

Summary of 2026 Integrated Science Advice for Transboundary Species (ISATS) Report



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Allocation Shares for Fishing Year 2027

US/Canada Resource Sharing Agreement

- **Approach**

- Portion of fish in US and CAN waters within the Eastern Management Area
- US and CAN share responsibility of conducting the analysis, alternating annually
- 2026: US completed calculations to inform FY2027 Total Allowable Catches (TACs)

- **Agreement based on a combination of:**

- Historical utilization by each country (1967-1994) = 10% weighting
- Resource distribution from available surveys (1993-2025) = 90% weighting

$$\begin{aligned} &\% \text{ Country Share} = \\ &(\text{Historic utilization} \times 10\%) + (\text{Survey distribution} \times 90\%) \end{aligned}$$

Smoothed Survey Distribution

Calculation includes most recent 33 years of survey indices (1993-2025)

Smoothed resource distribution in 2025:

Cod: 26% USA, 74% CDN

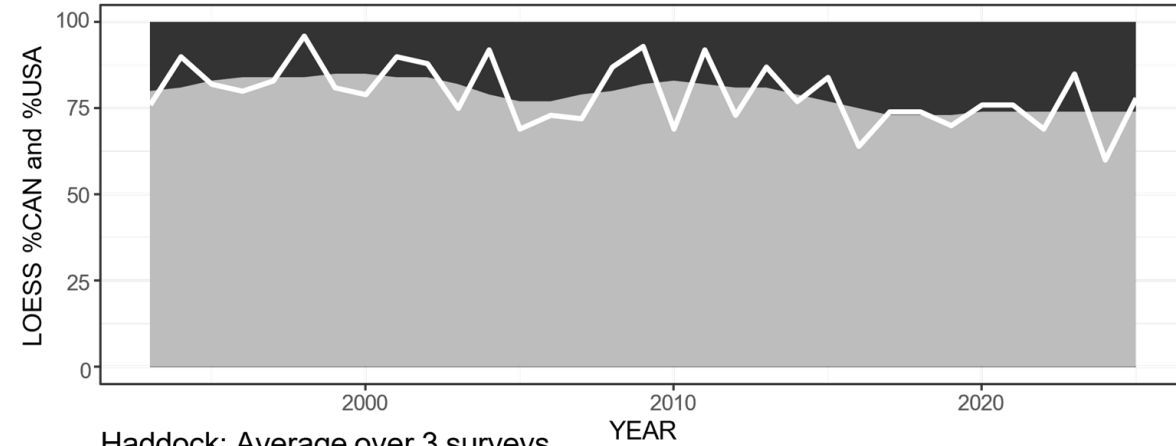
Haddock: 26% USA, 74% CDN

Yellowtail: 40% USA, 60% CDN

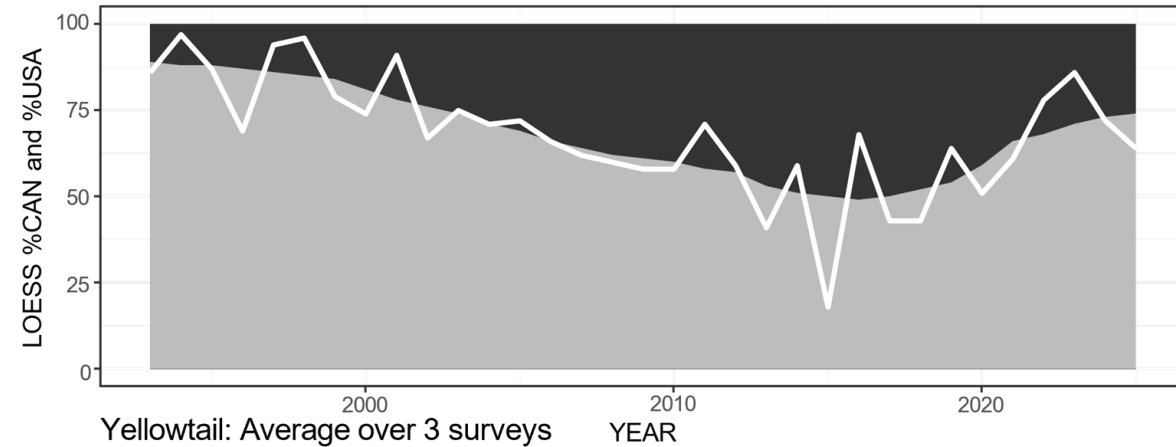
*White line is proportion of resource on EGB and in CDN waters before smoothing

*Gray area is smoothed proportion of EGB resource in CDN waters

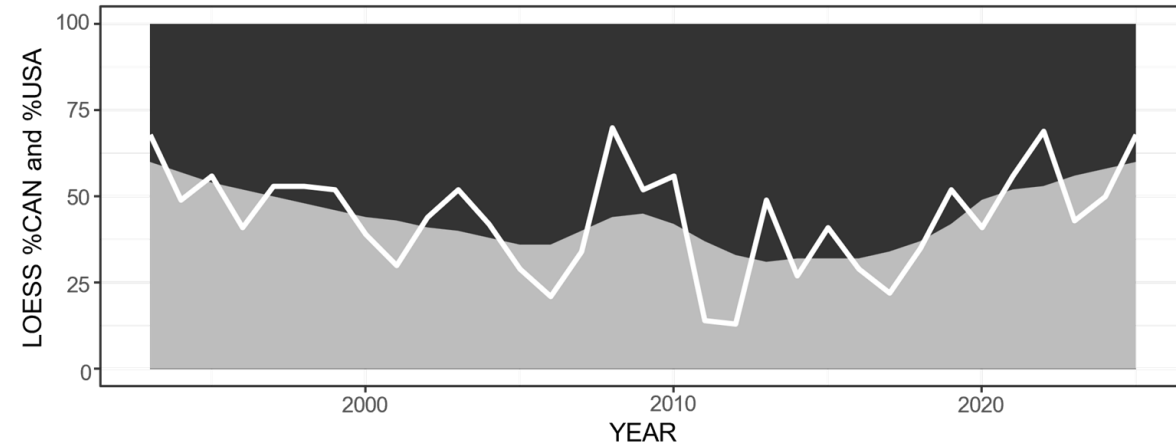
Cod: Average of 2 seasons



Haddock: Average over 3 surveys



Yellowtail: Average over 3 surveys



Final Allocation Shares for Fishing Year 2027

Terminal data year	Species	Country	Historic (1967-1994)	33 Years (1993-2025)	Resource share allocation		
			Percent utilization	Percent distribution			
2025	Haddock	Canada	55	74	Haddock		72
2025	Haddock	US	45	26	Haddock		28
2025	Cod	Canada	60	74	Cod		72
2025	Cod	US	40	26	Cod		28
2025	Yellowtail	Canada	2	60	Yellowtail		54
2025	Yellowtail	US	98	40	Yellowtail		46

10% Utilization + 90% Distribution = Allocation (% TAC)



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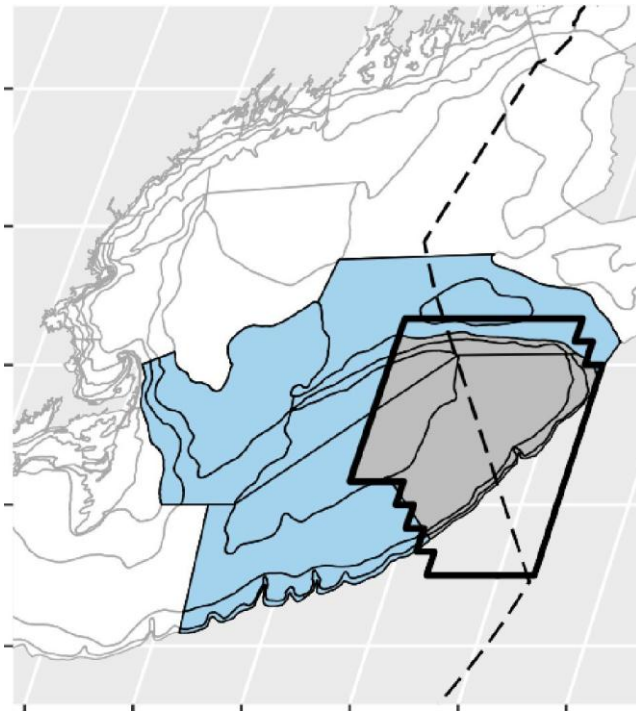
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2026 Survey-based Distribution Analyses: GB Cod, GB Haddock

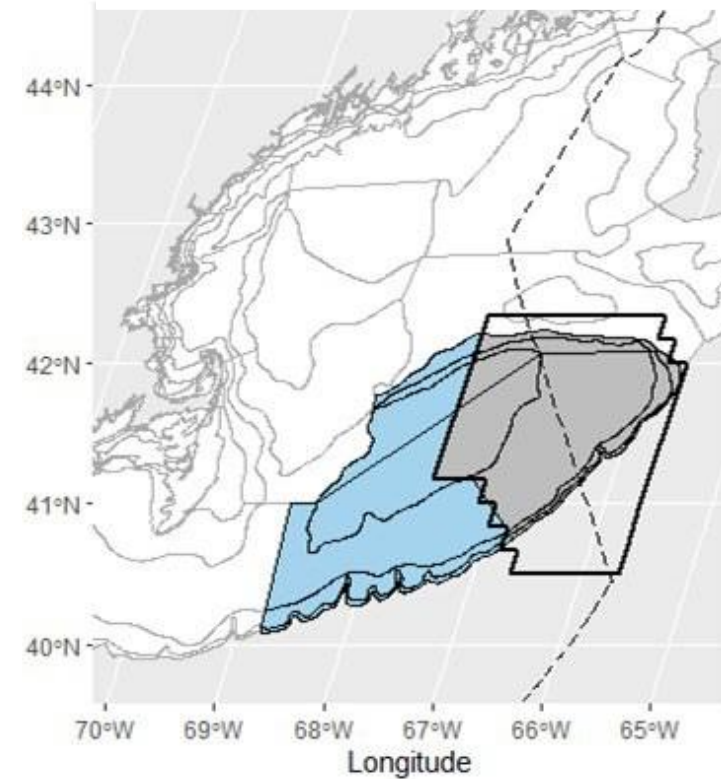
Survey-Based Distribution Methods

- Portion of fish in Eastern and Western Georges Bank
- Post-stratify NEFSC spring and fall surveys to EGB and Outside EGB

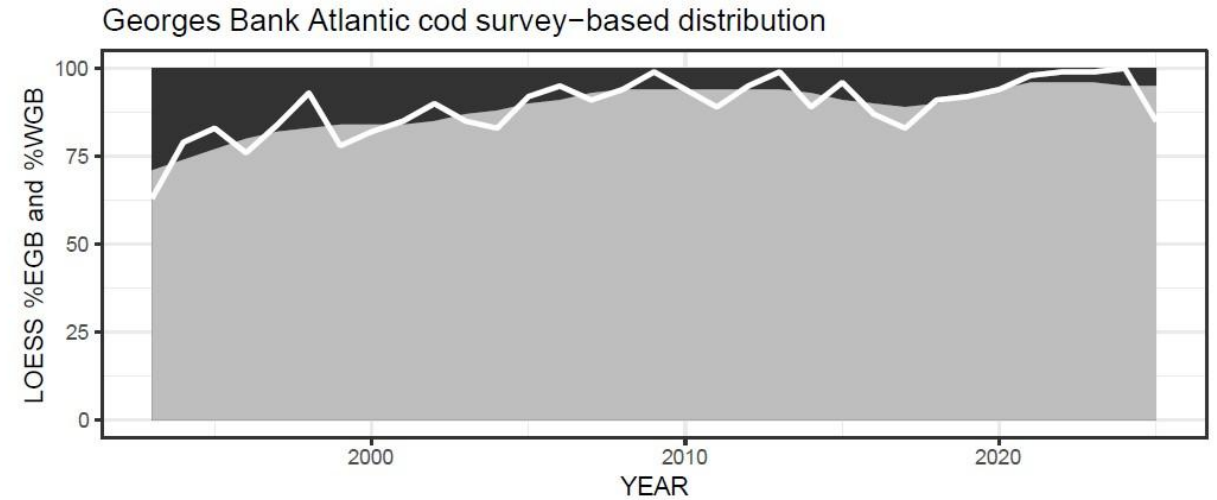
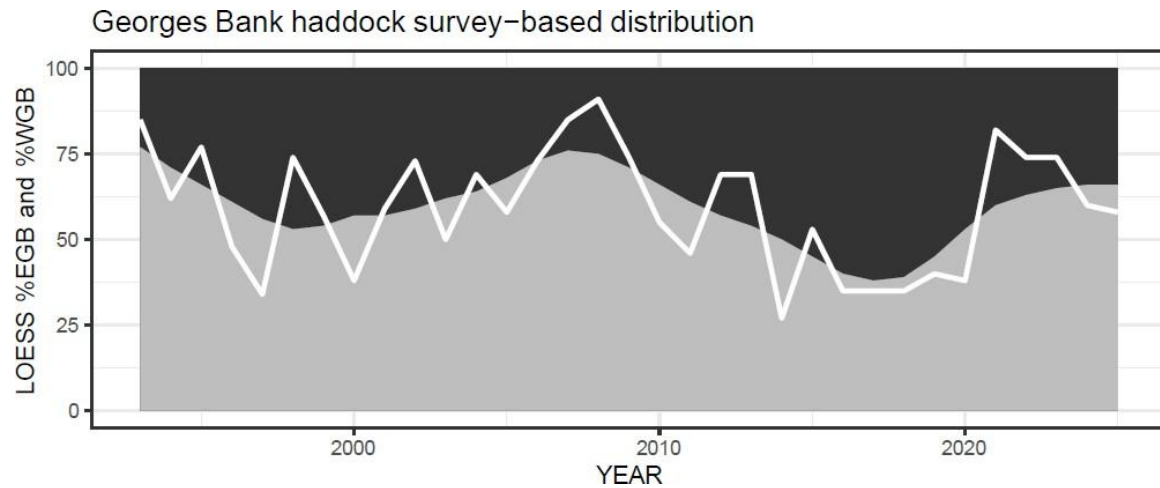
GB haddock



GB cod



2026 Survey-Based Distribution Results



*White line is proportion of resource in EGB waters before smoothing

*Gray area is smoothed proportion of resource in EGB waters

2026 Survey-Based Distribution Results

- Used data from 1993-2025

	Distribution in EGB	Terminal year
GB Haddock	66%	2025
GB Cod	95%	2025

- Qualitatively, there is more uncertainty in the GB Cod Survey Distribution Analysis. This uncertainty is explained in the ISATS Report.

Application of Survey-Based Distribution Results

- At TMGC request – ISATS Report catch advice tables for GB assessments of cod and haddock include the GB advice value multiplied by the survey-based estimated proportions of GB cod and haddock biomass in the EGB area.
- **The purpose of this calculation is to provide roughly comparable information from assessments that cover different spatial footprints and is intended to inform, not constrain, management.**

COD

U.S.-Canada Technical Science Coordination Meeting July 13, 2026



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CAN EGB and US GB Cod Models – Key Differences

- Spatial footprints
 - Different dynamics being modeled
 - Evidence of directional difference in scale of SSB between EGB (higher) and GB (lower) models based on Canadian exploratory models
- Catch outputs reported
 - EGB catch output based on F of preventable decline (lower F)
 - GB catch output based on F of maximum sustainable yield (higher F)
- The 2027 information is the first projected year for the EGB model and the third-year projection from the total GB model.

ISATS Report - Cod

Model	Parameter	2025 Value	2026 Value	2027 Value
DFO EGB cod 2026 Model Values (terminal year of data=2025)	SSB (mt)	8,469	6,257	5,123
	F	0.03	0.052	0.05*
	Catch (mt)	452*	473*	353
NMFS GB cod 2024 Model Values (terminal year of data=2023)	SSB (mt; 95%CI)	2,089 (499–8,739)	1,658 (277–9,937)	1,567 (170–14,457)
	F	0.233*	0.233*	0.233*
	Catch (mt)	518	419	400
Survey biomass distribution of cod in EGB in 2026 (95%)				380

HADDOCK

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July 13, 2026**



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CAN EGB and US GB Haddock Models – Key Differences

- Spatial Footprint
 - The GB and EGB haddock models have different spatial footprints (EGB is approximately 25% of GB) and are capturing different dynamics of the population and fisheries.
 - Models use different survey inputs (e.g., DFO survey not used since 2019 for GB, 2025 US Fall Survey used for EGB but not GB, use of Strata 29 and 30 survey strata)
- Scaling – M and NAA Random Effects
 - EGB model estimates higher M in recent years
 - GB model assumes lower constant M and accounts for NAA RE

ISATS Report - Haddock

Model	Parameter	2025 Value	2026 Value	2027 Value
DFO EGB haddock 2026 Model Values (terminal year of data=2025)	SSB (mt)	12,835	10,757	5,571 (full); 6,407 (partial)
	F _{fully selected}	0.459	0.851 (full); 0.621 (partial)	0.325*
	Catch (mt)	4,920*	4,750* (full); 3,750* (partial)	830–2,020 (full); 1,010–2,210 (partial) ¹
NMFS GB haddock 2026 Model Values (terminal year of data=2025)	SSB (mt; 95%CI)	29, 037	25,281 (9,775–65,382)	21,828 (6,359–74,926)
	F ₅₋₇ (95%CI)	0.21	0.247 (0.090–0.675)	0.27*
	Catch (mt; 95%CI)	6,032*	5,768*	5,277 (1,524–18,271)
Survey biomass distribution of haddock in EGB in 2026 (66%)				3,483 (1,006–12,059)

For EGB haddock – “full” and “partial” refer to assumed utilization of 2026 TAC.

YELLOWTAIL



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GB Yellowtail Short-Term Projections

Year	Catch (mt)	SSB (mt)	F_{Full}
2025	22	655 (230 - 1,860)	0.034

Year	Catch (mt)	SSB (mt)	F_{Full}
2026	57	646 (190 - 2,198)	0.09
2027	57	654 (180 - 2,374)	0.09
2028	60	699 (181 - 2,707)	0.09

ISATS Report – Catch Advice for All Stocks

	<u>US</u> Total GB catch advice (mt)	<u>US</u> GB catch advice with application of Survey- based distribution results (mt)*	<u>Canada</u> EGB catch advice (mt)
Cod	400	380	353
Haddock	5,277	3,483	830 - 2,210
Yellowtail	57	NA	NA

* this calculation is to provide roughly comparable information from assessments that cover different spatial footprints and is intended to inform, not constrain, management

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July 13, 2026

Extra Slides – Stock Assessments



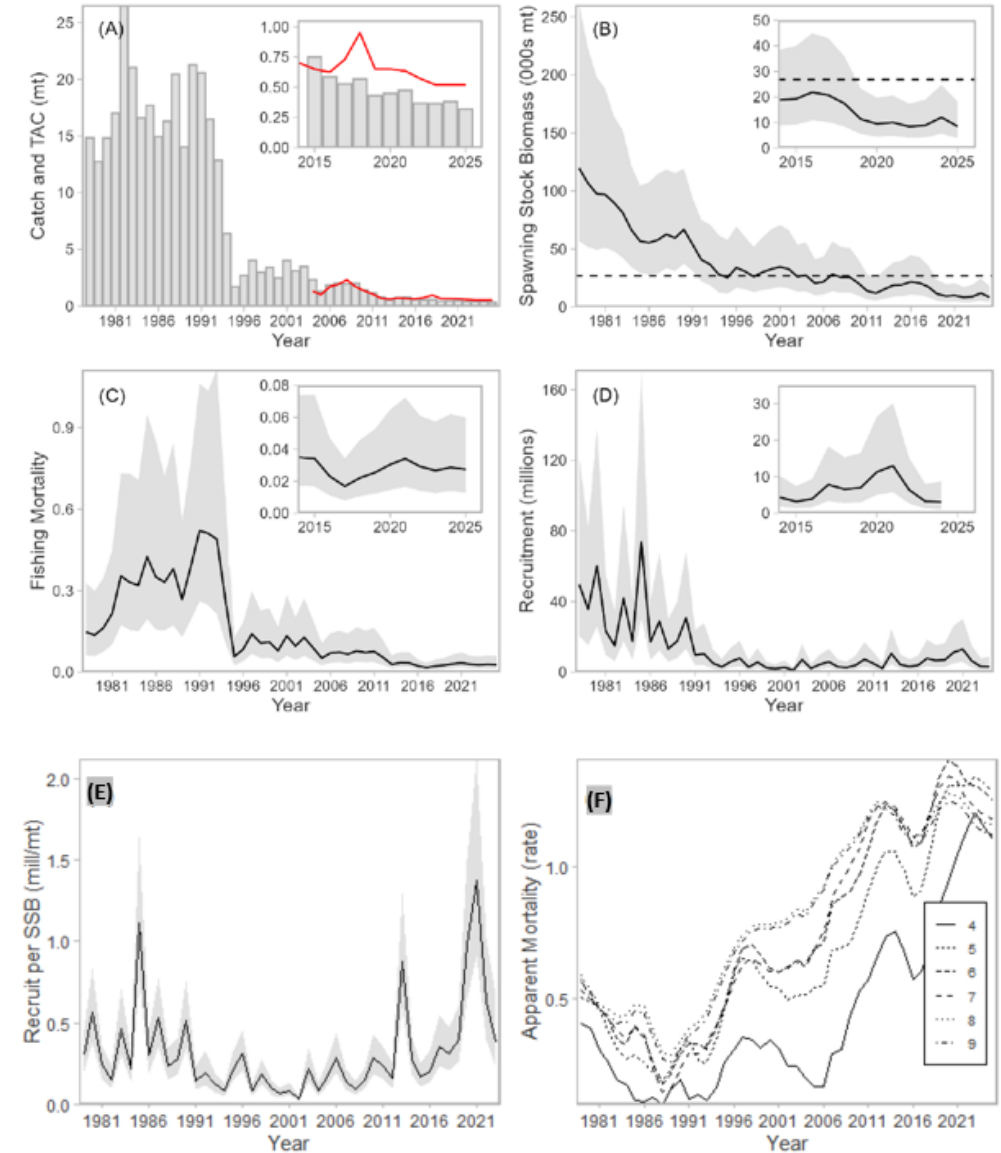


2026 Eastern Georges Bank (5Zjm) Cod Assessment Summary



Model Results

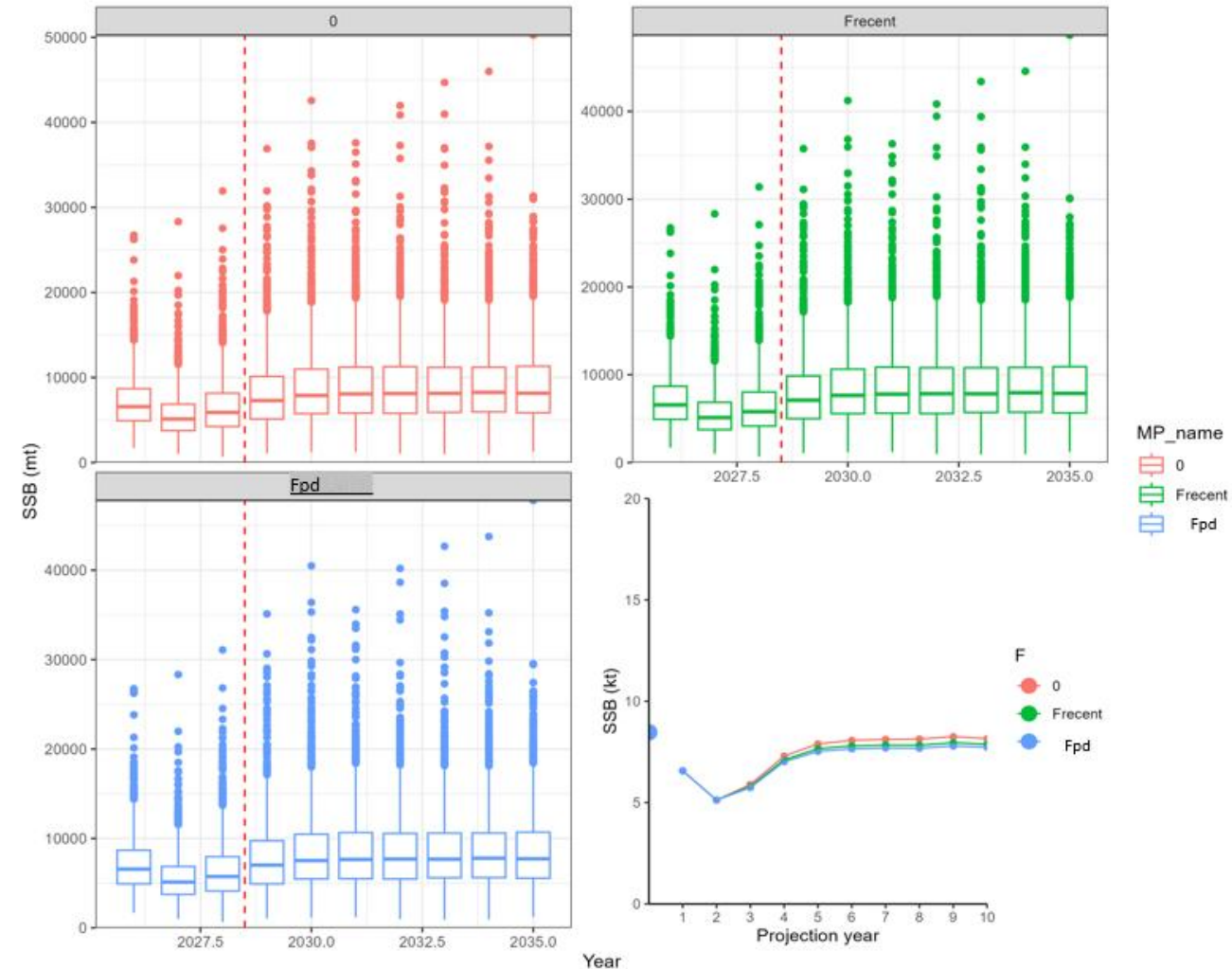
- 2025 SSB (8,469 mt) is below the LRP, placing the stock in the Critical Zone with a very high probability (>99%; Figure B).
- Fishing mortality has remained below 0.05 since 2017; 2025 estimate is 0.03 (Figure C).
- Higher recent recruitments (2020, 2021) at low biomass levels have resulted in highest Recruits per SSB since 1978. Unfortunately, this is not resulting in increases in number of fish at ages 3+ (Figures D and E).
- Loss of ages 4+ fish continues to be high, with Natural Mortality inferred to be the primary cause (Figure F).





Projections

- Projections: short term (three years) and longterm (two generations).
- Fishing Mortality:
 - 2026 FY maximum removals = 473 mt.
 - 2027+:
 - Fpd: Maximum F associated with a very low probability (<5%) of preventable decline (decline relative to F=0 scenario) within two generations.
 - Frecent: average F over terminal six years.
 - F=0: no fishing.





Projection Outputs and Advice

- High number of adult fish are disappearing from this stock, and this disappearance is attributed primarily to natural mortality. Projections assume rate of disappearance observed in terminal six years persists in the future. This disappearance of fish appears to be the main factor limiting the productivity of the stock.
- Long-term projections indicate that stock status is unlikely to improve under current productivity dynamics, even in the absence of fishing.
- Stock outlook is not expected to change in the future unless productivity improves.
- Advice provided as Fpd (F preventable decline), with Frecent and F=0 as context.

F Scenario	SSB (mt) 2027	Catch (mt) 2027	F 2027	SSB (mt) 2028	Probability of Preventable Decline
<u>Fpd</u>	5,123	353	0.050	5,742	4.98%
<u>Frecent</u>	5,123	225	0.032	5,798	3.10%
No Fishing	5,123	0	0.000	5,891	0%



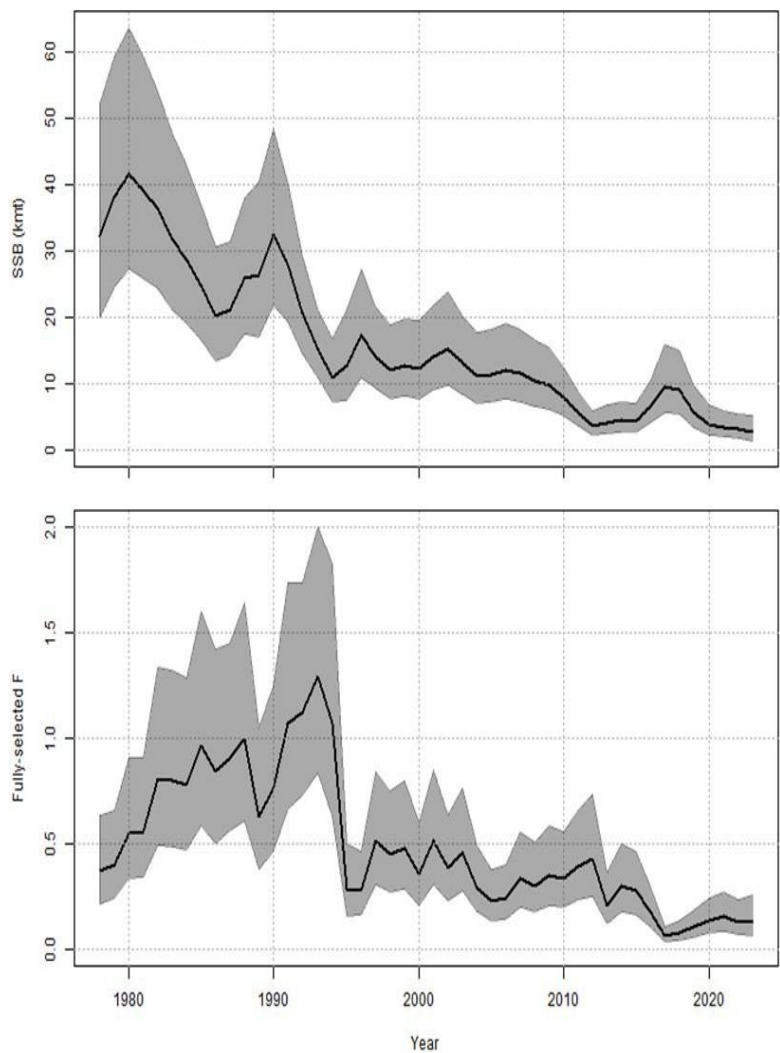
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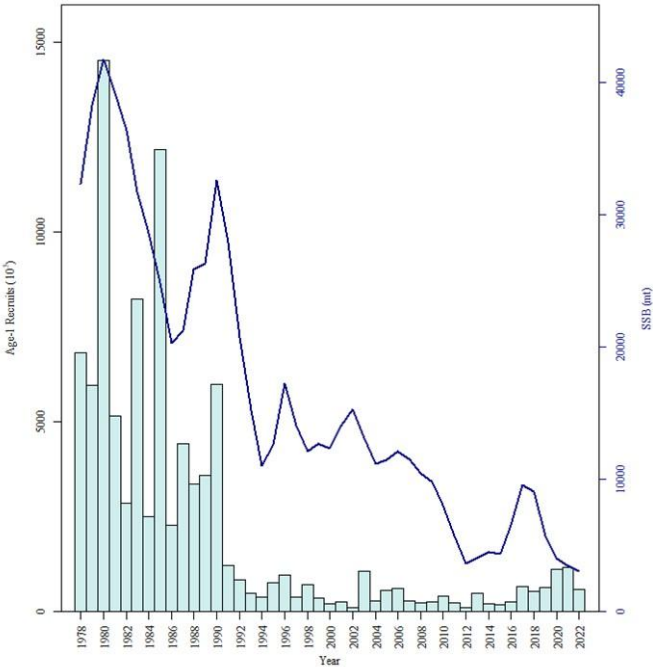
2024 Georges Bank Cod Assessment Summary

Assessment Model Results

- Stock has a high probability of being overfished (2023 SSB estimate of 2,668 mt is 32% of SSB msy proxy)
- Overfishing is not occurring (2023 F estimate of 0.13 is 56% of Fmsy proxy)



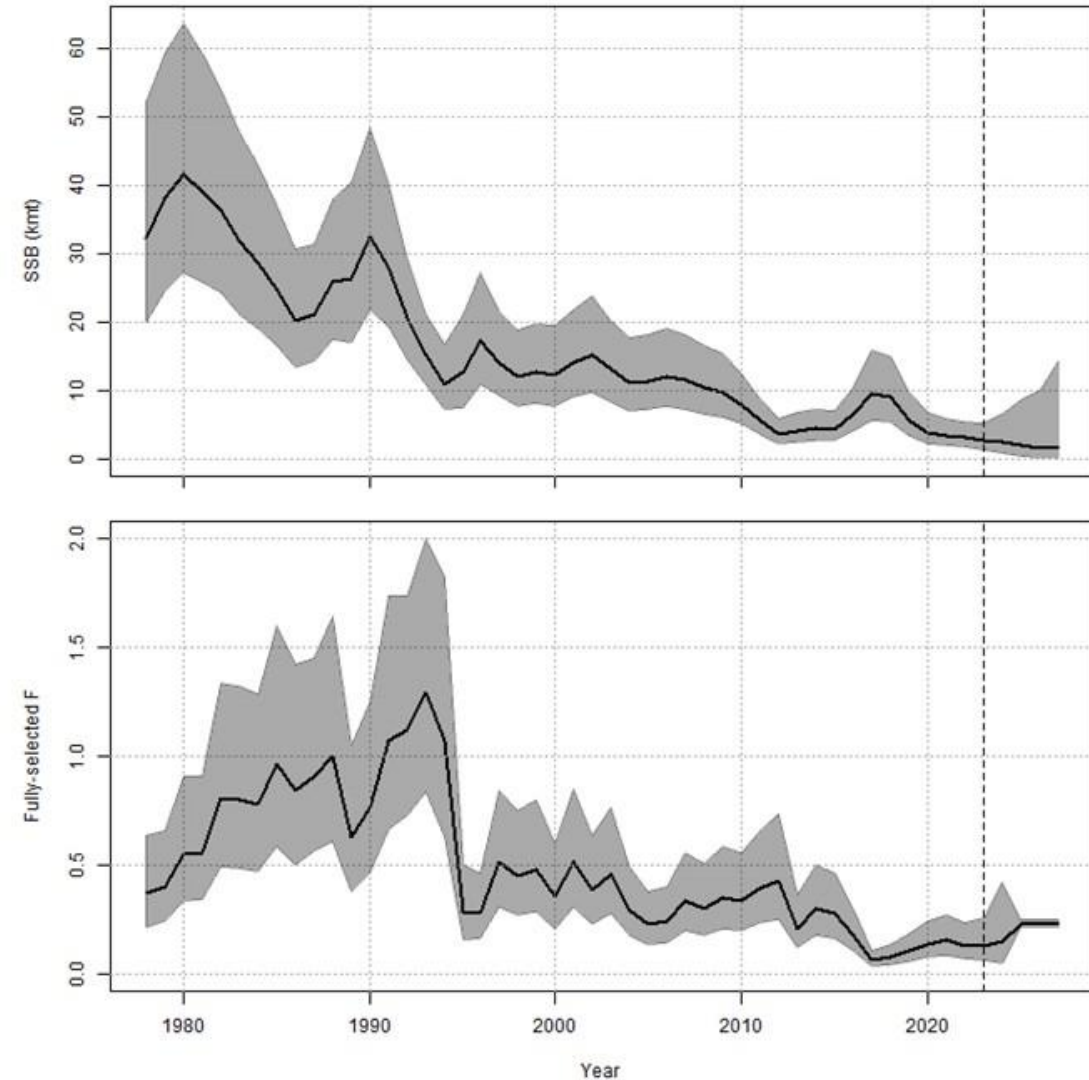
BRP	2024 MT estimate
Fmsy proxy	0.23 (0.22 – 0.25)
SSBmsy proxy (mt)	8290 (4678 – 14690)
Mean recruits (age 1, 000s)	2224
Median recruits (age 1, 000s)	646



2024 Short-term Projections

	Year	Catch (mt)	SSB (mt)	F _{full}
Interim	2024	417	2486 (929 – 6653)	0.152
Projection	2025	518	2089 (499 – 8739)	0.233
	2026	419	1658 (277 – 9937)	0.233
	2027	400	1567 (170 – 14457)	0.233

- Interim 2024 catch assumed to be equal to 2023 catch based on PDT recommendation
- 2025-2027 projected at F_{msy} proxy = F_{40%}





2026 Eastern Georges Bank (5Zjm) Haddock Assessment Summary

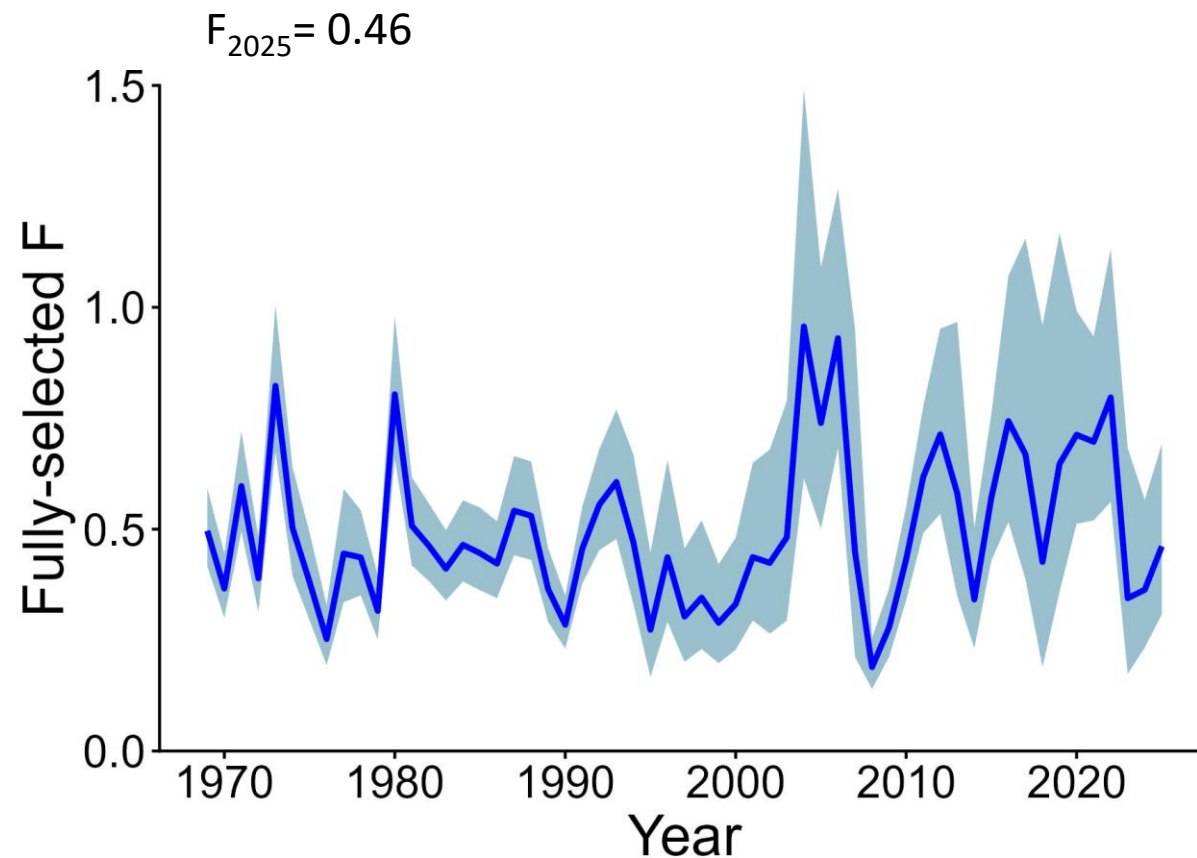
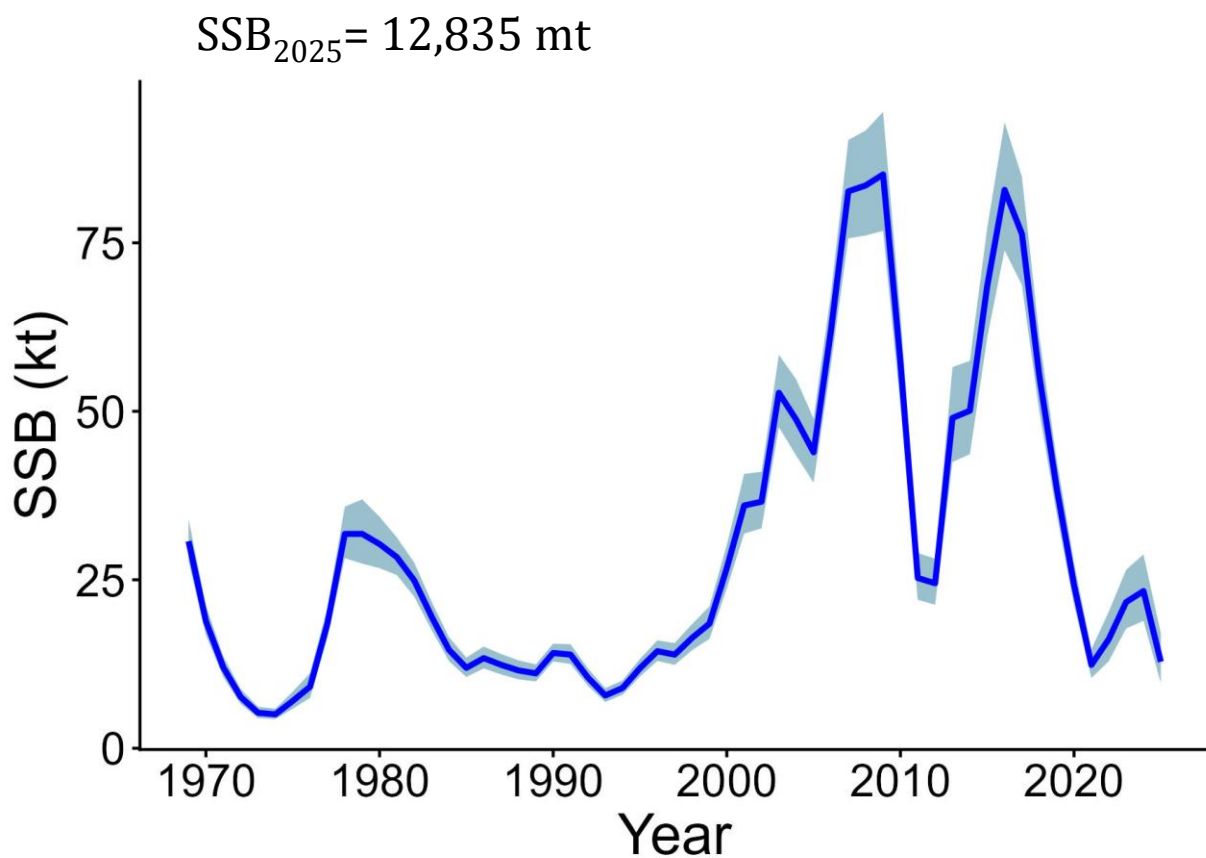


Assessment Background

- Model platform = Woods Hole Assessment Model (WHAM)
- Current model was developed via a Research Track (RT) Assessment, peer reviewed in 2022
- The 2026 EGB Haddock assessment updates the research track model with the most recent data (2025)
- The only change is the addition of the survey data from the DFO 5Z9 stratum (2010 to 2025) for the last two assessments.

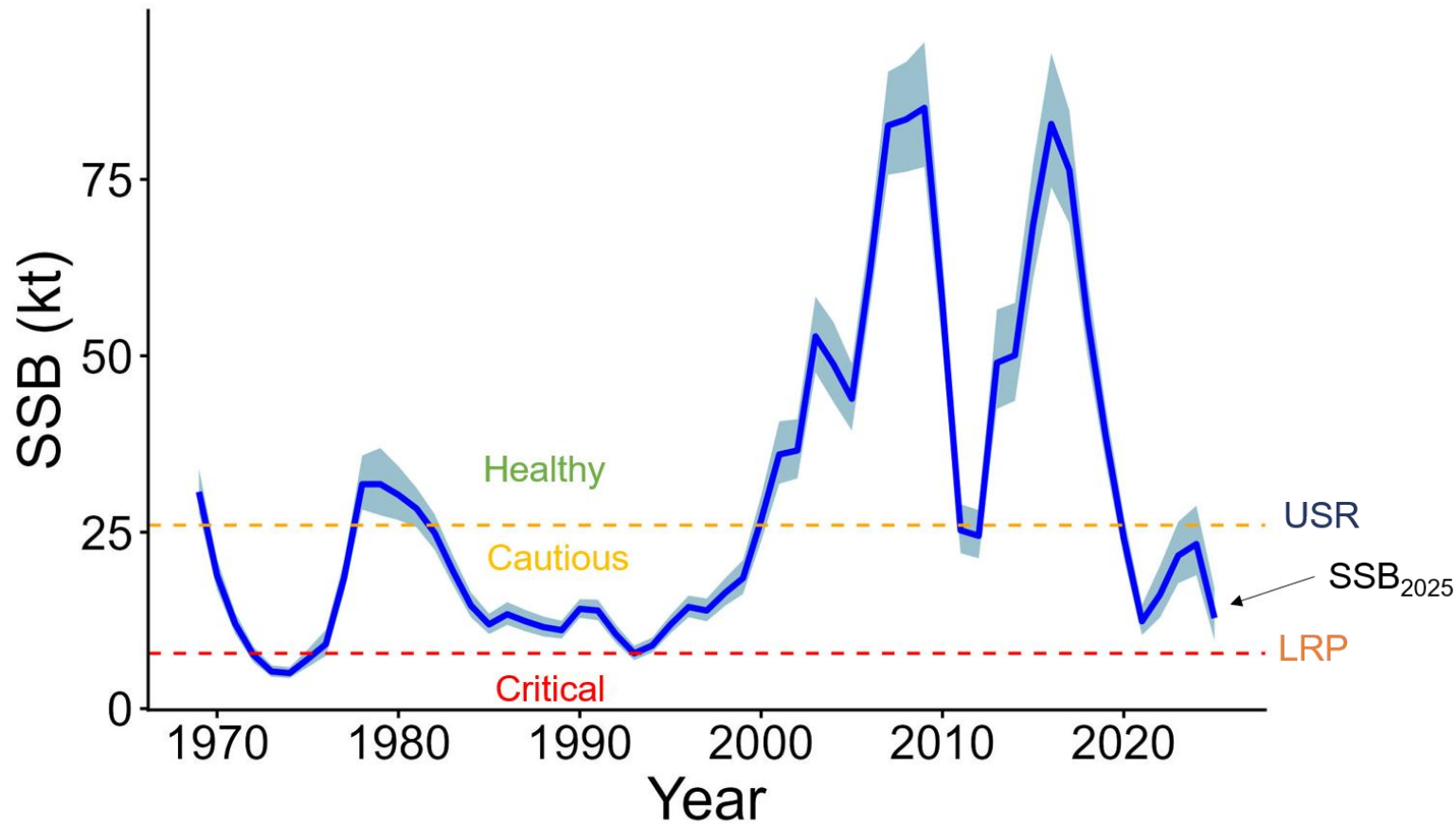


Assessment Model Results





EGB Haddock Stock Status



- The SSB₂₀₂₅ is below the USR and above the LRP
- EGB Haddock Stock is considered Cautious
- F_{ref} updated in 2026 (2021-2025) following previously approved method of $F_{40\%}$ ($F_{ref}=0.325$)



EGB Haddock Short-term Projections

Year	Age 1 Recruitment (000s)	Biomass (mt)	SSB (mt)	Catch (mt)	Fishing Mortality (F)
Partial Utilization of the 2026 TAC (4,750 mt)					
2026	11,853	12,348	10,757	4,750	0.851
2027	16,850	8,657	5,571	1,265	0.325
2028	-	13,120	7,618	-	-
Partial Utilization of the 2026 TAC (3,750 mt)					
2026	11,853	12,348	10,757	3,750	0.621
2027	16,850	9,526	6,407	1,430	0.325
2028	-	13,576	8,055	-	-

Risk of exceeding F_{ref}	25%	50%	75%
Full Utilization of the 2026 TAC (4,750 mt)			
2027 catch advice (mt)	830	1,290	2,020
$P(SSB_{2028} > LRP)$	0.454	0.441	0.412
$P(SSB_{2028} > USR)$	0.188	0.185	0.174
Partial Utilization of the 2026 TAC (3,750 mt)			
2027 catch advice (mt)	1,010	1,430	2,210
$P(SSB_{2028} > LRP)$	0.472	0.458	0.435
$P(SSB_{2028} > USR)$	0.194	0.189	0.182



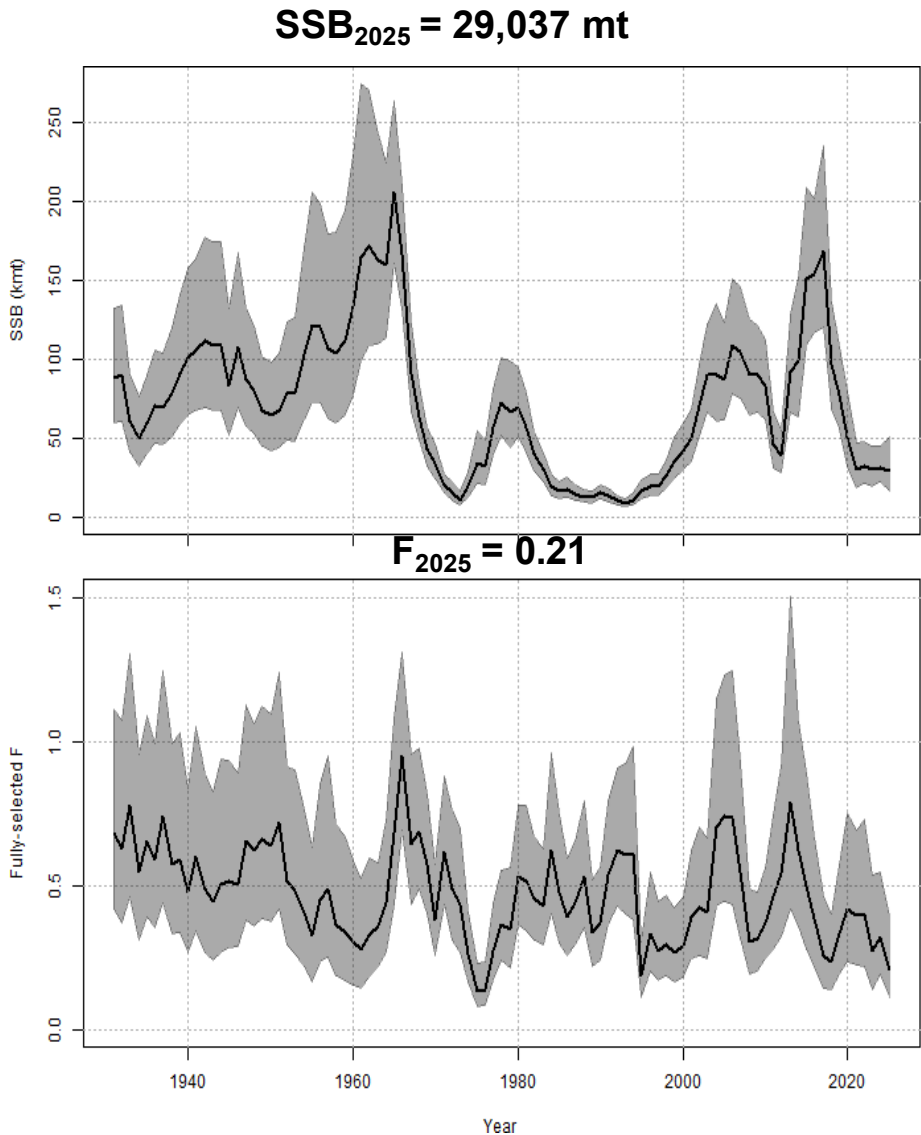
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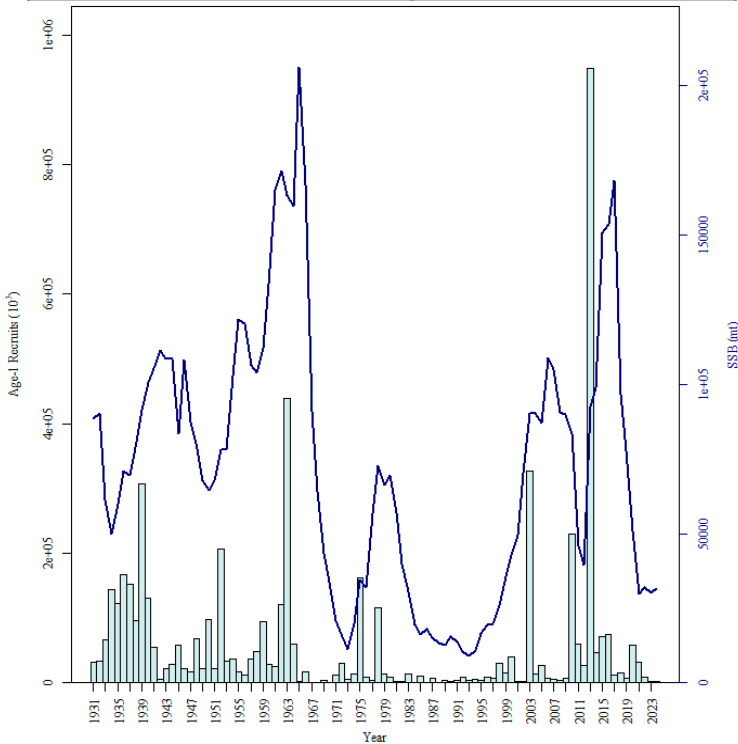
2026 Georges Bank Haddock Assessment Summary

Assessment Model Results

- Not overfished
($SSB_{2025}/SSB_{MSY} = 109\%$)
- Not experiencing overfishing
($F_{2025}/F_{MSY} = 78\%$)



	2026 MT
F_{MSY} proxy	0.269
SSB_{MSY} (mt)	26,615 (14,398 – 49,199)
Median recruits (age 1) (000s)	15,767 (437 – 568,918)



GB Haddock Short-term Projections

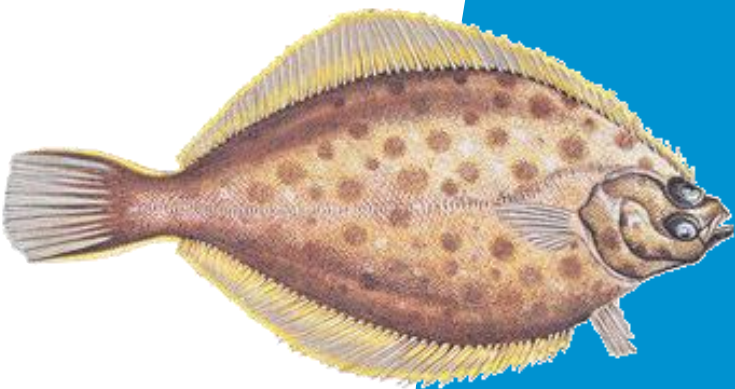
Year	Catch (mt)	SSB (mt)	$\bar{F}_{5-7}$
2026	5,768	25,281 (9,775 - 65,382)	0.247 (0.090 - 0.675)

Year	Catch (mt)	SSB (mt)	$\bar{F}_{5-7}$
2027	5,277 (1,524 - 18,271)	21,828 (6,359 - 74,926)	0.27
2028	4,640 (1,230 - 17,511)	19,804 (5,174 - 75,810)	0.27
2029	4,498 (973 - 20,785)	19,818 (4,053 - 96,904)	0.27
2030	4,659 (769 - 28,245)	20,956 (3,246 - 135,301)	0.27
2031	4,888 (645 - 37,014)	22,157 (2,772 - 177,110)	0.27



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2025 Management Track Georges Bank Yellowtail Flounder Summary



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Assessment Model and Outputs

- Overfished - 2024 SSB (713 mt) is 10% of the biomass target
- Not overfishing – F (0.017) 19% of the overfishing threshold proxy.

	2025
F_{MSY}	0.09
SSB_{MSY} (mt)	7,072 (2,700 - 18,521)
MSY (mt)	597 (23 - 2,440)
Mean recruits (age 1) (000s)	31,190
Overfishing	No
Overfished	Yes

