

# SSC Report to NEFMC

- 1. Subpanel on review of Monkfish catch per unit effort projects***
- 2. Social Sciences Subcommittee update***

**Dr. Conor McManus, SSC Chair**  
**NEFMC Meeting**  
**April 14, 2026**



# 1. SSC Subpanel on Monkfish Catch Per Unit Effort (CPUE)

An SSC subpanel met on March 13 to address 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.
  
- A. Evaluate utility of the project outcomes and what project modifications would improve their utility.

*Each TOR had specific questions to address.*



# Background/Review Context

- The I-smooth approach has been used to set monkfish catch advice since 2016, relying on fishery-independent surveys to denote the direction and magnitude of any change in stock abundance, which is applied to recent catch.
- Two main I-smooth assumptions: 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 I-smooth and whether the NEFSC bottom trawl surveys catch monkfish consistently.
- Developing CPUE indices aims to improve the performance of future monkfish stock assessments and management measures.
- The Council asked for an SSC subpanel to review the projects given the Monkfish Research Track Assessment that aimed to evaluate these CPUE indices is paused indefinitely.



# Project Overviews

Subpanel reviewed two research projects that developed standardized CPUE indices:

1. The University of Massachusetts Dartmouth School for Marine Science & Technology in collaboration with the Cape Cod Commercial Fishermen's Alliance (Project 1).
  - a. Partially funded by the Monkfish Research-Set-Aside Program.
  - b. Derived CPUE indices using vessel logbooks and trip reports, representing catch from nearly the entire fleet (trawl and gillnet).
  - c. Informed by five industry workshops on catch rates and how to interpret data.
  
1. The Northeast Fisheries Science Center Cooperative Research Branch (Project 2).
  - a. Used NEFSC Study Fleet and observer data (trawl, gillnet, scallop dredge)
  - b. Used a randomized subsampling approach.

The researchers collaborated, used similar statistical approaches, shared findings throughout.



# ***TOR A - Evaluate methods and summary products***

*a. 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?*

- The subpanel found that the projects adequately described the data sources, methods and assumptions used in deriving the CPUE indices.
- The subpanel recommended:
  - Ensuring reproducibility of work
  - Additional documentation on model selection processes and diagnostics
  - Evaluating additional effort metrics, and
  - Exploring more advanced analytical methods for CPUE modeling.



# ***TOR A - Evaluate methods and summary products***

- b. 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?*
- The projects effectively characterized trends in monkfish catches by gear type and management area, and addressed some of the key areas of uncertainty.
- The subpanel recommended
  - Formal practices and guidelines for CPUE model or index evaluation be adopted for application in the management of NEFMC stocks.
  - Continued exploring feasibility of accounting for the influence of skates on gillnet indices.



# ***TOR A - Evaluate methods and summary products***

- b. 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?*
- The subpanel discussed how the CPUEs could better explore catchability considerations.
- The subpanel noted coherence between the project CPUEs, and differences in variables' effects across models.
- The subpanel recommended exploring additional technology creep scenarios that represent the evolution of the monkfish fishery over time.



## ***TOR A - Evaluate methods and summary products***

*c. Are the conclusions regarding the trawl and gillnet CPUE comparisons to the NEFSC bottom trawl surveys scientifically robust?*

- Comparisons between CPUE indices and the NEFSC bottom trawl survey indices were largely through visual tools and correlation analyses.
- The subpanel supports not using correlation coefficients as a metric for inclusion/exclusion for future use, as the CPUE trends inherently could capture features missed by fishery-independent surveys, and thus provide new insight.
- The subpanel thought it would be informative to compare the CPUE model-based coefficients of variations (CVs) to the NEFSC bottom trawl survey CVs to understand the precision in the indices.



## ***TOR B - Evaluate utility of outcomes***

- a. Whether project outcomes should be used individually or if they can also be used in combination given the differences in methods and assumptions.*
- The subpanel supported the project teams' recommendation on the specific CPUE indices that could inform future assessments and fisheries management deliberations.
  - The subpanel noted the inconsistent trend in the northern trawl indices may reflect multiple factors, including characteristics of the northern trawl fishery, changes in management strategies, and differences in the strengths and limitations of observer versus logbook data in this area.
  - The subpanel noted that whether one or multiple indices are used will depend on both the application (e.g., stock assessment) and how the indices are developed further based on the subpanel feedback.



## ***TOR B - Evaluate utility of outcomes***

*b. Whether and how project outcomes could inform future monkfish stock assessments.*

- The subpanel did not identify specific indices that should be solely used for assessment or management applications, but suggested prioritizing further developing observer-based indices in the short term due to the quality of the data and availability of northern and southern CPUE indices derived from one data source.
- The subpanel recommended further considering additional metrics or rubrics for determining when to use CPUE indices.
- The subpanel noted that the application of these indices would depend on the future assessment approach for monkfish.



## ***TOR B - Evaluate utility of outcomes***

*b. Whether and how project outcomes could inform future monkfish stock assessments.*

- Decisions would need to be made as to which indices to include in an analytical model and how to weight them if multiple indices are used.
- Adoption of formal criteria for both the inclusion and removal of CPUE indices in stock assessments would help ensure that index use is systematic and unbiased.
- Ideally, methods would allow for CPUEs to adapt to changing stock boundaries.
- Irrespective of their inclusion in a stock assessment model, the subpanel noted that these indices would be valuable both for SSC deliberations for catch advice and fisheries management applications.



## ***TOR B - Evaluate utility of outcomes***

- c. Whether and how project outcomes could inform management approaches, such as how monkfish days-at-sea (DAS) and monkfish trip possession limits are determined?*
- The subpanel affirmed that the CPUE indices would be useful for informing fisheries management decisions, specifically DAS deliberations.
  - Depending on the units, the CPUE indices (with projected fishing effort) could be informative for estimating DAS for the management units.
  - The subpanel pondered whether the fishery-dependent data could be revised in a fashion that could allow for a smaller lag between assessment terminal year and management action. If so, that would also prove to be a powerful tool for fisheries management decision making.



# Update on Social Sciences Subcommittee

## Two recent meetings: November 12, 2025 and March 10, 2026

1. Recommended improvements to fishery performance reporting and information provided to SSCs, and how reporting can efficiently meet multiple needs for information.
2. Considered Social Sciences Branch data products; recommended improvements and pathways for use.
3. Considered 2026 Council work priorities; discussed social sciences needs with plan development team members.
4. Planning a workshop in March 2026 on enhancing use of fisheries-dependent data for socioeconomic considerations in management.



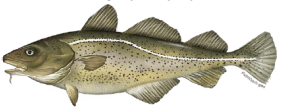
# 1. Fishery Performance Reporting - *data products*

Staff presented the range of fishery performance products generated by the Council ....

...and current work to more efficiently and consistently report on fisheries.


## Sections of Council Actions

**Northeast Multispecies Fishery Management Plan**  
**Amendment 23**  
 Including a Final Environmental Impact Statement, and  
 Initial Regulatory Flexibility Analysis



**Final Submission**  
**August 2021**

Prepared by the  
 New England Fishery Management Council  
 In consultation with the  
 Mid-Atlantic Fishery Management Council  
 National Marine Fisheries Service



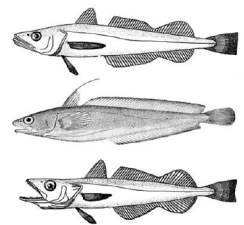
## Risk Policy Matrices

Policy Matrix	Policy	Policy Description
Stock Status	Stock Status	Stock status is defined as the ratio of current stock to the maximum sustainable yield (MSY) stock level. Stock status is a key indicator of the health of a fishery and is used to determine the appropriate management action.
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## Monitoring Reports

NEW ENGLAND FISHERY MANAGEMENT COUNCIL  
**Stock Assessment and Fishery Evaluation (SAFE Report)**  
 For the Small-Mesh Multispecies Fishery  
 Fishing Years 2020-2022

FINAL



**NORTHEAST SKATE COMPLEX FISHERY MANAGEMENT PLAN**  
**Annual Monitoring Report for Fishing Year 2023**



September 9, 2024

Prepared by the  
 New England Fishery Management Council  
 In consultation with the  
 National Marine Fisheries Service


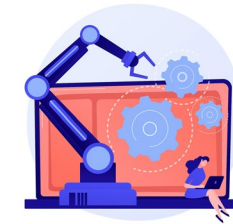



Image from Freepik.



# 1. Fishery Performance Reporting - *data products*

- SSS recommended
  - Providing more social and economic information earlier in the Council's decision-making process for actions, such as for SSC meetings.
  - Specific elements to bring to SSC meetings (e.g. Social Sciences Branch social indicators, performance measures); can also draw on prior recommendations.
- The SSS sees opportunities to make substantial progress now:
  - Enhanced interest in consistent and efficient reporting and
  - Advancements in automation technology to assist with data query and report generation.



# 1. Fishery Performance Reporting - *Advisory Panel reporting*

- Recommends having regular reports from Advisory Panels on fishery performance.
- This would help the SSC understand the factors that are influencing catch and how fisheries intersect and constrain each other.
- A short list of open-ended questions should be asked of all APs annually. Would allow advisors to tell the Council what is important to them; can compare across FMPs and over time.
  - What factors have influenced recent catch (markets/economy, environment, regulations, other factors)?
  - Are the current fishery regulations appropriate? How could they be improved?
  - What would you recommend as research priorities?
  - What else is important for the Council to know?



# 1. Fishery Performance Reporting - *Advisory Panel reporting*

- During years when specifications are being set, include questions on:
  - Expected aggregate impacts of different catch advice levels on net revenues.
  - Distribution of expected fishery-wide revenue changes across components of the fleet, particularly any disproportionately distributed effects.
  - Longer-term trends to contextualize the fishery beyond the 1-3 year tactical projection window.
- AP reports should note any gaps in representation of the full diversity of fishery participants.



# 1. Fishery Performance Reporting - for SSC

- Continue providing short reports like the cover page to groundfish Risk Policy Matrices (fall 2025).
- Prioritize concise summaries for all FMPs vs long reports for a few at the expense of consistency. Offered to iterate with staff on improving documents.
- To the short report, add:
  - “Community Characterization” to relate fishery to community changes and variation.
  - “Flashpoints for Consideration” to note key issues to be alert to.
- Provide to SSC: 1) short report, 2) Risk Policy Matrix, and 3) AP report.

**Fisheries of the Northeast Multispecies Fishery Management Plan**  
Created: October 14, 2025

**EXECUTIVE SUMMARY**  
Commercial and recreational fisheries are experiencing a declining trend across performance and participation metrics.

**COMMERCIAL FISHERY CHARACTERIZATION**  
*Fishery trends* Overall declining trend

Management uncertainty in the fishery  
The default management uncertainty buffer of 5% is applied to allocated stocks in the commercial groundfish fishery, unless otherwise stated in the following risk policy matrices.

Fishing Year	Total groundfish landings (mil lbs.)	Groundfish revenue (\$ mil)	Average groundfish ex-vessel prices (\$/lb)
2021	36.88	\$ 56.13	\$ 1.38
2022	33.26	\$ 46.14	\$ 1.34
2023	32.53	\$ 41.60	\$ 1.28

Commercial fishing communities  
The top 5 ports based on the Groundfish-Specific Commercial Engagement Indicator (2004-2023) are Gloucester, MA; New Bedford, MA; Boston, MA; Narragansett, RI; and Portland, ME.

Dealer Activity between 2019-2023  
The number of registered dealers buying allocated groundfish: **Decreased to 46 dealers**  
The number of dealers buying any species on groundfish trips: **Decreased to 79 dealers**

Reliance on other species quota  
The groundfish fishery on a whole relies on quota within the multispecies complex.

Fishing Year	Permitted groundfish	Active landing any revenue	Inactive
2021	849	560	289
2022	802	550	252
2023	811	533	278

**RECREATIONAL FISHERY CHARACTERIZATION**  
*Fishery trends* Overall declining trend

Management uncertainty in the fishery  
The default management uncertainty buffer of 7% is applied to stocks with a recreational component in the groundfish fishery, unless otherwise stated in the following risk policy matrices.

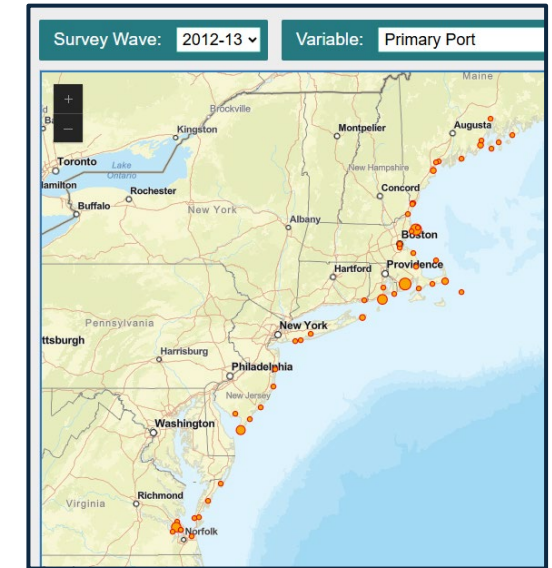
Recreational fishing communities  
Most of the top communities are in the Mid-Atlantic region, except for Narragansett/Point Judith, RI. Recreational fishermen in these communities are unlikely to rely on Northeast Multispecies.



## 2. Social Sciences Branch data products

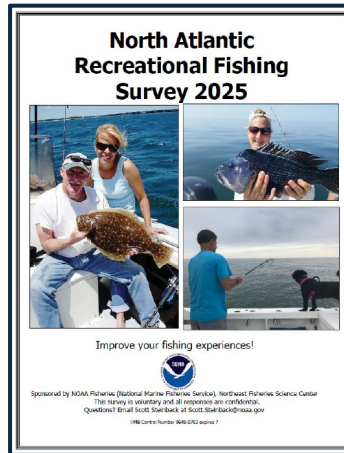
SSS considered data products of the Northeast Fisheries Science Center Social Sciences Branch (NEFSC/SSB) and plans for future projects; and provided input on these products and pathways for use in management and to prevent any duplication of effort with Council staff.

### Commercial Fishing Vessel Crew Survey and Visualization Tool

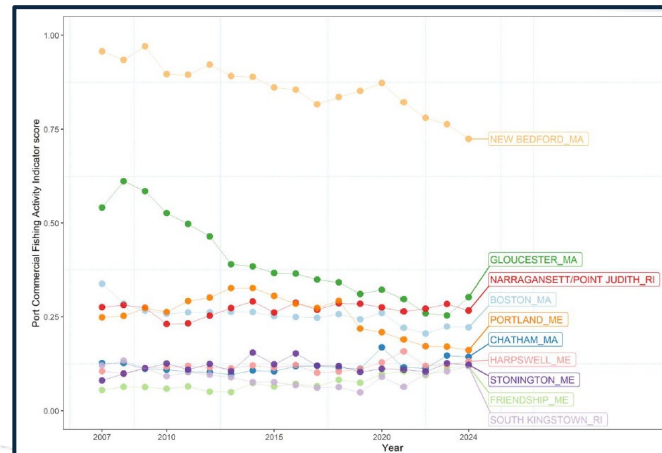


### Recreational Fishing Economic Survey

#### Commercial Fishing Business Cost Survey



#### Commercial Fishing Port Activity



- Environmental Variability Risk Indicators
- Commercial Fishing Performance Measures
- 2022 Vessel Profit Snapshots
- Economic Trip Cost Model
- Quota Change Model
- Recreational Decision Support Tool
- SSB Metrics Catalog



## 2. Social Sciences Branch data products

SSS recommended:

- Facilitate uptake by the Council by:
  - Repackaging SSB products at the FMP level where possible
  - Report fishing activity across the full range of a fishery and communities.
- Collaborate with:
  - Risk Policy Work Group to integrate SSB products into factor scoring.
  - Council staff for efficient and effective fishery performance reporting.
- Develop analyses of longer-term ripple effects of management and connectedness of entities.
- Social science SSC members should input in SSC reports to highlight potential impacts and ideas for research and reporting improvements.



### 3. 2026 Council work priorities

SSS discussed with social scientists on PDTs the 2026 Council work priorities, focusing on:

- Where and when social science work is expected to occur, information needs,
- Potential barriers to obtaining information, and ideas for overcoming barriers.

<b>Potential barriers</b>	<b>Ideas for overcoming barriers</b>
<ul style="list-style-type: none"><li>● Uncertain fixed-cost data due to low survey response rate.</li><li>● Lack of access to a data product by PDT members.</li><li>● Not understanding shifts in lease and ex-vessel prices.</li><li>● Seeking industry perspectives/data consistent with the Paperwork Reduction Act.</li><li>● Lack of staff capacity, time for analysis.</li></ul>	<ul style="list-style-type: none"><li>● Improve industry cooperation through increased dialogue.</li><li>● Coordinate with SSB/across PDTs early on data needs and deadlines and where a tool can be broadly used.</li><li>● Increased communication with sector managers, advisors.</li><li>● Hold voluntary public comment periods, conversations at Advisory Panel meetings.</li><li>● Automation tools can help with gaps in staff support.</li><li>● Contract out social and economic work.</li><li>● Council's new work on strategic planning could help plan for addressing needs.</li></ul>



## 4. Workshop on industry-generated data

SSS members coordinated a 1.5 day workshop in March:

- Goals
  - Shared understanding of existing industry tools/ data to characterise industry.
  - Identify barriers to use of this information in science and management, their characteristics, approaches to address them.
  - Recommend follow-ups, strengthen connections and dialogue.
- About 18 attendees from industry, SSB, SSC, Council.
- A follow-on to a May 2024 workshop on barriers to the integration of socioeconomic information derived from research-based social science (e.g., SSB, academic).
- Funded by the Cooperative Institute for North Atlantic Region (CINAR).
- Final report and discussion of next steps forthcoming.

