IRA 3.3 Ecosystem Component Species

#11

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NEW ENGLAND FISHERY MANAGEMENT COUNCIL MEETING

MYSTIC, CT & WEBINAR

JUNE 25, 2026

PROJECT MOTIVATION

- Acknowledgement that certain overfished stocks are not anticipated to "recover" to levels capable of supporting fisheries due to regime shifts or other unidirectional changes
    - Potential that the current perception of B_{MSY} is much less than the understanding of historical levels
- Beyond this project, the Council and NMFS may want to prioritize updating stock status for stocks with outdated or rejected assessments
    - Potential changes to unknown status could be analyzed on a case-by-case basis.
    - This screening tool could also be applied to help the Council with those prioritization efforts.

PROJECT OVERVIEW

Goal: Establish a robust screening process to evaluate species for their eligibility as an ecosystem component (EC).

Deliverable: A guidance document for NEFMC Technical staff to apply the Council-accepted process to screen species at the Council's discretion.

Why are we doing this work?

- *Climate-driven changes in distribution, abundance, and productivity of Council-managed stocks.*
- *Limited availability and rigid management of those stocks constrains fishery success.*
- *Need new processes that allow for adaption of management to ecosystem shifts and provide flexibility to the fishery, while maintaining data resources and oversight.*

**Focus for today*

PROJECT QUESTIONS

1. **What is an ecosystem component species according to the Magnuson-Stevens Act and National Standard Guidelines?***
2. **How does the Council identify an ecosystem component species according to the Magnuson-Stevens Act and National Standard Guidelines?***
3. **How does the Council designate and manage an ecosystem component species within a fishery management plan?***
4. Can an ecosystem component designation support the management of stocks where fishing pressure is no longer the driver of its population dynamics?

FOR TODAY

- Consider the methodology and screening factors
- Provide feedback on the process

WHAT IS AN ECOSYSTEM COMPONENT SPECIES ACCORDING TO THE MAGNUSON-STEVENS ACT?

DEFINITIONS

- *Ecosystem Component (EC) Species:* Stocks that a Council or the Secretary has determined do not require conservation and management, but desire to list in an FMP in order to achieve ecosystem management objectives (50 CFR 600.305(d)(13))
- *Conservation and Management:* All regulations and measures which are required to and useful in rebuilding or maintaining any fishery resource and which are designed to assure availability of a seafood supply chain, recreational benefits, and options for future uses of fishery resources, and the avoidance of irreversible or long-term effects on these resources (16 U.S.C. 1802(5))
    - Hereafter considered as full management under a federal FMP with all associated requirements pursuant to MSA

ECOSYSTEM COMPONENT DESIGNATION

- EC species can be identified at the species or stock level; or grouped in a complex
    - Hereafter designations are referenced at the stock level
- Removes the requirement under full management for annual catch limits (ACLs), other reference points, or accountability measures
- Council may adopt management measures in an FMP
    - Examples: spatial closures, incidental retention limits, requirements for monitoring and reporting, protections of their role in the ecosystem

HOW DOES THE COUNCIL IDENTIFY AN ECOSYSTEM COMPONENT SPECIES ACCORDING TO THE MAGNUSON-STEVENS ACT?

Council Priorities

Goals and objectives for Council actions

01

02

EC Screening Process

A tool to help prioritize Council and NEFSC resources

Ongoing Monitoring

Data collection and monitoring as required

04

03

FMP Amendment

Contains designation alternatives and management measures

SCREENING PROCESS

I. Evaluate and score the need for conservation and management
   - Two questions to be evaluated

II. Evaluate and score the ten National Standard Guideline factors
   - Ten questions to be evaluated
   - Non-exhaustive list (see III)
   - No single factor is dispositive or required

III. Consider additional information as necessary

Key Sources of Data

- *Commercial and recreational catch (landings + discards)*
- *Effort information*
- *Stock assessment information*
- *Life history characteristics*

SCORING

- Each question in the screening process receives a score based on proposed criteria or thresholds:
  - Score of 1: not supportive of an ecosystem component designation
  - Score of 0: supports an ecosystem component designation
  - A total score across the screening signals the stock's eligibility as an Ecosystem Component
- Adopted from the SAFMC (Comprehensive ACL Amendment)
  - Designated 6 species as EC Species
  - Based on 4 criteria (retention for sale or personal use, stock status, likelihood of overfishing, and whether a species / stock is non-targeted)
- Proposed thresholds and criteria will be informed by a pilot screening

CASE STUDY STOCKS

Main motivation: Choose a set of species that span a range of management considerations and dynamics to ensure the process is robust to the types of scenarios the Council could encounter.

- Scenarios include differences in
  - Stock statuses
  - Utilization rates
  - Fishery users and interests (recreational and commercial users)
  - Management structures (e.g., Skate complex FMP)
- These stocks are not being considered for designation and are for demonstration purposes, only.

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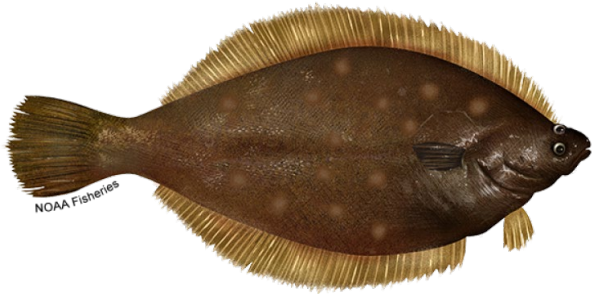
Focus for today (preliminary examples)

Species	*FMP*
Sand lance*	**None**
Cusk	None
Southern windowpane flounder	Groundfish FMP
SNE/MA yellowtail flounder*	**Groundfish FMP**
Atlantic wolffish	Groundfish FMP
Witch flounder	Groundfish FMP
Thorny skate	Skate FMP
Rosette skate	Skate FMP
Offshore hake	Small-mesh FMP
Red hake	Small-mesh FMP

MAGNUSON-STEVENS ACT CRITERIA

I.i. IS THE STOCK OVERFISHED, SUBJECT TO OVERFISHING OR LIKELY TO BE?

- For currently managed stocks:
  - NOAA Determination of stock status
- For unmanaged stocks or stocks with unknown status:
  - Productivity and Susceptibility Analysis (PSA; Patrick et al. 2010)



<u>Stock status:</u>

- Overfished
- Overfishing not occurring

<u>Vulnerability:</u> Low

- Based on preliminary PSA results

I.ii. IS THE STOCK PREDOMINANTLY CAUGHT IN FEDERAL WATERS?

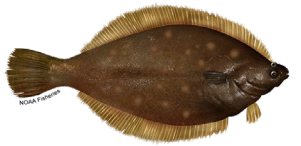
- *Predominately caught*: "mainly or for the most part" caught in federal waters (Revisions to NS 1, 3, 6 of the MSA)
- Analysis will also develop maps of fishing activity by 10-minute squares as the confidentiality rule of three permits.

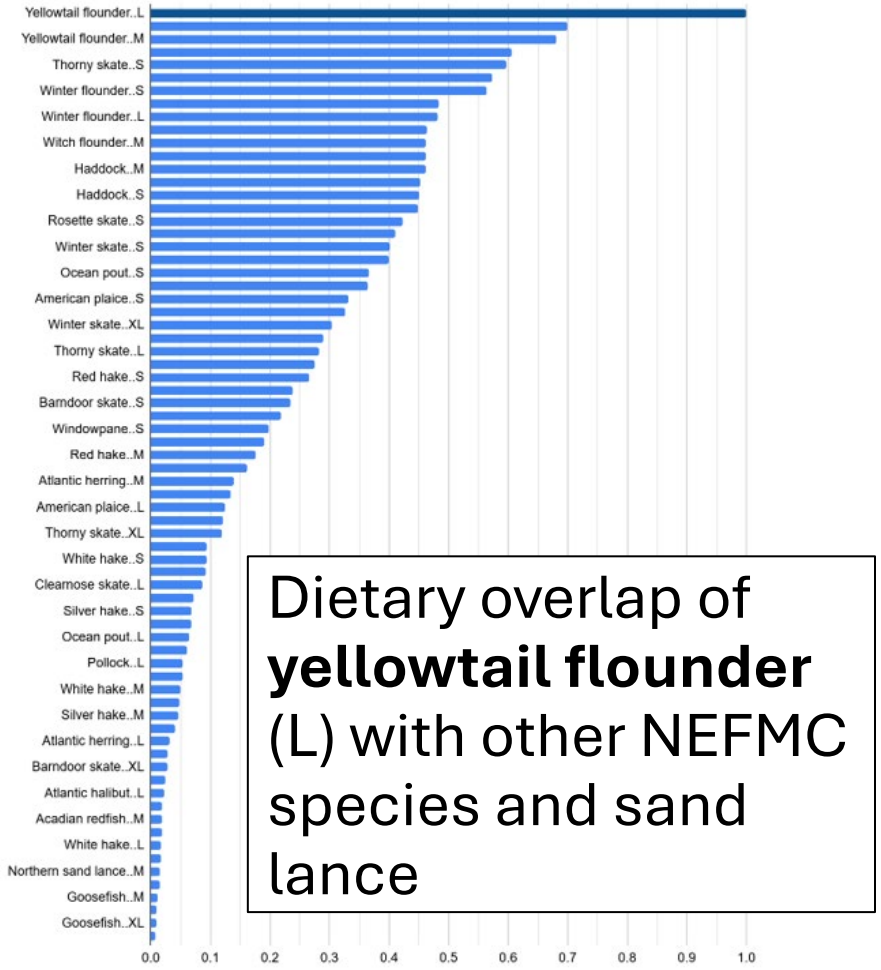
Stock Name	Federal Waters Catch (mt)	State Waters Catch (mt)	Proportion of Catch in State Waters
Northeast Multispecies			
Other Groundfish Stocks	94,243	2,670	3%
SNEMA Yellowtail flounder 	1	0.1	4%

Proportion of total catch (in mt) occurring in state waters of over the most recent five fishing years. "Other Groundfish Stocks" includes all other stocks in the FMP, excluding case study species.

NATIONAL STANDARD GUIDELINE FACTORS (§ 600.305(C))

II.i. IS THE STOCK AN IMPORTANT COMPONENT OF THE MARINE ENVIRONMENT?

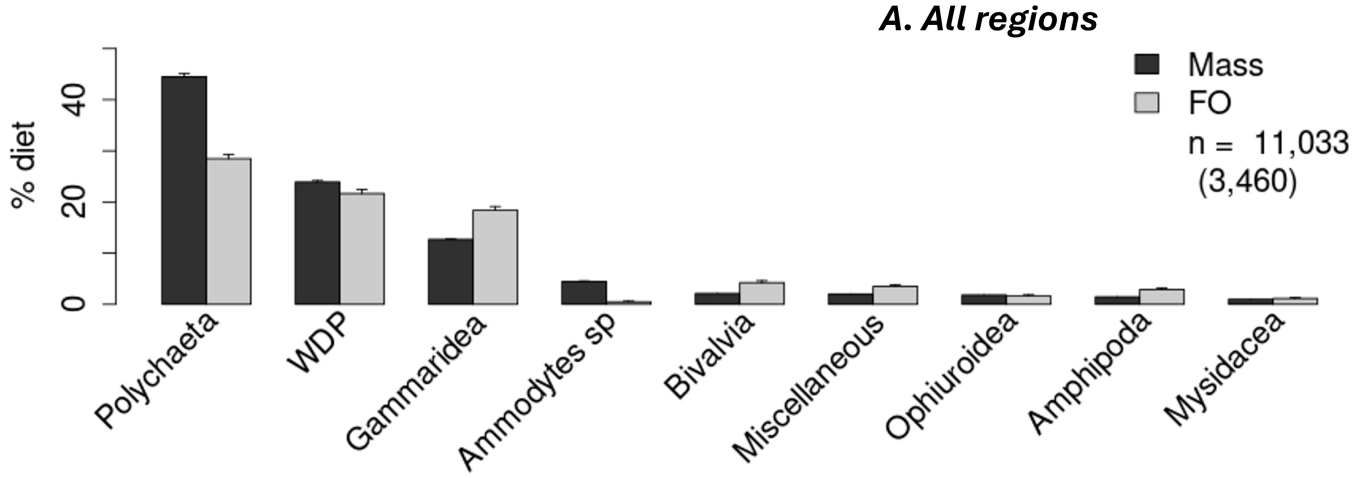




Dietary overlap of **yellowtail flounder** (L) with other NEFMC species and sand lance

0 – no overlap ⟷ 1 – perfect overlap

Diet composition of **yellowtail flounder** (% diet by mass and by frequency of occurrence)



Data and figures from NEFSC Food Web Dynamics Program R Shiny App: https://fwdp.shinyapps.io/tm2020/

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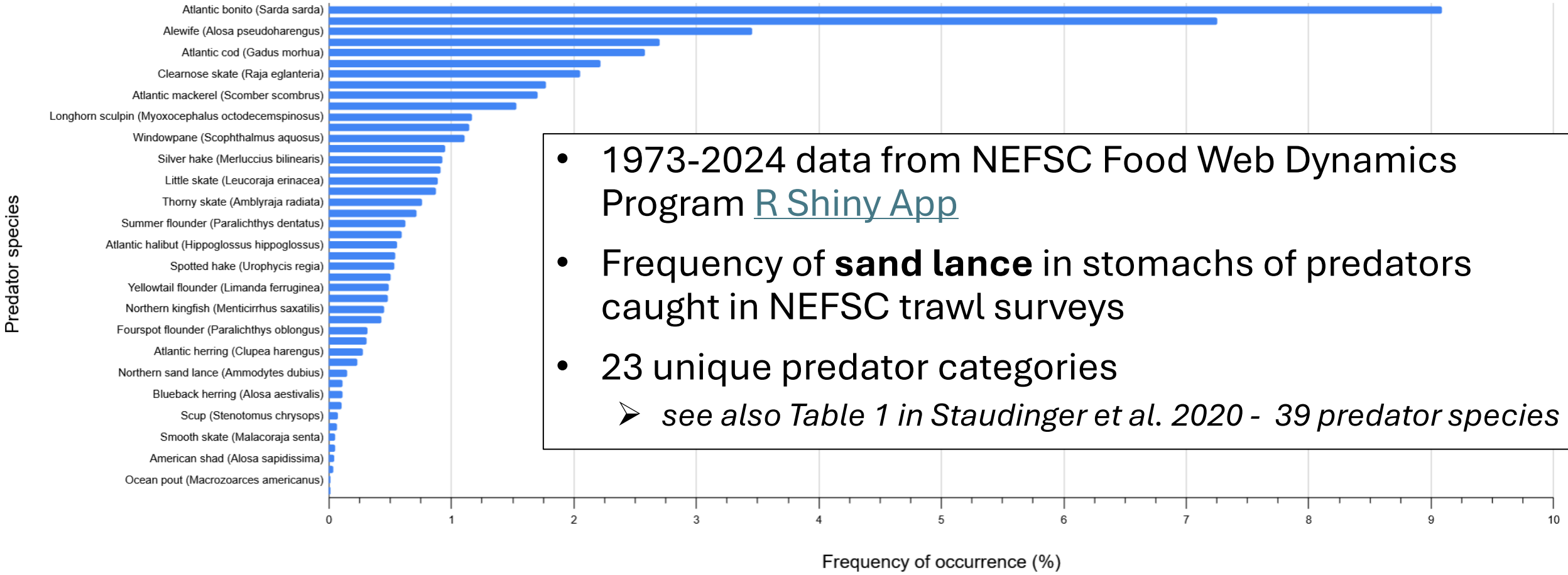
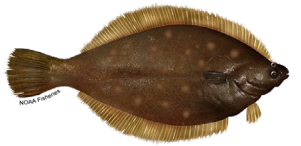


- 1973-2024 data from NEFSC Food Web Dynamics Program R Shiny App
- Frequency of **sand lance** in stomachs of predators caught in NEFSC trawl surveys
- 23 unique predator categories
  - ➢ *see also Table 1 in Staudinger et al. 2020 - 39 predator species*

II.ii. IS THE STOCK CAUGHT BY THE FISHERY?



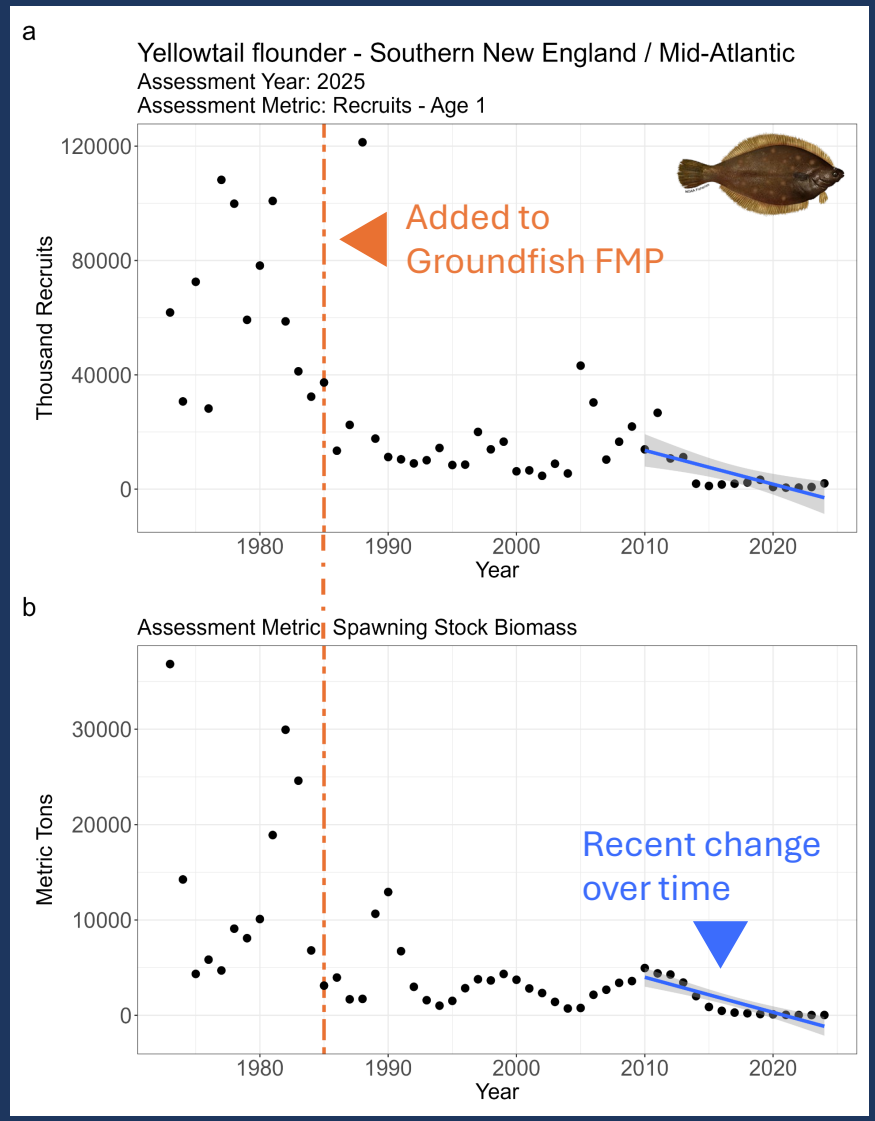
- For currently managed stocks:
  - *Fishery*: the FMP fishery in which the stock is managed
- For unmanaged stocks:
  - *Fishery*: one or more stocks of fish which *can be treated as a unit* for purposes of conservation and management (Response to Comments - MSA NS Guideline Provisions)
- Thresholds to be set based on the level or proportion of catch

Stock Name	Total landed (mt)	Total discarded (mt)	Total catch (mt)	Proportion landed (mt)
Sand lance	C*	C*	0.3	C*
Northeast Multispecies				
SNEMA Yellowtail flounder	1.3	0.1	1.4	95%

Total catch (in mt) of SNEMA Yellowtail flounder over the most recent five years.
**'C' denotes confidential information*

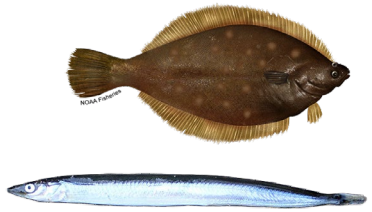
II.iii. WILL AN FMP IMPROVE OR MAINTAIN THE CONDITION OF THE STOCK?

- For currently-managed stocks:
  - Most recent stock assessment metrics over time (SSB, Recruitment, F)
- For unmanaged stocks:
  - Qualitative and quantitative information about the condition of the stock from other sources
  - See slide on **Additional Information** (slide 29) for examples



The estimated a) number of recruits and b) spawning stock biomass (SSB) from the most recent stock assessment for SNEMA Yellowtail flounder. The blue line represents the change over time. The orange dotted line represents when the stock was added to the Groundfish FMP.

II.iv. IS THE STOCK A TARGET OF THE FISHERY?



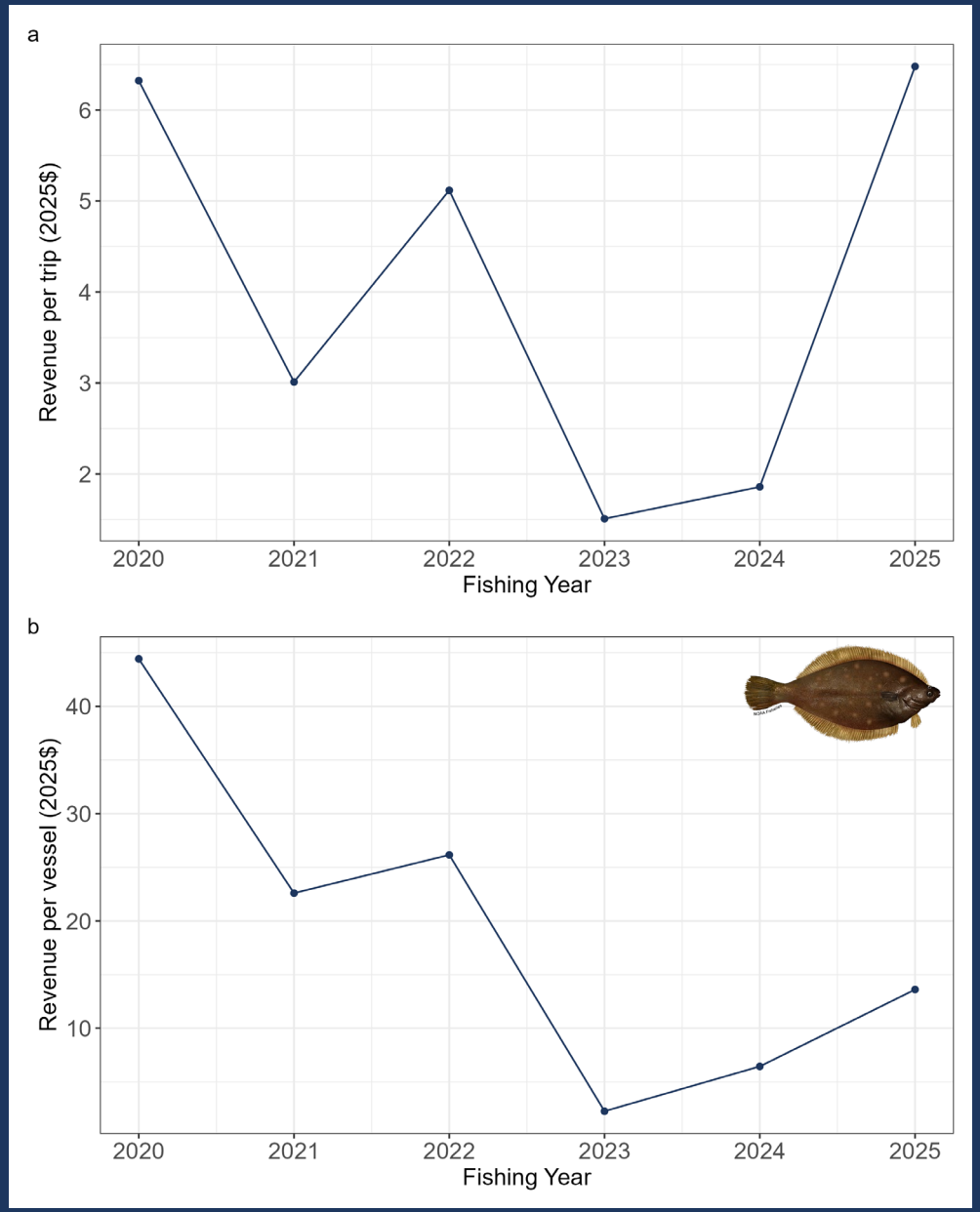
- A targeted stock: If the stock makes up the largest proportion of a single trip
  - Adopted by the PFMC (10 Factor Analysis of 40 Groundfish Species)
- Thresholds to be set based on the
  - Proportion of catch in a single trip
  - Proportion of trips that were targeted trips

Stock Name	Targeted trips (n)	Total targeted catch (mt)	Non-targeted trips (n)	Total non-targeted catch (mt)
Sand lance	0	0	142	0.3
Northeast Multispecies				
SNEMA Yellowtail flounder	C*	C*	550	1.4

Total number of trips and catch (mt) of SNEMA Yellowtail flounder and sand lance aggregated over the five most recent fishing years.
**'C' denotes confidential information*

II.v. IS THE STOCK IMPORTANT TO COMMERCIAL, RECREATIONAL, AND SUBSISTENCE USERS?

- For currently-managed stocks:
  - Proportions of total commercial revenue and fishery engagement measures (e.g., trips, vessels, dealers)
  - Proportions of total recreational trips
- For unmanaged stocks:
  - Proportion of kept fish for personal use or bait



The average revenue (inflation-adjusted) a) per trip and b) per vessel for SNEMA Yellowtail flounder over the most recent five years.

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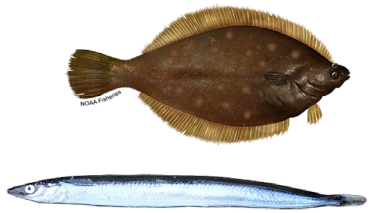
II.vi. IS THE FISHERY IMPORTANT TO THE NATION OR REGIONAL ECONOMY?



- *Importance:* Commercial landings and revenue are generated for the stock of interest at the top ports for the FMP fishery
- Stocks that are currently managed as zero-possession or prohibited species are excluded from this factor analysis
- For currently managed stocks:
  - Proportion of landings and revenue at FMP ports
- For unmanaged stocks:
  - Proportion of catch at regional ports

Stock Name	Port Name	Total Landed (mt)	Total Revenue (2025$)
Northeast Multispecies			
Other Groundfish Stocks	New Bedford	35,820.65	$96.14M
Other Groundfish Stocks	Gloucester	30,614.93	$81.93M
Other Groundfish Stocks	Boston	23,197.76	$66.77M
Other Groundfish Stocks	Portland	2,986.59	$12.44M
Other Groundfish Stocks	Montauk	22.52	$78.52K
SNEMA Yellowtail flounder	Point Judith	0.90	$1.76K
SNEMA Yellowtail flounder	Stonington	0.07	$179.31
SNEMA Yellowtail flounder	Other Ports	0.18	$486.72

The total landings and revenue (inflation-adjusted) of SNEMA Yellowtail flounder compared to other landings of groundfish at five of the top ports for the fishery as listed in Framework 69. "Other ports" contains aggregated information to protect confidentiality.

II.vii. IS THERE A NEED TO RESOLVE COMPETING INTERESTS AND CONFLICTS AMONG USER GROUPS AND WOULD AN FMP FURTHER THAT RESOLUTION?

Sand lance

Staudinger et al. 2020

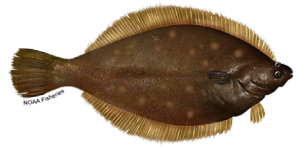
- No large-scale commercial fisheries targeting sand lance, but fishing has generally been opportunistic
- Offshore sand mining, dredging, and construction projects have the potential to negatively impact available habitat

SNEMA Yellowtail flounder

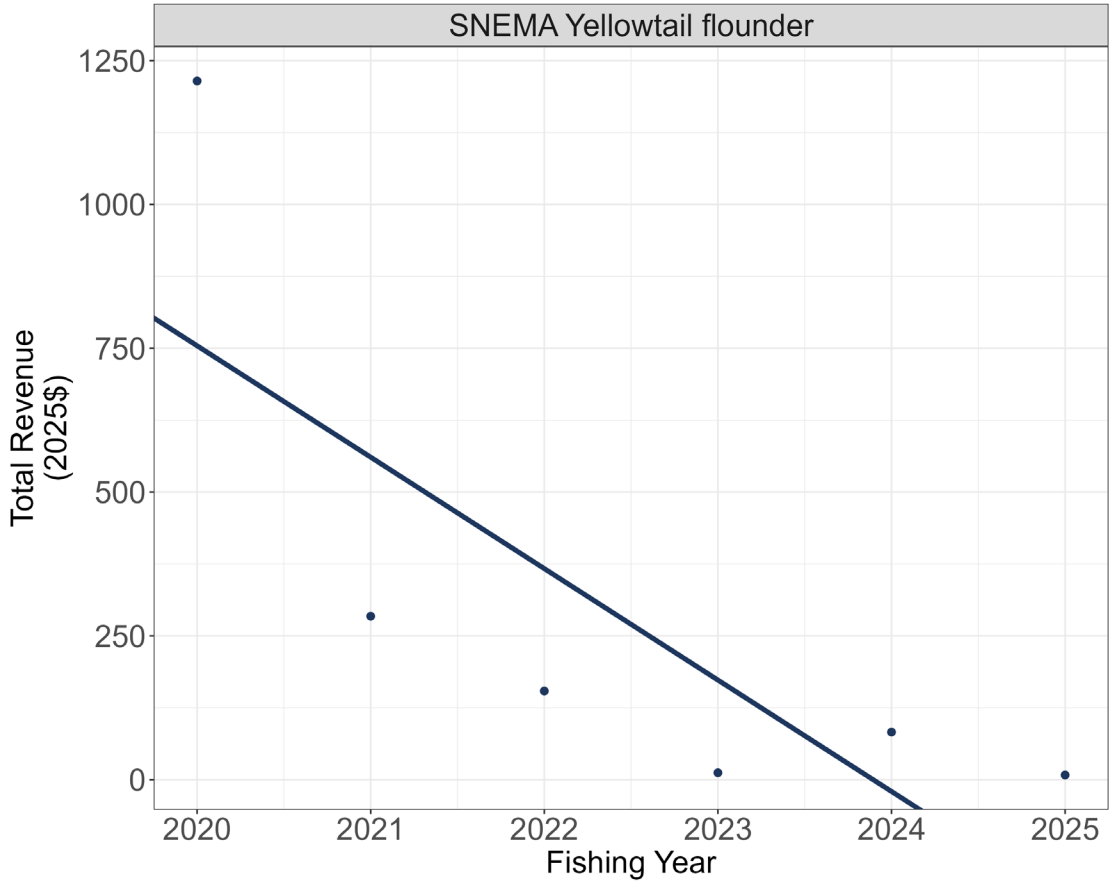
(NEFSC Yellowtail Research Track Stakeholder Engagement Meeting, 2023)

- No longer economically viable for most fishers
- Generally avoided to persecute more desirable stocks

II.viii. WHAT IS THE ECONOMIC CONDITION OF THE FISHERY, AND WOULD AN FMP PRODUCE MORE EFFICIENT UTILIZATION?



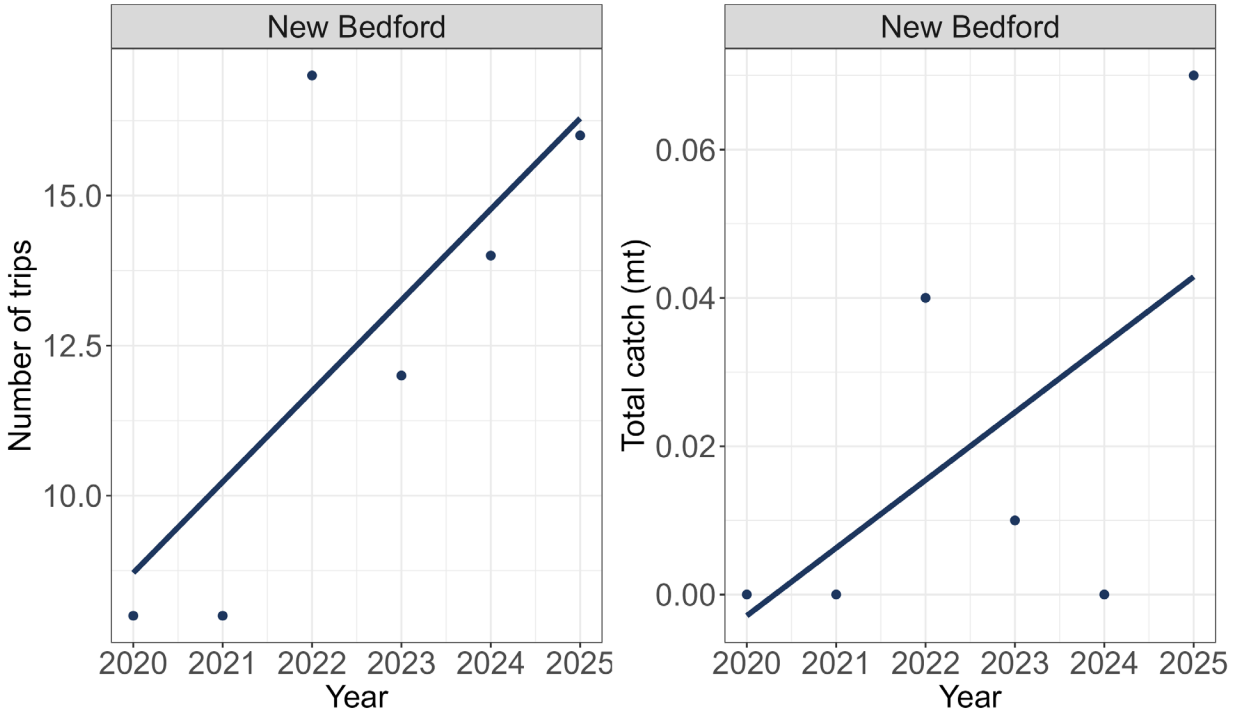
- Stocks that are currently managed as zero-possession or prohibited species are excluded from this factor analysis
- For currently managed stocks:
  - Trends in fishery indicators (e.g., landings, revenue, trips, vessels, etc.
- For unmanaged stocks:
  - Trends in kept and discarded fish



The total revenue (inflation-adjusted) of SNEMA Yellowtail flounder at Point Judith, RI. The dark blue line represents the trend over time.

II.ix. ARE THERE NEEDS OF A DEVELOPING FISHERY, AND WOULD AN FMP FOSTER ORDERLY GROWTH?

- Stocks that are currently managed are excluded from this factor analysis
- Identifies trends in potential fishery indicators (e.g., total catch, number of trips, etc.) attributed to where the fish was landed.



The total catch (in mt) and number of trips that were observed that caught sand lance based on where the trips landed. The dark blue line represents the trend over time.

II.x. WHAT IS THE EXTENT TO WHICH THE FISHERY IS ALREADY ADEQUATELY MANAGED BY STATES, BY STATE/FEDERAL PROGRAMS, OR BY FEDERAL REGULATIONS?

Sand lance

- Trip limits (MAFMC Unmanaged Forage Fish Amendment, MA DMF Commercial Finfish Regulations, RI Finfish Regulations)
- Requirements for a commercial bait license to harvest and sell (CT Fishing Regulations)
- Prohibited to be taken by seine, weir, or net by non-residents (NH Fishing Regulations)

Yellowtail flounder

- Trip limits (MA DMF Commercial Finfish Regulations, RI Finfish Regulations)
- Spawning closures and gear restrictions (ME Groundfish Regulations)
- Size limits (CT Fishing Regulations, ME, and RI)

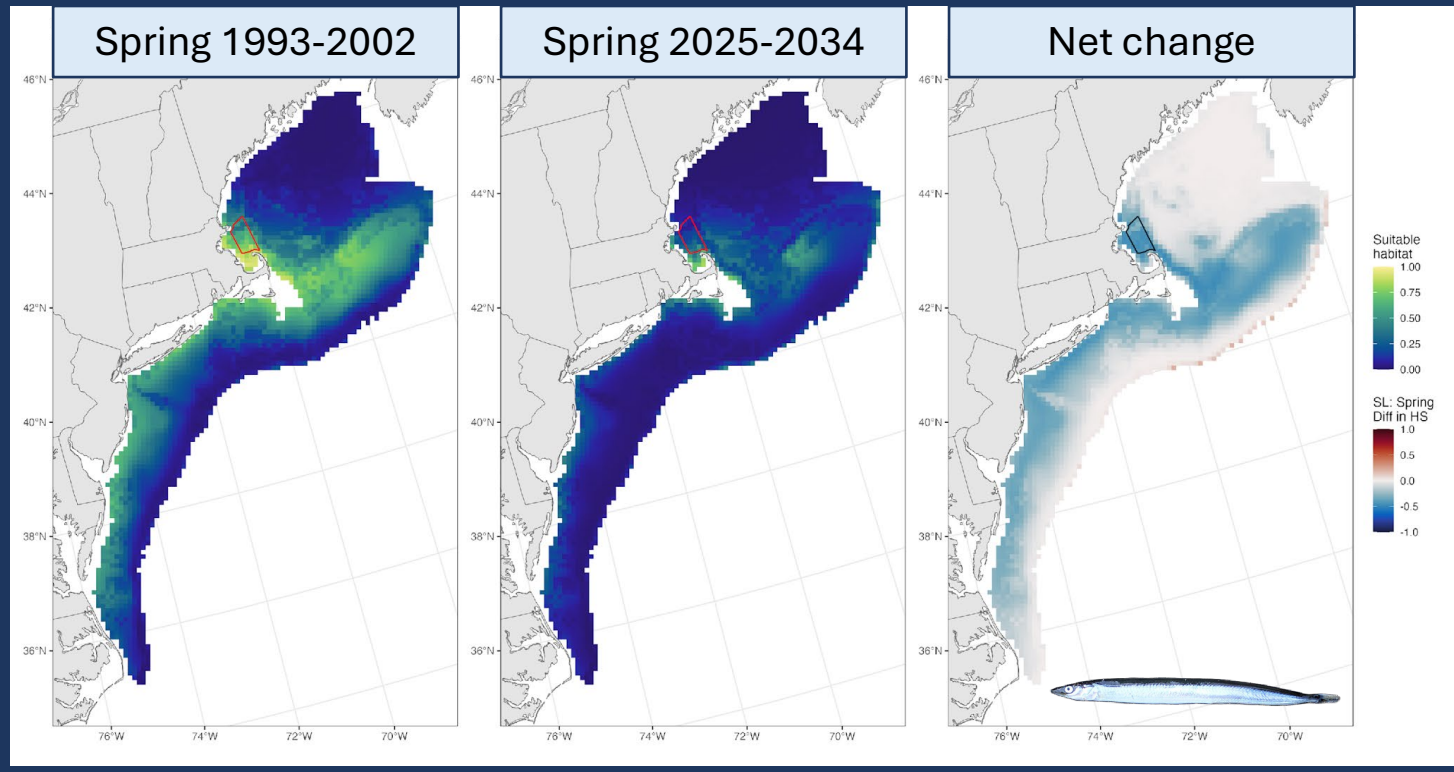
ADDITIONAL INFORMATION FOR CONSIDERATION

Species Distribution Models (SDMs) estimate the habitat "niche" of organisms by relating **observed presence/absence or counts** to **environmental variables**

- Managed species: EFH SDMs
- Sand lance: FaCeT (SDSU) SDMs

Application to EC species:

- *Understand species' relationships with environmental covariates, contextualize role of environment*
- *Can use forecasted oceanographic conditions to predict future changes to suitable habitat*



"Contemporary" and future sand lance habitat suitability (FaCeT team, SDSU)
Left: The averaged spring suitable habitat for the "contemporary" period (1993–2002)
Middle: The averaged spring suitable habitat for the future period (2025–2034)
Right: The difference in suitable habitat between the two periods across time.

Top color ramp: Less suitable habitat (blue) to more suitable (green and yellow)
Bottom color ramp: Gain (red) or loss (blue) of suitable habitat forecasted over the next decade. White indicates no change in forecasted suitable habitat.

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HOW DOES THE COUNCIL DESIGNATE AND MANAGE AN ECOSYSTEM COMPONENT SPECIES WITHIN A FISHERY MANAGEMENT PLAN?

PROJECT TIMELINE

Topic	June 2026	September 2026	December 2026
IRA 3.3 Ecosystem Component Species			
Screening Process Update			
Council Priority Setting			 DECISION

IRA 3.3: ECOSYSTEM COMPONENT SPECIES PROJECT

Develop Screening Process
- Internal development

Review Process ★
- CESC Review
- Council Feedback

Test Process
- Analysis development
- Internal review

Review screening results
- CESC Review

COUNCIL/NOAA ACTION PROCESS TIMELINE

Priorities
- Council approves work priorities

Define Scope
- **PDT applies screening process**
- AP/CTE Review

Meeting 1: Initiate
- Council initiates action and defines scope

Alternatives & Analysis
- PDT develops alternatives
- AP/CTE Review
- Council update

Meeting 2: Final Action
- Council selects measures and approves

Submission, Review, Edits

Rulemaking

Questions?

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