



New England Fishery Management Council

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Daniel Salerno, *Chair* | Cate O’Keefe, PhD, *Executive Director*

MEMORANDUM

DATE: February 23, 2026
TO: Scientific and Statistical Committee Subpanel
FROM: Cate O’Keefe, Executive Director
SUBJECT: **Terms of Reference – Review of methods for developing monkfish catch per unit effort indices**

TERMS OF REFERENCE

- A. Evaluate the strengths and weaknesses of the methods and summary products of the two projects to develop standardized monkfish catch per unit effort (CPUE) indices. Provide suggestions for improvements to the methods and/or summary products where appropriate. Topics to consider include, but are not limited to, the following:
1. Do the projects clearly define and describe the data sources, methods, and assumptions with a level of detail sufficient to assess results and applicability to monkfish assessment and management?
 2. Do the projects characterize trends in monkfish catches by gear type and monkfish management area?
 - i. Are there additional data sources, aggregations, resolutions, etc. that should be considered?
 - ii. Are key areas of uncertainty identified and addressed?
 3. Are the conclusions regarding the trawl and gillnet CPUE comparisons to the NEFSC bottom trawl surveys scientifically robust?
- B. Evaluate utility of the project outcomes and what project modifications would improve their utility. Topics to consider include, but are not limited to, the following:
1. Whether project outcomes should be used individually or if they can also be used in combination given the differences in methods and assumptions.
 2. Whether and how project outcomes could inform future monkfish stock assessments.
 3. Whether and how project outcomes could inform management approaches, such as how monkfish days-at-sea (DAS) and monkfish trip possession limits are determined?

ASSESSMENT BACKGROUND

Since 2016, monkfish assessments have been unable to estimate biological reference points due to uncertainties with monkfish aging and growth. Instead, the Northeast Fisheries Science Center (NEFSC) has applied the I-smooth method using the recent trend in the NEFSC bottom trawl survey index for developing catch advice. This method calculates the proportional rate of change in a smoothed average of the fall and spring NEFSC bottom trawl surveys over the most recent three years. This rate is the slope of the regression trend from the last three years, which is then multiplied by the most recent three-year average of fishery catch to determine catch advice.

In September 2022, the I-smooth monkfish assessment approach was peer reviewed as a management track update. The assessment method did not integrate updated indices from the Shrimp Trawl Survey and the Virginia Institute of Marine Science Scallop Dredge Survey, but these indices were presented for additional context about the monkfish stocks. In 2025, the NEFSC conducted a data update for northern and southern monkfish including updates to the NEFSC bottom trawl survey biomass indices and fishery catch data. The I-smooth assessment method was not updated.

MOTIVATION FOR CPUE PROJECTS

The I-smooth approach was developed as an alternative to analytical assessments for setting catch advice for data-poor stocks. This approach relies on fishery-independent surveys to denote the direction and magnitude of any change in stock abundance, which is applied to recent catch. As such, there are two main assumptions underpinning this approach: 1) the fishery independent survey adequately and consistently catches monkfish, and 2) the recent trend in the survey reflects the stock's response to recent fishery catch. Fishing industry members have voiced concerns over the I-smooth approach because the NEFSC bottom trawl surveys may not be catching monkfish consistently.

The New England Fishery Management Council (Council) has provided guidance to advance the application of catch rate indices in stock assessments and for development of management measures. The Council's [Fishery Data for Stock Assessment Working Group](#) recommended the development of a catch rate index for monkfish as a priority. In 2022, the Council voiced concerns about the I-Smooth method used during the last three stock assessments to determine monkfish catch advice. Subsequently, the Council recommended that [the top priority](#) for the Monkfish Research Set-Aside (RSA) Program focus on "Research to develop a standardized catch per unit effort (CPUE) index for the commercial directed monkfish gillnet fishery to be used for stock assessment purposes." In April 2024, the Northeast Region Coordinating Council's (NRCC) Research Track Steering Committee [encouraged](#) the Monkfish Research Track Working Group to engage with the RSA project teams for developing fishery catch rates, but the Research Track efforts were indefinitely paused and the 2025 Management Track assessment for monkfish was replaced with data updates. In August 2025, the Scientific and Statistical Committee [recommended](#) alternative assessment methods and consideration of additional survey indices for future monkfish stock assessments.

Alternative approaches are needed to better understand how the population of monkfish is changing in each management region. The CPUE indices are intended to reflect trends in

monkfish stock size for trawl gear in the northern monkfish management area and for gillnet gear in the southern monkfish management area.

WHY THE COUNCIL IS INTERESTED IN THIS WORK

The SSC subpanel is requested to review two separate research projects that developed standardized CPUE indices. These projects were conducted by 1) the University of Massachusetts Dartmouth School for Marine Science & Technology in collaboration with the Cape Cod Commercial Fishermen’s Alliance, and 2) the Northeast Fisheries Science Center Cooperative Research Branch. The researchers collaborated and shared findings throughout the process.

The goal for development of these indices is to improve the performance of future monkfish stock assessments and management measures. The SSC subpanel peer review of this work is requested given the Monkfish Research Track Assessment that was intended to evaluate these CPUE indices is paused indefinitely. This technical review follows the [Council’s Research Review Policy](#), consistent with National Standard 2 Guidelines.

INFORMATION

1. Introductory presentation: Monkfish project context, management, and assessment background (M. Sanderson, S. Cadrin)
2. Project 1: Incorporating Fishermen’s Knowledge into Standardized Catch-Per-Unit-Effort Indices for the Commercial Monkfish Fishery
 - a. Project team presentation
 - b. Project technical report (Richardson, Cadrin)
3. Project 2: Examining High-Resolution Monkfish CPUE Indices Across Gillnet, Trawl, and Scallop Dredge Fisheries
 - a. Project team presentation
 - b. Project technical report (Jones, Legault)
4. Presentation: Monkfish project team recommendations and responses to TORs (S. Cadrin)
5. Past SSC Reports on Monkfish OFL/ABC:
 - a. [Monkfish OFL/ABC 2023-2025](#), November 21, 2022
 - b. [Monkfish OFL/ABC 2023-2025](#), January 23, 2023 (Remand)
 - c. [Monkfish OFL/ABC 2026-2030](#), August 31, 2025