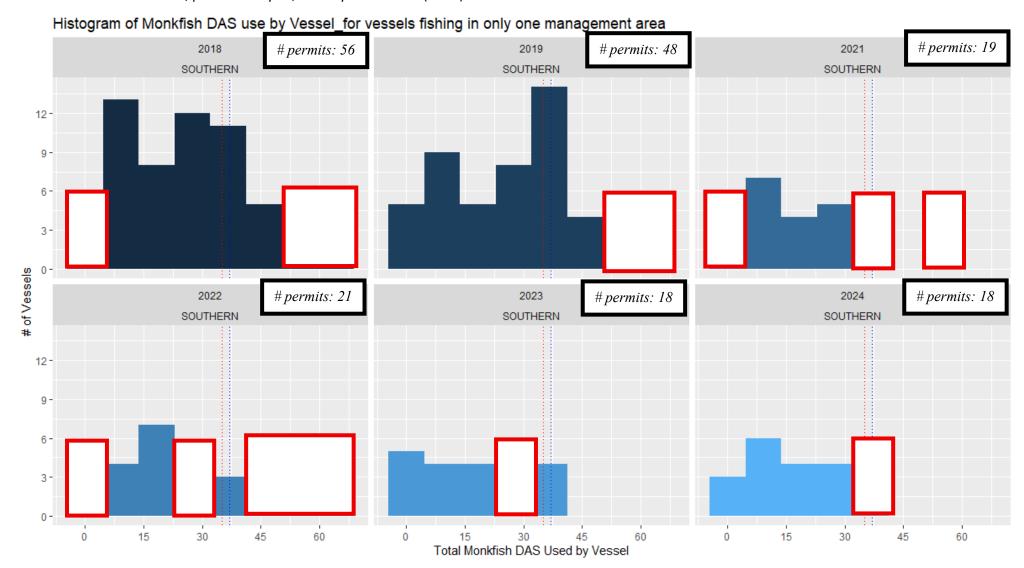
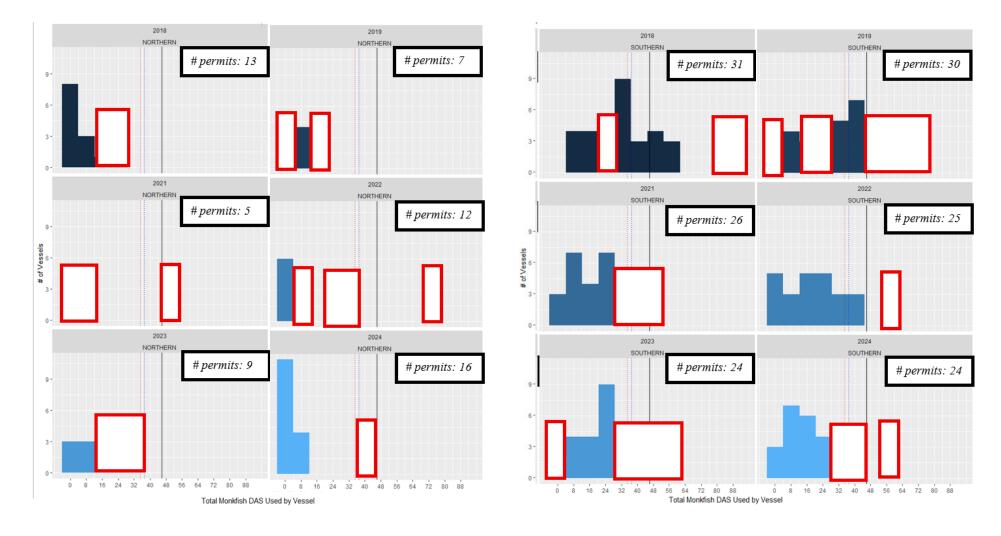


Figure 4. Histogram of Monkfish DAS by vessel for FY 2018-2024 for vessels fishing in both the Northern and Southern Management Areas during a given fishing year. Blue dashed vertical line is 37 DAS (prior and current DAS cap for the South), red dashed vertical line is 35 DAS (current DAS cap for the North), black solid line is 46 DAS (total DAS usage cap across both management areas).



## TASKING #2:

Monkfish and skate (wing/bait) landings by DAS declarations by monkfish management area for permits A, B, C, and D and for FYs prior to Covid and for recent FYs; include unique # of vessels.

Purpose: understand the monkfish and skate activity within various fishery components.

#### Notes about the data:

- The Committee's focus here was on the monkfish fishery (i.e., vessels with a monkfish A-D permit on monkfish DAS trips). This excludes monkfish and skate landings on Northeast multispecies DAS trips and some skate landings (e.g., vessels can declare out of fishery and fish in an exemption area; without a DAS permit vessels can fish for bait skate with a letter of authorization (LOA)). The PDT added data for these trip types. There are other landings not included (e.g., skate bait LOA trips, skate wing incidental landings on non-DAS trips).

#### Main takeaways:

- Northern Fishery Management Area:
  - o Monkfish landings: consistently from multispecies sector trips followed by monkfish trips; monkfish landings and number of vessels have fluctuated over time (FY 2018 to FY 2024).
  - Skate wing landings: primarily from multispecies sector trips with minor amounts from the monkfish-only trips and monkfish sector vessel trips; skate wing landings and number of vessels have fluctuated over time.
  - o Skate bait landings: from multispecies sector trips, are minor and declined over time.
- Southern Fishery Management Area:
  - Monkfish landings: primarily from monkfish-only vessels, which has substantially declined over time along with number of active vessels, followed by monkfish sector vessels, which has also declined over time.
  - o Skate wing landings: primarily from monkfish-only declared trips and monkfish sector trips, both of which have varied over time.
  - Skate bait landings: primarily from multispecies sector trips, which has fluctuated over time, followed by minor amounts from multispecies common pool trips and monkfish trips. Substantial bait landings (4.77M lb in FY 2024, 5.39M lb in FY 2023) are not included in table or are confidential. Likely most of these are from bait LOA trips in the southern area, which encompass the skate exemption areas.

Table 2. Total weight (live lb) of monkfish, skate wings, and skate bait for FY 2018 – 2024 by declaration trip type (common pool, monkfish only, sector, and sector offshore) and monkfish management area. The number of vessels is in parentheses.

Note: the data include landings from groundfish declared trips to show the broader scope of monkfish and skate landings in a variety of trip types, though these declaration codes are not comprehensive (i.e., excluded are monkfish and skate landings from other trip declarations).

| Fishery                          | Declaration / trip type                                  | FY 2018             | FY 2019             | FY 2021            | FY 2022           | FY 2023           | FY 2024            |  |
|----------------------------------|--|---------------------|---------------------|--------------------|-------------------|-------------------|--------------------|--|
| Northern Fishery Management Area |  |                     |                     |                    |                   |                   |                    |  |
|                                  | Monkfish Northern Management Area common pool (MNK-NAC)  | С                   | С                   | С                  |                   | С                 | 20,180<br>(3)      |  |
|                                  | Monkfish Northern Management Area monkfishonly (MNK-NAM) | 42,982<br>(7)       | 31,057<br>(4)       | 6,914<br>(5)       | 111,843<br>(8)    | 89,109<br>(7)     | 61,930<br>(12)     |  |
| Monkfish                         | Monkfish Northern Management Area sector (MNK-NAS)       | 2,128,127<br>(25)   | 1,882,045<br>(25)   | 868,644<br>(16)    | 1,544,796<br>(21) | 1,483,836<br>(19) | 821,204<br>(10)    |  |
|                                  | Multispecies common pool (NMS-COM)                       | С                   | С                   | С                  | С                 | 188,188<br>(7)    | 39,517<br>(3)      |  |
|                                  | Multispecies sector (NMS-SEC)                            | 10,155,212<br>(102) | 10,734,522<br>(101) | 9,595,019<br>(100) | 9,151,230<br>(88) | 9,251,359<br>(90) | 10,336,132<br>(95) |  |
|                                  | Monkfish Northern Management Area common pool (MNK-NAC)  | С                   | С                   |                    |                   |                   | С                  |  |
| Skate Bait                       | Multispecies common pool (NMS-COM)                       |                     | С                   |                    |                   |                   |                    |  |
|                                  | Multispecies sector (NMS-SEC)                            | 116,490<br>(6)      | 68,679<br>(16)      | 39,205<br>(12)     | 27,051<br>(10)    | 14,030<br>(8)     | 300<br>(4)         |  |
| Skate Wing                       | Monkfish Northern Management Area common pool (MNK-NAC)  | С                   | С                   | С                  |                   | С                 | С                  |  |
|                                  | Monkfish Northern Management Area monkfishonly (MNK-NAM) | 80,860<br>(6)       | 67,039<br>(4)       | С                  | 136,605<br>(8)    | 162,735<br>(5)    | 176,191<br>(11)    |  |
|                                  | Monkfish Northern Management Area sector (MNK-NAS)       | 125,723<br>(15)     | 82,738<br>(13)      | 22,303<br>(7)      | 48,863<br>(12)    | 93,060<br>(9)     | 103,768<br>(7)     |  |
|                                  | Multispecies common pool (NMS-COM)                       | С                   | С                   | С                  | С                 | 2,964<br>(3)      | 42,239<br>(4)      |  |
|                                  | Multispecies sector (NMS-SEC)                            | 8,302,128<br>(68)   | 6,366,999<br>(63)   | 4,019,348<br>(55)  | 4,930,631<br>(48) | 5,593,543<br>(53) | 6,684,109<br>(66)  |  |

|            | S  | outhern Fishe     | ry Management     | Area              |                   |                   |                   |
|------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Fishery    | Declaration / trip type  | FY 2018           | FY 2019           | FY 2021           | FY 2022           | FY 2023           | FY 2024           |
|            | Monkfish Southern Management Area common pool (MNK-SAC)          | 193,147<br>(8)    | 119,787<br>(5)    | 11,097<br>(3)     | 39,121<br>(5)     | С                 | С                 |
|            | Monkfish Southern Management Area monkfishonly (MNK-SAM)         | 6,479,886<br>(69) | 5,770,725<br>(65) | 2,459,786<br>(38) | 2,357,135<br>(38) | 1,392,458<br>(37) | 1,026,930<br>(41) |
|            | Monkfish Southern Management Area sector (MNK-SAS)               | 1,299,883<br>(24) | 833,528<br>(21)   | 451,592<br>(10)   | 300588<br>(12)    | 264,261<br>(9)    | 22,060<br>(8)     |
| Monkfish   | Monkfish Southern Management Area sector –<br>OFFSHORE (MNK-SOS) |                   |                   |                   |                   | С                 | С                 |
|            | Multispecies common pool (NMS-COM)                               | 26,246<br>(11)    | 19,370<br>(4)     | 67,928<br>(5)     | 79,438<br>(3)     | 3,907<br>(4)      | 7,370<br>(5)      |
|            | Multispecies sector (NMS-SEC)                                    | 220,636<br>(40)   | 134,421<br>(28)   | 42,034<br>(14)    | 17,012<br>(13)    | 10,404<br>(11)    | 18,240<br>(12)    |
|            | Monkfish Southern Management Area common pool (MNK-SAC)          | 141,757<br>(3)    | С                 | С                 |                   | С                 | С                 |
|            | Monkfish Southern Management Area monkfish-<br>only (MNK-SAM)    | 193,275<br>(8)    | 8,950<br>(10)     | 1,395<br>(7)      | 1,683<br>(5)      | 1,717<br>(7)      | С                 |
| Skate Bait | Monkfish Southern Management Area sector (MNK-SAS)               | 76,200<br>(7)     | 700<br>(7)        | С                 | 146,400<br>(5)    | С                 | С                 |
|            | Multispecies common pool (NMS-COM)                               | 466,700<br>(6)    | 236,375<br>(3)    | 139,144<br>(4)    | С                 | 258,000<br>(3)    | С                 |
|            | Multispecies sector (NMS-SEC)                                    | 2,177,155<br>(11) | 2,376,893<br>(12) | 1,408,925<br>(6)  | 2,475,172<br>(10) | 1,301,225<br>(6)  | 2,425,125<br>(6)  |
|            | Monkfish Southern Management Area common pool (MNK-SAC)          | 160,533<br>(8)    | 53,193<br>(5)     | 15,981<br>(3)     | 65,488<br>(4)     | С                 | С                 |
|            | Monkfish Southern Management Area monkfishonly (MNK-SAM)         | 5,504,302<br>(68) | 6,861,199<br>(65) | 2,952,033<br>(38) | 4,419,626<br>(38) | 3,985,641<br>(37) | 4,765,287<br>(41) |
| Skate Wing | Monkfish Southern Management Area sector (MNK-SAS)               | 1,992,866<br>(23) | 1,745,066<br>(21) | 571,139<br>(10)   | 525,080<br>(10)   | 834,358<br>(8)    | 189,056<br>(8)    |
|            | Monkfish Southern Management Area sector –<br>OFFSHORE (MNK-SOS) |                   |                   |                   |                   | С                 | С                 |
|            | Multispecies common pool (NMS-COM)                               | 109,664<br>(9)    | 107,843<br>(3)    | 105,689<br>(4)    | 204,826<br>(3)    | 223,920<br>(3)    | 161,918<br>(4)    |

| Multispecies sector (NMAS SEC) | 363,186 | 504,871 | 170,920 | 53,205 | 181,618 | 372,335 |
|--------------------------------|---------|---------|---------|--------|---------|---------|
| Multispecies sector (NMS-SEC)  | (34)    | (25)    | (10)    | (6)    | (8)     | (13)    |

Notes: 'C' indicates confidential data (< 3 vessels); blank cells indicates no data. FY 2020 is excluded due to the global pandemic. Data includes vessels that have monkfish and skate federal permits at some point during the fishing year (not necessarily on the day of landing). The number of vessels are not necessarily unique in a given fishing year across the fishery components (e.g., if four vessels harvested X pounds of monkfish, some or all those vessels could have also caught Y pounds of skate wings, thus, would be included in the number of vessels for skate wings).

Data from the groundfish fishery (common pool and sector) were pulled based on the reported statistical area to determine if the trips occurred in either the northern or southern monkfish management area; this is different from the monkfish fishery declarations, which used the declared monkfish management area. The monkfish and skate landings on these groundfish declared trips are only for vessels that held a monkfish and skate federal permit at some point during the fishing year.

Source: CAMS database, pulled on July 14, 2025 by S.M. Turner (APSD). Northeast multispecies data pulled on July 28, 2025 by S.M. Turner.

## TASKING #3:

Scatter plot of the percent of monkfish and skate wing possession limits landed on each trip for monkfish category A, B, C, and D permits by Northern and Southern monkfish management area and by skate season (e.g., trip achieved 80% of skate wing season 1 limit and only 15% of monkfish limit in southern area).

**Purpose:** Show the amount of theoretical 'missed' landings (i.e., where trip limits in one fishery may constrain reaching trip limits in the other) and differences in achieving trip limits for both fisheries with a focus on the directed fisheries. This could inform decisions on changing effort controls in one fishery to improve TAL performance in another (e.g., increasing skate wing possession limits to increase southern monkfish landings).

#### Notes about the data:

- Years selected are FYs 2018, 2019, 2021-2024. FY 2020 was an anomalous year due to covid.
- During these years, monkfish possession limits were constant. Skate wing possession limits for Seasons 1 and 2 in FY 2018-2019 were 2,600 and 4,100 lb, in FY 2021-early FY 2024 were 3,000 lb and 5,000 lb, and since July 17, 2024, have been 4,000 and 6,000 lb.
- Monkfish trip limits were calculated based on the DAS charged and the running clock (< 15 hr, >15 hr full charge, > 24 hr 1 min = 2 DAS, etc.)
- Number of trips in each category (Table 3) and the % of skate possession limit achieved are provided (Table 4).
- The data show trips with landings exceeding skate and/or monkfish trip limits.
  - o For skates, this is primarily an issue in the south on trips with Monkfish A, C and D permits (5% of trips across permit categories exceeded skate wing possession limits). Skate overages have been noted in other recent specification setting cycles. While some overages may be from fishing activity inconsistent with regulations, data errors are very likely. There could be miscoding of wing vs. bait landings. Many of the overages are at about 225% which could be a conversion issue between landed vs live weight. Skate Framework 12 (Section 5.5.1.3.1) has additional discussion about overages. For the current analysis, the Joint Committee is encouraged to focus on trips landing within possession limits.
  - For monkfish, this is primarily an issue in the north on trips with Monkfish B and D permit categories and in the south on trips with all monkfish permit categories. 38% of trips across permit categories in the Southern management area exceeded monkfish possession

limits. Like skates, monkfish overages could be due to fishing activity inconsistent with regulations, possible errors with conversions from tail to whole weight, and other potential data errors, etc.

#### Main takeaways:

- Overall, most trips occurred using category B permits, followed closely by category D, with A and C permits used on fewer trips (Table 3).
- In the southern area, 69% of trips landed < 75% of the skate wing possession limits, with 26% of trips landing 75-100% of the skate wing possession limit (Table 4).

Figure 5. Percent of skate wings and monkfish trip limits achieved by monkfish permit category (shown in panels A, B, C, and D) and monkfish management area, FY 2018-2024 (excluding FY 2020).

Percent Skate Wing Trip Limits and Percent Monkfish Trip Limits for Fishing Years 2018, 2019, 2021 - 2024 by Monkfish Management Area and Permit Category

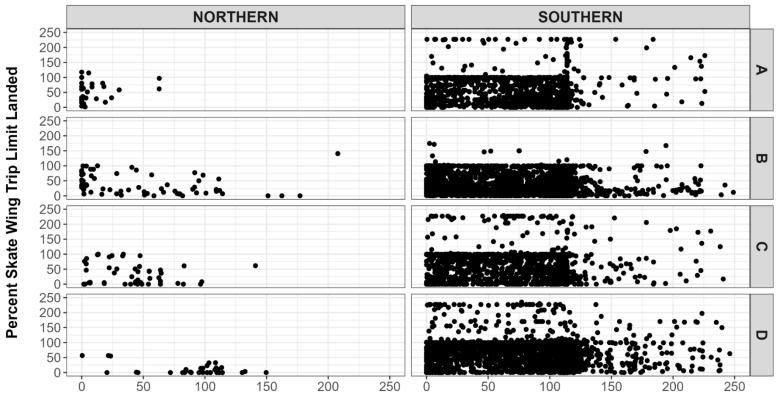


Table 3. Number of Monkfish DAS trips landing monkfish and/or skate wings per permit category by monkfish management area, FY 2018-2024 (excluding FY 2020).

| Managament Area |       | Total |       |       |       |
|-----------------|-------|-------|-------|-------|-------|
| Management Area | Α     | В     | C     | D     | iotai |
| Northern        | 31    | 71    | 50    | 37    | 189   |
| Southern        | 1,459 | 2,417 | 1,294 | 2,203 | 7,373 |
| Total           | 1,490 | 2,488 | 1,344 | 2,240 | 7,562 |

Note: These data are the same as in Figure 5.

Source: CAMS database, pulled on July 31, 2025, by S.M. Turner (APSD).

Table 4. Number and percent of Monkfish DAS trips landing various percents of skate wing possession limits in the Southern Management Area, FY 2018-2024 (excluding FY 2020).

| % of Skate Possession Limit Landed           | # of Trips | % of Trips |
|--|------------|------------|
| <75%   | 5,092      | 69%        |
| 75-100%                                      | 1,904      | 26%        |
| >100%  | 377        | 5%         |
| Total  | 7,373      | 100%       |
| Mata. Thosa data ava the same as in Figure F |            |            |

*Note:* These data are the same as in Figure 5.

Source: CAMS database, pulled on July 31, 2025 by S.M. Turner (APSD).

Table 5. Number and percent of Monkfish DAS trips landing various percents of monkfish possession limits in the Southern Management Area, FY 2018-2024 (excluding FY 2020).

| % of Monkfish Possession Limit Landed | # of Trips | % of Trips |
|---------------------------------------|------------|------------|
| <75%                                  | 3,325      | 45%        |
| 75-100%                               | 1,229      | 17%        |
| >100%                                 | 2,819      | 38%        |
| Total                                 | 7,373      | 100%       |

Note: These data are the same as in Figure 5.

# TASKING #4 (LOW PRIORITY):

Maps of fishing locations by finer spatial resolution for permits A, B, C, D for FY 2018-2023 and FY 2013-2017 with monkfish and skate wing landings (separate maps for skate bait)

- Consistent data pull as what was done before
- Filter by federal skate permit
- Lat/long and by stat area focus on stat area 521

**Purpose:** Geographic distinctions of monkfish & skate wing fisheries; focus on Stat Area 521 to show primarily skate trips vs mixed monk/skate trips; help show if/when skates are constraining harvest of other species in the Mid-Atlantic.

Notes: due to expedited final action timeline and this tasking not directly informing potential changes to either monkfish and/or skate possession limits and Monkfish DAS, the Joint Monkfish/Skate PDT deemed this as a lower priority to be completed at a later date.

## TASKING #5 (LOW PRIORITY):

Bar charts of landings frequency of monkfish and skate wings by gear type, monkfish management area, and skate season for monkfish permits A, B, C, D.

**Purpose:** Help identify natural break in landings between incidental and targeting weight; illustrate difference in prosecution of fishery between management areas and permit types.

#### Notes about the data:

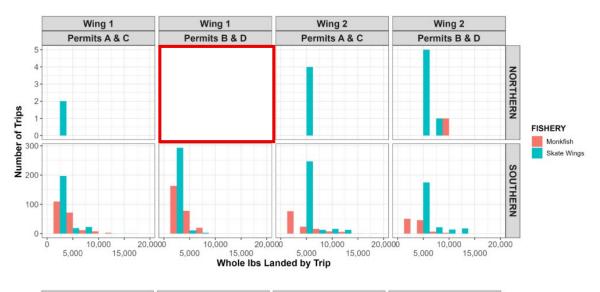
- Explored use of trawl and gillnet gear categories, but only gillnet data provided due to trawl data being confidential (< 3 vessels)
- Focused on FYs 2021-2023. During these years, monkfish possession limits were constant. Skate wing possession limits for Seasons 1 (May 1-Aug 31) and 2 (Sept 1 Apr 30) were 3,000 lb and 5,000 lb, respectively.
- Pool monkfish A&C permit categories and B&D categories
- For all the data shown, trip counts could be less than 3 trips, though the number of permits is at least 3 or more (i.e., it is possible that some trips had zero landings).
- Monkfish possession limits provided for reference (Table 6, Table 7).

## Main takeaways:

- Very few monkfish gillnet trips in the northern fishery management area.
- The spread of landings by trip in the southern fishery management area was relatively consistent across wing season and monkfish permit category. The spread of number of trips by landings for skate wings has increased in the southern area relative to the spread of data shown in the northern area.
- For gillnet vessels with monkfish permits, most trips are landing skates over their skate trip limit. As noted in Task #3, there could be several reasons for this besides fishing activity inconsistent with regulations.
- Monkfish permit category does not appear to be a strong driver of skate trip performance.
- There does not appear to be a difference in frequency of percent of skate wing trip limit by monkfish permit category.

Figure 6. Frequency of skate wing and monkfish landings (top) and percent of trip limit landed (bottom) per trip using gillnet gear in the northern and southern monkfish areas by monkfish permit category and skate wing season, FY 2021-2023

Note: X-axis bins are in 2,500 lb (top) and 25% increments (bottom). White box with red outline masks confidential data.



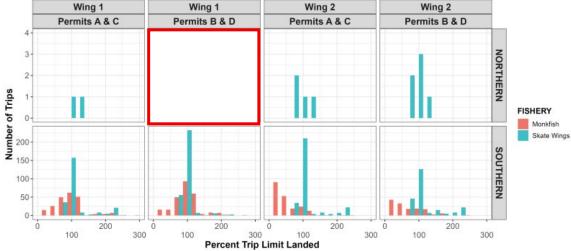


Table 6. Northern Fishery Management Area monkfish limited access possession limits while fishing on a Monkfish DAS.

| Monkfish<br>Permit<br>Category | Description                             | FY 2023-2025 Monkfish Possession Limits (lb) | Previous Possession Limits                          |
|--------------------------------|---|--|---|
| Α                              | Only monkfish DAS                       | 1,250 lb tail weight (3,638 lb whole weight) |   |
| В                              |   | 600 lb tail weight (1,746 lb whole weight)   | No change since at least FY 2011.                   |
|                                | Only monkfish DAS                       | 1,250 lb tail weight (3,638 lb whole weight) |   |
| С                              | Monk DAS & NE Mults A or Scallop DAS    | Unlimited                                    | FW9 (FY16): eliminated limit; No change since then. |
|                                | Only monkfish DAS                       | 600 lb tail weight (1,746 lb whole weight)   | No change since at least FY 2011.                   |
| D                              | Monk DAS & NE Mults A or<br>Scallop DAS | Unlimited                                    | FW9 (FY16): eliminated limit; No change since then. |

Table 7. Southern Fishery Management Area monkfish limited access possession limits while fishing on at least a Monkfish DAS.

| Monkfish<br>Permit<br>Category | Description  | FY 2023-2025 Monkfish Possession Limits (lb) | Previous Possession<br>Limits     |
|--------------------------------|--|--|-----------------------------------|
| Α                              | Only monkfish DAS  | 700 lb tail weight (2,037 lb whole weight)   |                                   |
| В                              |  | 575 lb tail weight (1,673 lb whole weight)   |                                   |
|                                | Only monkfish DAS  | 700 lb tail weight (2,037 lb whole weight)   |                                   |
| С                              | Monk DAS & NE Mults A or Scallop DAS                         | 700 lb tail weight (2,037 lb whole weight)   | No change since FY 2017.          |
|                                | Only monkfish DAS  | 575 lb tail weight (1,673 lb whole weight)   |                                   |
| D                              | Monk DAS & NE Mults A or Scallop DAS                         | 700 lb tail weight (2,037 lb whole weight)   |                                   |
| F                              | Seasonal offshore monkfish fishery in SFMA (Oct. 1-April 30) | 1,600 lb tail weight (4,656 lb whole weight) | No change since at least FY 2011. |
| Н                              | SFMA only  | 575 lb tail weight (1,673 lb whole weight)   | No change since FY 2017.          |

#### TASKING #6

Total monkfish and skate wing landings by trip averaged by months for FYs 2015-2024 (exclude FY 2020) where skate landings are >75% of seasonal skate possession limits for monkfish permits A, B, C, D on trips where a monkfish DAS is used, in Southern area only

**Purpose:** Understand if/how skates constrain monkfish landings and changes in monkfish landings over time (especially in the spring); 75% threshold would account for trips that sufficiently landed possession limits; focus is on directed fishery

#### Notes about the data:

- The data provided includes trips that had both federal monkfish and skate permits on the trip.
- Data are average across periods when skate seasonal limits are the same.
- Data account for the number of Monkfish DAS used (e.g., landing two monkfish trip limits when declaring 24 hr 1 min Monkfish DAS) and changes in possession limits for both fisheries for the time series.
- The PDT opted to examine trips landing 75-100% (not >100%) of skate wing possession limits to reduce noise from outliers in the data. Tables 8, 9, and 10 focus on this subset of trips in FY 2021-2023. Table 11 and Figure 7 contain data from trips landing >75% of skate possession limits from FY 2021-2024.
- During these years, monkfish possession limits were constant. Skate wing possession limits for Seasons 1 and 2 in FY 2018-2019 were 2,600 and 4,100 lb, in FY 2021-early FY 2024 were 3,000 lb and 5,000 lb, and since July 17, 2024, have been 4,000 and 6,000 lb.

## Main takeaways:

- On trips landing 75-100% of skate wing possession limits, the average percent of skate possession limits caught from FY 2018-2024 was high (88-96%, Table 8). The average percent of monkfish possession limits landed on these trips were notably lower but varied substantially across years and permit categories. Average monkfish possession limit utilization appeared to be lower following the increase in skate possession limits (in July 17, 2024), however, this increase occurred later in the summer, after the spring/early summer prime fishing season ended. The fishing industry could not take advantage of these higher skate limits, thus, the data in the tables below are likely not representative of any change in fishing effort for skate and monkfish fishing (see March 19, 2025 Joint Monkfish/Skate AP Meeting Summary). It's also worth noting that skate trip limits increased in 2021 as well.
- Table 8 represents 26% of all monkfish DAS trips in the southern management area. Most monkfish trips in the southern management area (69%) landed under 75% of skate wing possession limits monkfish landings on these trips likely were not constrained by skate catch.
- The average percentage of skate possession limits landed stayed relatively stable across months, ranging from 86% to 98% for various permit categories (Table 9).
- The average percent of monkfish possession limits landed varied considerably across months, ranging from 13% in November (B & D permits) to 106% in May (D permits) (Table 10). Generally, landings were somewhat steady from December through March, ranging from 38-58%, with averages starting to increase in April and peaking in May or June for each of the permit categories before reaching a low in November. Medians also varied and roughly tracked the averages, though many of the ranges and standard deviations were large, which could indicate that some larger overages influenced the means of the data.
- Overall, monkfish vessels seem to be catching their trip limits (average and median) in May and June and do not appear to be constrained by skates (Table 10). The high utilization of monkfish in the spring, especially May and June, is inconsistent with information shared from the

fishing industry. Perhaps there are areas within the southern area where constraints are more pronounced and/or there could be errors in the data (e.g., incorrect use of conversion factors between landed and live weight).

Table 8. Average percentage of monkfish and skate possession limits caught on trips landing 75-100% of skate possession limits in the Southern Management Area by permit category, FY 2018-2024 (no FY 2020).

| Permit   | 2018-2019  |         |            | 2021-July 16, 2024 |         |            | July 17, 2024 – end of FY 2024 |         |            |
|----------|------------|---------|------------|--------------------|---------|------------|--------------------------------|---------|------------|
| Category | Monkfish % | Skate % | # of Trips | Monkfish %         | Skate % | # of Trips | Monkfish %                     | Skate % | # of Trips |
| Α        | 76%        | 94%     | 192        | 66%                | 96%     | 240        | 57%                            | 92%     | 20         |
| В        | 53%        | 93%     | 301        | 79%                | 93%     | 126        | 19%                            | 91%     | 9          |
| С        | 70%        | 93%     | 159        | 60%                | 91%     | 168        | 30%                            | 94%     | 23         |
| D        | 72%        | 94%     | 329        | 80%                | 91%     | 290        | 33%                            | 88%     | 47         |

*Note:* Fishing years aggregated by years with the same skate possession limits.

Source: CAMS database, pulled on July 31, 2025 by S.M. Turner (APSD). This is using the same data as in Figure 5.

Table 9. Average percent skate possession limit achieved by monkfish permit category, by month for Southern Management Area with skate landings 75-100% trip limit, FY 2021-2023.

| Month    | Skate possession limit (lb) | Α   | С   | В   | D   |  |
|----------|-----------------------------|-----|-----|-----|-----|--|
| January  |                             | 98  | %   | 94  | %   |  |
| February | 5,000 wing weight           | 95  | %   | 94% |     |  |
| March    | (13,620 whole weight)       | 91  | %   | 91% |     |  |
| April    |                             | 94  | %   | 92% |     |  |
| May      | 3,000 wing weight           | 95% | 93% | 91% | 94% |  |
| June     | (9,080 whole weight)        | 97% | 93% | 94  | %   |  |
| November | 5,000 wing weight           | 95% |     | 89% |     |  |
| December | (13,620 whole weight)       | 96  | %   | 86% |     |  |

Table 10. Percent of monkfish and skate wing possession limits landed per trip by month for Southern Management Area with skate landings 75-100% trip limit, FY 2021-2023.

| Month    | Permit<br>Category | # of<br>Vessels | Average %<br>Monkfish<br>Possession Limit<br>landed | Median %<br>Monkfish<br>Possession Limit<br>landed | Range of %<br>Monkfish<br>Possession Limit<br>Landed | Average % Skate<br>Possession Limit<br>landed |
|----------|--------------------|-----------------|---|--|--|---|
| January  | A & C              | 5               | 51%   | 32%  | 8-165%   | 98%   |
|          | B & D              | 9               | 43%   | 33%  | 2-173%   | 94%   |
| February | A & C              | 5               | 35%   | 24%  | 2-114%   | 95%   |
|          | B & D              | 8               | 36%   | 14%  | 0-125%   | 94%   |
| March    | A & C              | 7               | 57%   | 60%  | 4-114%   | 91%   |
|          | B & D              | 6               | 58%   | 51%  | 0-171%   | 91%   |
| April    | A & C              | 9               | 48%   | 40%  | 3-148%   | 94%   |
| April    | B & D              | 11              | 83%   | 78%  | 14-187%  | 92%   |
|          | Α                  | 4               | 104%  | 112%   | 28-222%  | 95%   |
| May      | В                  | 9               | 87%   | 98%  | 3-195%   | 93%   |
| May      | С                  | 7               | 81%   | 82%  | 15-129%  | 91%   |
|          | D                  | 13              | 106%  | 102%   | 27-375%  | 94%   |
| June     | Α                  | 3               | 103%  | 111%   | 21-196%  | 97%   |
|          | С                  | 5               | 80%   | 84%  | 17-219%  | 93%   |
|          | B & D              | 17              | 93%   | 103%   | 1-276%   | 94%   |
| November | A & C              | 4               | 29%   | 27%  | 0-66%  | 95%   |
|          | B & D              | 5               | 13%   | 14%  | 0-32%  | 89%   |
| December | A & C              | 5               | 38%   | 32%  | 0-128%   | 96%   |
|          | B & D              | 9               | 56%   | 39%  | 1-238%   | 86%   |

*Note:* This is using the same data as in Figure 5. Possession limits and landings in whole weights.

Table 11. Average monkfish and skate wing landings per trip by month for Southern Management Area with skate landings >75% trip limit, FY 2021-2024 (excluding 2020)

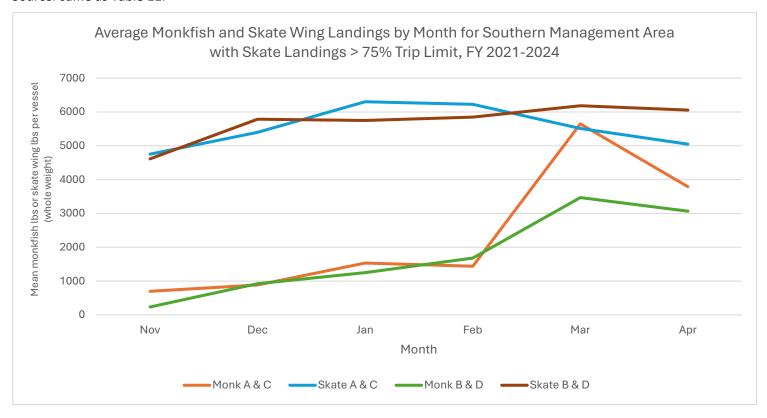
| Month    | Permit<br>Category | Number of Vessels | Mean Monkfish lb per<br>Vessel (whole weight) | Mean Skate Wing lb per<br>Vessel (whole weight) |
|----------|--------------------|-------------------|---|---|
| lanuary  | A & C              | 7                 | 1,533   | 6,303   |
| January  | B & D              | 9                 | 1,248   | 5,748   |
| February | A & C              | 6                 | 1,438   | 6,228   |
| reblualy | B & D              | 8                 | 1,682   | 5,849   |
| March    | A & C              | 5                 | 5,649   | 5,514   |
| IVIAICII | B & D              | 9                 | 3,469   | 6,185   |
| April    | A & C              | 8                 | 3,789   | 5,047   |
| Артп     | B & D              | 11                | 3,065   | 6,056   |
|          | Α                  | 5                 | 4,568   | 3,583   |
| May      | В                  | 9                 | 2,752   | 2,892   |
| May      | С                  | 7                 | 3,350   | 3,608   |
|          | D                  | 9                 | 3,417   | 3,100   |
|          | Α                  | 4                 | 4,333   | 3,957   |
| June     | В                  | 3                 | 3,160   | 2,973   |
| Julie    | С                  | 4                 | 3,046   | 3,505   |
|          | D                  | 10                | 3,329   | 2,979   |
| November | A & C              | 3                 | 698   | 4,753   |
| November | B & D              | 5                 | 235   | 4,614   |
| December | A & C              | 6                 | 884   | 5,400   |
| December | B & D              | 9                 | 924   | 5,784   |

*Notes:* Data for August, September, and October were confidential and are not included; data for January, February, March, April, November and December were pooled by monkfish permit categories to ensure confidentiality.

Source: CAMS Database, 7/15/2025, compiled by S.M. Turner, APSD.

Figure 7. Average monkfish and skate landings per trip on trips with skate landings >75% of trip limit by monkfish permit category and month (November – April) in the Southern management area, FY 2021-2024.

Source: same as Table 11.



### TASKING #7 (LOW PRIORITY):

Provide information on international trade and market trends including exports, demand, prices, etc. for skates and monkfish from the Cornell marketing analysis (more detail could be provided in the future).

Purpose: Identify the potential for U.S. market advantage for sustainability incentive programs (Korea, France, etc.).

**Response:** The following summarizes key monkfish market information detailed in <u>The Monkfish Fishery Marketing Analysis for the Northeast US</u>, developed in 2024 by the Cornell Cooperative Extension Marine Program. There is also a recent workgroup within NOAA focused on markets that is noted here. Further work on this topic could inform strategies to increase seafood competitiveness, consistent with <u>Executive Order 14276</u>, though steps may not be deregulatory in nature.

#### Cornell Analysis

#### Overall Trends and Domestic Markets

The Unites States' monkfish fishery has long been influenced by and reliant on foreign markets, primarily in Europe and Asia. Domestic markets are generally weaker, with most sales generated in the hotel/restaurant/institution category. Monkfish landings peaked in the 1990s - early 2000s due to a new and strong export market, but landings and prices began to fall in 2007. Prices rose again in 2011, though this did not translate to higher revenues, and average prices have been decreasing since 2011. In general, fisheries landings and revenues declined between 2019-2021 due to impacts of the COVID-19 pandemic such as reduced demand from hotels and restaurants and reduced international trade. In recent years, declining monkfish prices and increasing costs for fuel, supplies, and gear maintenance have impacted the fishery.

Monkfish is primarily exported as a frozen product, though there are some fresh exports during the monkfish season. Overall, monkfish exports have decreased over time – fresh monkfish exports decreased 72% in volume and 66% in value from 2017 to 2023, while frozen exports decreased 75% in volume and 63% in value during the same time.

#### Asian Markets

One of the largest monkfish export markets in 2023 was to South Korea, where buyers prefer the whole fish harvested by gillnets to ensure optimal quality. While South Korea has been a major monkfish buyer since 1998, purchases have been declining since 2012. There has also historically been an export market to Japan, where monkfish livers are considered a delicacy. Livers are often harvested separately from the rest of the fish for separate sales and have been worth upwards of \$20/lb at the dock, though this requires much more harvester and/or shoreside operator processing. However, there were no monkfish purchases from Japan in 2022 and 2023. There were also substantial exports to China in 2023, though purchases have been sporadic and are not necessarily indicative of a new market opening.

## European Markets

Monkfish sales to the European Union represent approximately 20% of US monkfish exports and generally consist of monkfish tails and fillets. France has consistently been the major EU importer of American monkfish, though exports have steadily decreased since 2017. There have also been sporadic exports to other EU countries throughout the time series: for example, there was an uptick of exports to Portugal in 2022 where monkfish heads were being used for soup stock that did not continue into 2023.

## Replacements for American Monkfish in Other Markets

Supply chain issues during the COVID-19 pandemic impacted monkfish purchases from the US. Insufficient supplies of American monkfish led to other species filling market demand. In Asian markets, Chinese monkfish, or yellow monkfish, native to the Yellow and East China Seas along with the waters around Japan, gained popularity. For example, in South Korea, the lack of American monkfish imports during the pandemic led to Chinese monkfish entering the market, where it has remained a priority due to cost and convenience. However, Chinese monkfish is generally of lower quality than American monkfish and is not being fished at a sustainable level, which could impact future market prospects for American monkfish.

In European markets, Scottish monkfish, also known as European angler or white monkfish, filled market gaps. Black-bellied monkfish also accounted for some catch in the Northeast Atlantic. EU monkfish demand is also supplemented by Chinese and African monkfish species. Scottish monkfish experienced similar market trends to American monkfish, with increased demand and landings in the 1990s correlating with declines in more popular groundfish and other species. Unlike the American monkfish market, however, the Scottish monkfish fishery increased in recent years, including during the pandemic. The EU fisheries have a domestic market to fall back on during disruptions in international trade such as the COVID-19 pandemic, while the US does not have a strong domestic market.

### Markets and Trade Working Group

A National Marine Fisheries Service Seafood Markets and Trade Working Group has recently been established by the Office of Science and Technology (OST). The objective of the group is to advance economic and social science knowledge, facilitate collaboration, and support informed decision-making. Currently led by Ben Fissel, the Working Group strives to serve as a focal point for interdisciplinary research, data analysis, and policy evaluation aimed at understanding the structure, dynamics, and impacts of seafood trade and market activities. The group is currently reviewing a newly created seafood markets and trade dashboard developed by OST, which provides an in-depth overview of export, import, and trade indicator data related to various species for multiple spatial scales. The tool is anticipated to be released in fiscal year 2026. Trade data is also available on the Fisheries One Stop Shop website.

# TASKING #8 (LOW PRIORITY):

Provide information on the spatial and temporal changes in the movement and distribution of skates and monkfish.

**Purpose:** Joint Committee members felt that skates seem to be shifting northwest relative to historical patterns and are interested in further understanding these patterns for skates and monkfish.

#### Notes about the data:

- Might tie into EO 14276 (evaluating management areas based on changes in distribution) or as part of the EFH action but perhaps lower priority for 2025 specs.
- Used the shinyapp developed for the EFH action: <a href="https://nrha.shinyapps.io/dataexplorer/#!/species">https://nrha.shinyapps.io/dataexplorer/#!/species</a>
  - O Split survey data by two time periods: 1) 2000 2010 and 2) 2011 2019 (last year available in shinyapp) but annual data are available.
  - o Used NMFS Bottom Trawl Survey data but other survey data are available
  - O Data in the shiny app have not been adjusted to account for changes in sampling intensity (spatial, temporal, gear type, etc.)
  - o For skates, provided maps for winter and little skate (most prevalent in the complex), barndoor (was declared rebuilt in 2016), and thorny (overfished throughout time series), but data on all species are available.

#### Main takeaways:

#### Monkfish:

- Ocommercial landings were highest in 2000 2004 time period (with over 30 million pounds landed in a given statistical area) with the fewest monkfish landings in a given statistical area in 2020-2024 time period (with 16.1 million pounds landed in a given statistical area). Calendar year 2024 had the lowest monkfish commercial landings of 2.6 million pounds.
- o Regarding the total CPUE figures across 2000-2010 and 2011-2019 timeframes, patterns in distribution are hard to detect across the time periods and by seasons.

#### Skates:

- Winter skate and barndoor skate prevalent across the Mid-Atlantic in the spring, concentrates northward in the fall. Seasonal movement less clear for little skate and thorny skate.
- Where caught in the survey, no concentrated areas of abundance except slightly higher abundance off the southern flank of Georges Bank for barndoor skate.
- o The winter skate and barndoor skate biomasses have increased across this time, and an increase in abundance can be observed here.
- O Determining any distribution shifts across time would need further analysis.

## Monkfish

Figure 8. Monkfish commercial landings by statistical area for calendar years 2000 – 2024. Magnitude of monkfish landings varies across years: 20 lb to >30 million lb in 2000-2004; 29 lb to 20.3 million lb in 2005-2009; 59 lb to 21.3 lb in 2010-2014; 24 lb – 18.7 million lb; and 17 lb to 16.1 million lb in 2020-2024. Data source: CAMS, accessed by Tori Kentner 8/21/2025.

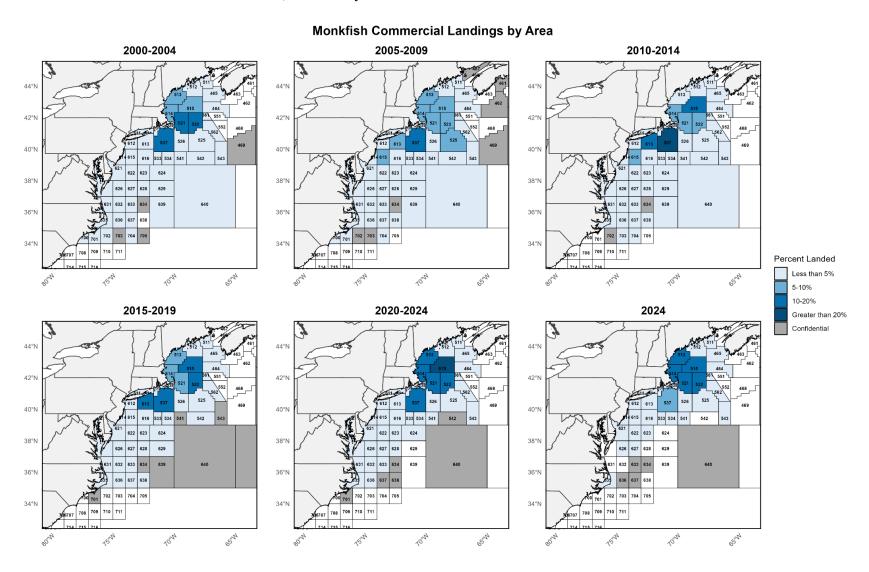
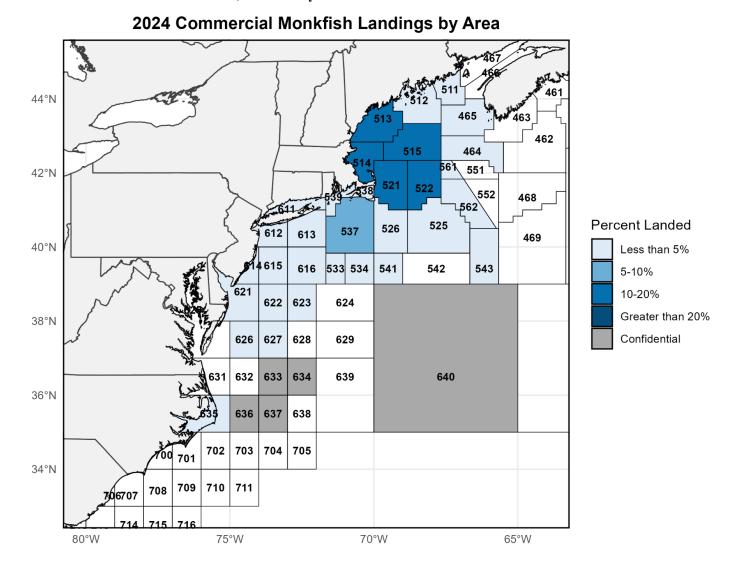
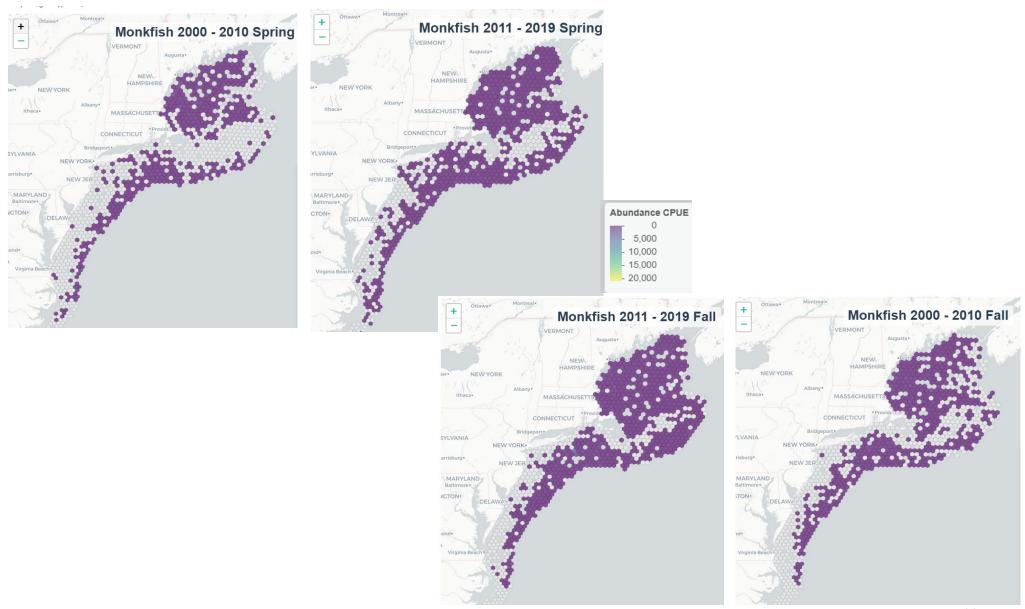


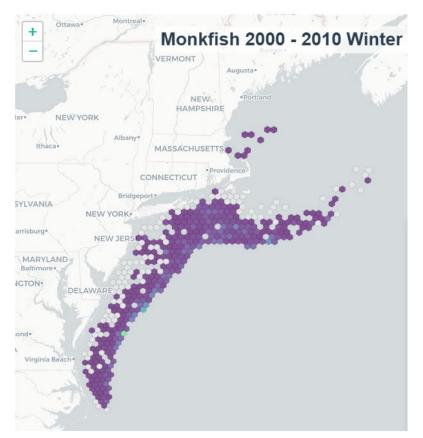
Figure 9. Commercial monkfish landings by statistical area for calendar year 2024. Magnitude of monkfish landings ranges from 7 lb to 2.6 million lb in 2024. Data source: CAMS, accessed by Tori Kentner 8/21/2025.



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Figure 10. Monkfish total Catch per Unit Effort (CPUE) by hexbin for the NEFSC bottom trawl survey for spring, fall, and winter for two time periods: 2000-2010 and 2011-2019. Note: summer is either missing and/or incomplete depending on the sets of years included in the ShinyApp and the 2011-2019 winter time period appears to be incomplete.







Abundance CPUE

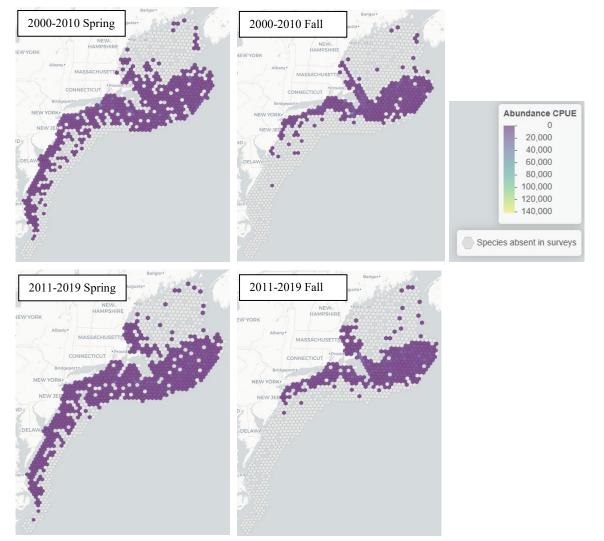
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- 15,000 - 20,000

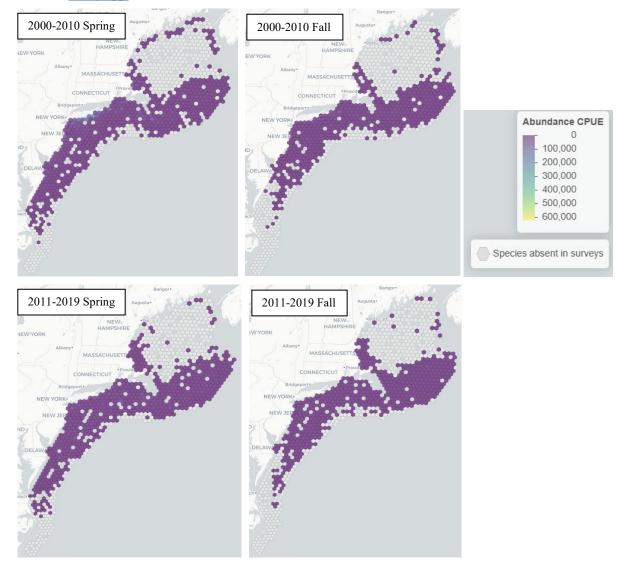
# <u>Skate</u>

Figure 11. Winter skate CPUE by hexbin for the NEFSC bottom trawl survey for spring and fall, 2000-2010 and 2011-2019.



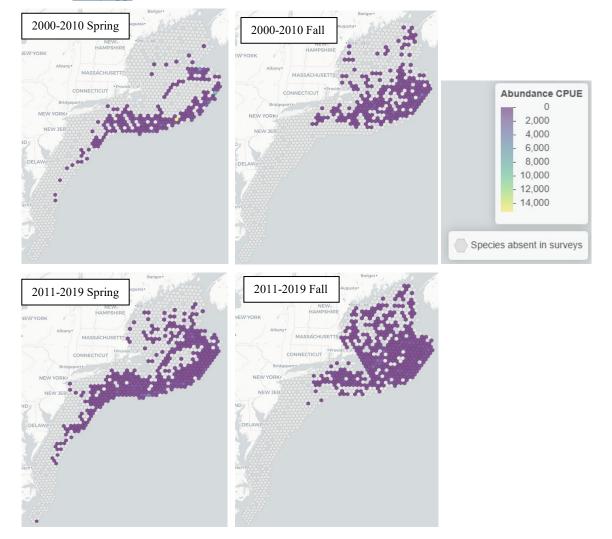
- Distributed across the Mid-Atlantic in the spring, northward shift in fall.
- Where caught in the survey, no concentrated areas of abundance.
- Biomass increase across time can be observed here.
- Determining any distribution shifts across time would need further analysis.

Figure 12. Little skate CPUE by hexbin for the NEFSC bottom trawl survey for spring and fall, 2000-2010 and 2011-2019.



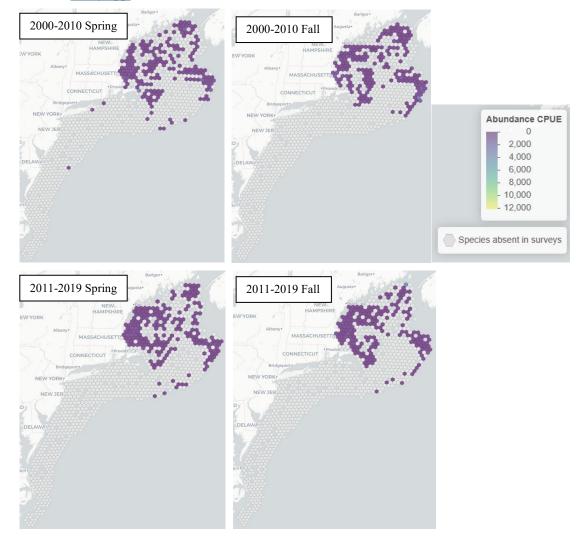
- Seasonal movement unpronounced.
- Where caught in the survey, no concentrated areas of abundance.
- Determining any distribution shifts across time would need further analysis.

Figure 13. Barndoor skate CPUE by hexbin for the NEFSC bottom trawl survey for spring and fall, 2000-2010 and 2011-2019.



- Distributed across the Mid-Atlantic in the spring, northward shift in fall.
- Where caught in the survey, slightly more concentrated off the southern flank of Georges Bank; otherwise evenly distributed.
- Were declared rebuilt in 2016, and the biomass increase across time can be observed here.
- Determining any distribution shifts across time would need further analysis.

Figure~14.~Thorny~skate~CPUE~by~hexbin~for~the~NEFSC~bottom~trawl~survey~for~spring~and~fall,~2000-2010~and~2011-2019.



- Seasonal movement unpronounced.
- Where caught in the survey, no concentrated areas of abundance.
- Biomass remaining in Gulf of Maine and edges of Georges Bank.
- Determining any distribution shifts across time would need further analysis.