New England Fishery Management Council
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MEETING SUMMARY

Monkfish Catch per Unit Effort (CPUE)

webinar
July 28, 2025

The Monkfish Plan Development Team (PDT), Advisory Panel (AP), Committee, and other stakeholders met on July 28, 2025, at 10:00 am to: 1) review and discuss how Monkfish days-at-sea (DAS) are calculated, 2) review and discuss Monkfish CPUE projects to date, 3) begin discussing alternative methods for determining Monkfish DAS allocations, and 4) other business.

MEETING ATTENDANCE: Ms. Jenny Couture (PDT Chair), Ms. Sharon Benjamin, Mr. Jason Didden, Dr. Tara Dolan, Dr. Chris Legault, Mr. Spencer Talmage, and Dr. Sara Turner (Monkfish PDT); Ms. Togue Brawn, Mr. Matt Gates, Mr. Peter Hughes, Mr. Ted Platz, Mr. Paul Risi, and Ms. Kelly Whitmore (Monkfish Committee); Ms. Aubrey Church, Mr. Patrick Duckworth (Monkfish Advisory Panel). Mr. Scott Sakowski (NOAA General Counsel), NEFMC staff member Ms. Emily Bodell, and NEFMC member Ms. Megan Ware also participated. Invited participants included: Dr. Andy Jones (NEFSC Cooperative Research Branch); Dr. Steve Cadrin (SMAST), Ms. Sierra Richardson (SMAST); Ms. Mel Sanderson (Cape Cod Commercial Fishermen's Alliance); Mr. Scott Curatolo-Wagemann, Mr. Emerson Hasbrouk, and Mr. Patrick Sullivan (Cornell University). In addition, about two members of the public attended.

INTRODUCTIONS, TIMELINE, MEETING PURPOSE

Staff introduced the meeting attendees, reviewed the timeline for various upcoming monkfish meetings, and reviewed the purpose of the CPUE meeting. No questions were asked.

AGENDA ITEM #1: MONKFISH DAS CALCULATIONS

Presentation

Council staff provided an overview of how Monkfish DAS were originally calculated as part of the original Monkfish Fishery Management Plan and associated appendices from 1999. Ms. Couture also gave an overview of how Monkfish DAS are adjusted through subsequent framework actions, most recently through Monkfish Framework 13. Mr. Emerson Hasbrouk provided a brief project update on the Monkfish Research Set-Aside (RSA) project he is working on with Cornell University.

Discussion

No questions or discussion.

AGENDA ITEM #2: MONKFISH CPUE PRESENTATIONS

Presentation #1: Dr. Andy Jones

Dr. Andy Jones from NEFSC Cooperative Research Branch gave a presentation on his Monkfish CPUE work to date. This included an overview of his work presented during the March 2025 Joint Monkfish and Skate AP and Committee meetings, a synopsis of primary findings for trends in CPUE indices for trawl, gillnet, and scallop dredge gear types, and straw man analyses for how these indices could potentially be applied to adjusting Monkfish DAS allocations. Dr. Jones requested any feedback and noted that he is developing a working paper on this work that is expected to be completed soon.

Questions, Discussion

One person asked how trips were identified given he was interested in focusing just on the southern gillnet fishery where there are low monkfish landings relative to total allowable landings (TAL) (one of the main issues in this fishery). Dr. Jones explained that target species are listed for a given trip and target species vary depending on management area and gear type; for this work, only trawl data for the northern area (comprised almost exclusively of groundfish trips) and gillnet data for the southern area were included. He further described that the top five commonly caught species with monkfish are included as a way to spatially broaden the dataset so that it is more robust (versus only including trips where monkfish are caught, which is more spatially narrowed). This type of approach is similar to what is done with the NEFSC trawl survey sampling stations and survey strata. Some of the most commonly caught species include spiny dogfish, lobster, cod, Jonah crab, and skates (along with a few other species). The participant who asked the initial question followed up by stating that filtering data for trips using a Monkfish DAS declaration would be most appropriate and that focusing efforts on the northern trawl area is not a fruitful exercise given the high TAL use in the north versus the south. One PDT member noted that including information for both management areas and fisheries is helpful for model validation and explained that CPUE work is a balancing act between focusing on trips where monkfish is landed and on trips where the other commonly caught species are landed to prevent hyperstability in CPUE indices. Dr. Jones explained that in his discussions with Dr. Legault (NEFSC monkfish assessment scientist), it was important to include an expansive dataset that is spatially bound, though that may be less reflective on what fishermen are seeing on the water. The original intention of this work is to show relative monkfish abundance for stock assessment purposes, not just where fishermen are targeting trips for monkfish. Another PDT member emphasized that using the top five commonly caught species is a standard approach for trip selection in CPUE analyses.

There was a lengthy follow-on discussion on why lobster and crabs were included in the top five most commonly caught species given monkfish has low interaction with and impact on these other species' populations. Ms. Couture reiterated that the original intention of these CPUE indices was for the monkfish stock assessment process (providing a relative abundance of monkfish) and to see if this work could also be applied to help improve how Monkfish DAS allocation methods are determined. Part of this discussion included a conversation on whether skates should be included as a covariate in the CPUE index. Dr. Jones explained that once the various datasets are aggregated, it's fairly simple to add in thresholds for skate landings or other covariates. The hardest part is combining the various datasets together, including the DAS declaration code data if desired (which was confirmed to be within the CAMS database). It is also possible to add in other pieces of information that can be found in other datasets like net size, number of mesh panels, etc., but this type of information is not currently included.

Lastly, one member asked whether scallop fishery data were included in this work; Dr. Jones explained that yes, albeit the scallop data have a shorter time series. There are enough records to include the scallop time series in the southern area and decent coverage on Georges Bank but the northern area is lacking a sufficient time series. Generally, the scallop data show similar trends as the bottom trawl survey in the southern area and in Georges Bank.

Presentation #2: Ms. Sierra Richardson

Ms. Sierra Richardson from SMAST presented her ongoing work with Dr. Steve Cadrin focused on developing standardized CPUE indices for monkfish, intended to be used in a future stock assessment.

She provided an overview of methodology, takeaways from workshops held with the fishing industry, and preliminary results for effort trends and modeled time series for standardized and raw catch rates for the northern trawl monkfish fishery and the southern gillnet monkfish fishery. Ms. Richardson also noted that total landings of monkfish and skates in the southern gillnet fishery have fluctuated over time, though skate catch rates began dominating landings relative to monkfish in 2008 and that skate landings surpassed monkfish landings in 2023. The work will be wrapped up in the fall and the research group offered to provide a report to the Council shortly thereafter.

Questions, Discussion

There were a couple of questions on which trips were included and how DAS were defined. Ms. Richardson noted that the compiled data include trips where monkfish were landed and that DAS were defined based on the start and end date of a trip and not by a declaration code. Another person asked about the relationship between depth and the CPUE index; depth is a factor in the standardization such that catch rates from deeper and shallower waters across years can be standardized or accounted for in the operating model. This is important because depth could be affecting the catchability of monkfish (which could be indicative of more favorable conditions, for example). There was a brief discussion on the raw versus standardized time series and what is driving an increase in the raw data but not the standardized time series. Dr. Cadrin explained that the standardized time series is based on various factors including statistical area, month, presence/absence of a tie-down, and depth, so the magnitude of this catch rate time series can change depending on the set of factors that are chosen. He noted that it is more important to evaluate the relative standardized index over time versus the magnitude of the index.

One participant asked whether skates was included as a covariate in the CPUE index; this was evaluated in the analysis, however, the model did not perform well and was not statistically valid. Ms. Richardson and Dr. Cadrin worked with the fishing industry to develop criteria on which trips should be included or excluded and the proportion of landings that are skate that would likely be problematic in the analysis (i.e., confounding monkfish catch rates). The effect of skates was ultimately not directly included in the CPUE indices. The participant who asked the question was interested in understanding whether monkfish are actually present in the area or whether skates are clogging the nets, affecting CPUE index; he suggested further exploration of skates as a covariate.

Several questions were raised regarding how knowledge from the fishing industry was included in the CPUE index development. Ms. Richardson described that they plotted the raw logbook data and showed trends in effort and skate catch as part of their initial workshops with the fishing industry; they also plan to present their preliminary findings in the fall to get additional feedback on effort metrics used before finalizing their results. Regarding the question about higher skate catch earlier in the logbook time series, Ms. Richardson explained that around 2008, fishers started noticing an increase in skate catch rates relative to monkfish and concern that skates would eventually limit their ability to catch monkfish. A PDT member commented that skate abundance wasn't problematic for catching monkfish before 2008. A Committee member followed up and asked about the logbook landings data from 2000 to 2008 given those data seem inconsistent with his recollection of monkfish fishing conditions during that time. Ms. Richardson explained that some of the trends in catch rates can change depending on which effort metrics are included and the type of data pull (i.e., trips are based on monkfish landings not skate landings that also happen to catch monkfish). The Committee member urged work on defining monkfish trips based on Monkfish DAS declaration code in the southern management area for gillnet gear.

General discussion on both CPUE project results

There are similarities and differences between the two CPUE projects. Generally, the raw and standardization indices are fairly similar, showing similar trends over time. The indices were derived from different data sources and code and methodology, so similar findings help provide more confidence in trend results.

AGENDA ITEM #3: POTENTIAL IDEAS FOR HOW TO MODIFY MONKFISH DAS CALCULATION

To start the discussion, Ms. Couture and Mr. Platz presented two potential ideas for how to use the Monkfish CPUE projects to adjust Monkfish DAS allocations in the future. Note that for these projects to be used in fisheries management, work needs to be peer reviewed (potentially through a sub-panel of the Council's Scientific and Statistical Committee, for example) and considered during a monkfish assessment. As such, these projects cannot be used in monkfish management this year.

Questions, Discussion

Regarding potential ideas for how to adjust Monkfish DAS allocation methods, a few participants liked taking a more straightforward approach such as using a more directed CPUE index (southern gillnet fishery) and a more incidental mixed fishery CPUE index (northern trawl fishery) for active fishing participants and then sorting out a different approach for the latent effort permits (via a tiered approach, for example). The goal would be to account for both active and latent effort that could become reactivated in a more realistic way. A couple of meeting participants suggested using recent data as indicative for future participation. Overall, any proposed changes in how Monkfish DAS are determined should be reviewed and approved by the Monkfish Committee and perhaps the full Council. The GARFO PDT representative also agreed that having input from the Council would be beneficial and that clear documentation on how Monkfish DAS allocation are determined would be useful.

Dr. Cadrin suggested using the unstandardized time series catch rate effort could be helpful to determine current/recent fishing patterns. Generally, his team's work found that DAS are a decent effort metric for the northern trawl fishery given the higher data quality; for the southern gillnet fishery, the relationship with DAS effort metric is less robust, which is a challenge. For the southern gillnet fishery, Dr. Cadrin recommended looking at seasonal fishing patterns and spatial patterns over time to see how catch rates have changed to help determine which set of years to use for describing the current state of this fishery. Dr. Jones agreed with this type of approach.

AGENDA ITEM #4: NEXT STEPS AND OTHER BUSINESS

Ms. Couture summarized overall meeting outcomes, reiterated expectations for how this work could be used in the future, and reminded attendees of upcoming monkfish-related meetings.

Questions, Discussion

Dr. Jones is working to wrap up his working paper soon, detailing his methods and results. Ms. Richardson and Dr. Cadrin will be presenting their results during a conference in September with a final workshop with the fishing industry planned for this fall. Council staff advised that the work needs to be peer reviewed in order to be used in management; she suggested a sub-panel of the Council's Scientific and Statistical Committee in the future, once the work is finalized. The underlying code and modeling protocol for each of the projects can be shared with Council staff as needed, once the projects are finalized.

Dr. Jones followed up by asking whether trip limits could be impacting monkfish fishing operations because this could be included as part of his CPUE work. One participant commented that a range of landing limits and DAS options have been discussed in the past and the outcome is typically a balancing act between increasing trip limits sufficiently without reducing DAS too much.

Dr. Cadrin pointed out that the output for their work is the relative abundance for the monkfish stock index. He again recommended looking at the unstandardized catch trends from the logbook data and the descriptive analysis of recent catch for use in the Monkfish DAS methods and allocation discussion given the standardized CPUE indices are designed for use as part of a future monkfish stock assessment. More specifically, the logbook data could help inform which set of years to focus on for recent catch data and fishing behavior. A Committee member followed up by asking whether additional work could be done that is focused on Monkfish DAS allocation specifically, given most of the CPUE work has been

designed for the monkfish stock assessment. Council and GARFO staff explained that due to the expected NEFSC data update in lieu of an assessment, NOAA General Counsel advised that only minor changes could most likely be made when setting this year's specifications and effort controls and noted that substantial changes to Monkfish DAS methods are likely not feasible.

Another Committee member asked how this meeting and the overall work from these two projects will be reported out in the future and how to keep discussing this more holistically with the Monkfish Committee as other work unfolds, including the Inflation Reduction Act projects. Ms. Couture suggested including this as part of the September AP and Committee meetings and plans to keep folks apprised of final reports, etc. via correspondence. The Committee member was ultimately concerned that this work would be forgotten and not incorporated into the broader Council discussion on holistic fisheries management. One of the Monkfish RSA participants from Cornell emphasized his interest in contributing to this CPUE work and offered to work with Council staff and NEFSC on how best to move forward.

Discussion on Monkfish Fishery Performance

At the end of the meeting, Ms. Couture asked if there was anything worth noting about recent monkfish fishery performance for the PDT to consider during its upcoming deliberations.

Questions, Discussion

A PDT member asked about any overages that needed to be accounted for when setting specifications for monkfish this fall. Ms. Couture explained that the northern area Acceptable Catch Limit was exceeded by 1.1% and would need to be accounted for as part of this year's specifications action. Another PDT member was interested in understanding whether the change in how Monkfish DAS are allocated via Monkfish Framework 13 had an impact on the fishing industry (there was a prior DAS use restriction only in the southern area and now there are separate northern and southern DAS allocations and an overall DAS cap across areas); this question can be brought up during future PDT, AP, and Committee meetings for any industry input.

No other business was brought forward; the meeting adjourned at 1 pm.