New England Fishery Management Council
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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: August 16, 2022

TO: Scientific and Statistical Committee

CC: Groundfish Committee

FROM: Groundfish Plan Development Team

SUBJECT: **Georges Bank yellowtail flounder Overfishing Limits and Acceptable Biological Catches for fishing years 2023 and 2024**

The Groundfish Plan Development Team (PDT) met on August 15, 2022, by webinar and discussed Georges Bank (GB) yellowtail flounder. Although, the Transboundary Resources Assessment Committee (TRAC) Status Report (TSR) was not available in time for the PDT's meeting, the Northeast Fisheries Science Center (NEFSC) lead assessment biologist presented the stock assessment to the PDT. The PDT compiled information and analysis for the Scientific and Statistical Committee (SSC) to consider when developing catch advice. The Scallop PDT provides information on the scallop fishery and bycatch of GB yellowtail flounder in Attachment #1. Both PDTs refer the SSC to the 2017-2021 memos on the subject for additional background[1].

Summary

The PDT supports the 2022 TRAC's recommendation to use the GB yellowtail flounder limiter, including the biological bounds, to set catch advice. The resulting catch advice is 200 mt. The PDT supports the TRAC's recommendation of 200 mt. Based on this, the following table summarizes possible OFLs and ABCs for fishing year 2023-2024 for consideration by the SSC. The second year (2024) is anticipated to be updated following the 2023 TRAC assessment.

Fishing Year	Possible OFL	Possible ABC
2023	*Unknown*	200
2024	*Unknown*	200

[1] 2021 memo: https://s3.us-east-1.amazonaws.com/nefmc.org/5_210817-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo.pdf
2020 memo: https://s3.amazonaws.com/nefmc.org/4_200821-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo_210805_095034.pdf
2019 memo: https://s3.amazonaws.com/nefmc.org/A6_190815-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo-attached.pdf
2018 memo: https://s3.amazonaws.com/nefmc.org/A6_180809-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo-attachment.pdf
2017 memo: http://s3.amazonaws.com/nefmc.org/A6_170804-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo-attached_170807_114738.pdf

Stock Status

NOAA Fisheries determined GB yellowtail flounder is overfished and overfishing is occurring.[2] GB yellowtail flounder is in a 26-year rebuilding plan, with a target rebuild by date of 2032.

PDT Analysis and Discussion

The PDT compiled updated information since its 2021 memo to the SSC on (1) catch performance for GB yellowtail flounder (2) the ratio of discards to landings for GB yellowtail flounder, (3) observed catches of GB yellowtail flounder, (4) in-season utilization of GB yellowtail flounder by the commercial groundfish fishery, and (5) summary of economic information.

1. *Catch performance of GB yellowtail flounder*

Figure 1 and Table 1 summarize the total catch performance of GB yellowtail flounder in the US and Canadian fisheries. In the US, three fisheries have sub-annual catch limits (ACLs) for GB yellowtail flounder – the commercial groundfish fishery (sectors and common pool), the Atlantic Sea scallop fishery, and the small-mesh (primarily for whiting and squid) trawl fisheries.

Groundfish Fishery - The utilization rate of the US groundfish fishery (i.e., percent groundfish ACL caught) was greater than 85 percent in FY2011, but it has been below 40 percent since FY2013, and below 10 percent since FY2019 (Table 2). At the same time, recent ACLs for the groundfish fishery have declined to about 5-8 percent of those in FY2011 (Table 2). Accountability measures (AMs) include in-season GB yellowtail flounder stock area closures for the commercial groundfish fishery and payback provisions under certain conditions.

Atlantic Sea Scallop Fishery - Information on catch performance and management in the US scallop fishery is provided in Attachment #1.

Small-Mesh Trawl Fisheries - The sub-ACL for GB yellowtail flounder in the small-mesh trawl fisheries was implemented in FY2013. AMs for the small-mesh trawl fisheries include gear-restricted areas in the GB yellowtail flounder stock area in a year following an overage of the sub-ACL. To date, small-mesh fisheries have not exceeded their sub-ACL (Table 3).

[2] See: https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates

Figure 1 – Total US and Canada catch performance for GB yellowtail flounder including catches from CY2005- CY2021 and historical ABCs since FY 2010. Overfishing status in the terminal year of the assessment indicated on the x-axis (Yes = overfishing, No= not overfishing, and unknown = unknown overfishing status). Note: "unknown" status presented in this graph is based on the stock assessment and is not the official stock status determined by NOAA Fisheries.

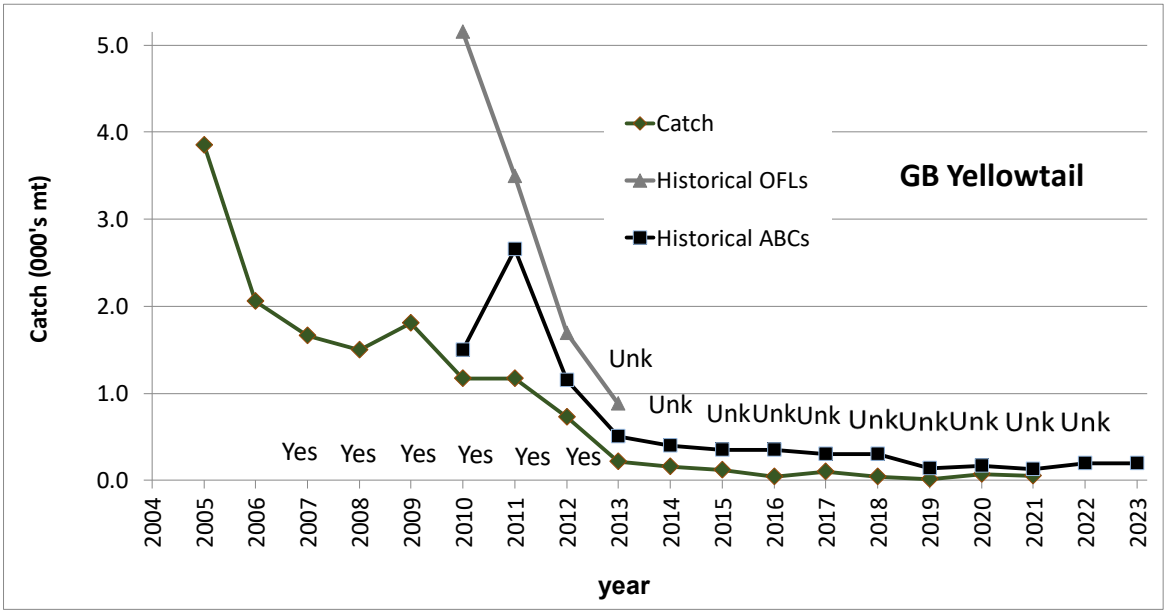


Table 1- Total US and Canada CY catch (mt) performance of GB yellowtail flounder, including OFLs and ABCs.

Year	CY Catch	OFLs	ABCs
2010	1,170	5,148	1,500
2011	1,171	3,495	2,650
2012	725	1,691	1,150
2013	218	882	500
2014	159	undefined	400
2015	118	undefined	354
2016	44	undefined	354
2017	95	undefined	300
2018	45	undefined	300
2019	8	undefined	140
2020	68	undefined	162
2021	51	undefined	125
2022		undefined	200
2023		undefined	200

Table 2 - Recent GB yellowtail flounder TACs, groundfish fishery sub-ACLs, and catches for fishing years 2011 through 2020, preliminary 2021, and in-season preliminary 2022. Values shown in metric tons (mt). Source: GARFO.

	Total Shared TAC – US & CA (mt)	US % Share	US TAC (mt)	US catch (mt)	% US TAC Caught	Groundfish sub-ACL (mt)	Groundfish catch (mt)	Percent Groundfish ACL Caught (%)
FY2011	2,650	55%	1,458	1,105.9	75.9%	1142.0	990.0	86.7%
FY2012†	1,150	49%	564	384.9	68.2%	368.3	215.5	58.5%
FY2013†	500	43%	215	93.3	43.4%	154.5	55.8	36.1%
FY2014	400	82%	328	122.8	37.4%	254.5	62.5	24.5%
FY2015†	354	70%	248	68.2	27.5%	202.9	38.4	18.9%
FY2016†	354	76%	269	30.7	11.4%	250.8	23.9	9.5%
FY2017	300	69%	207	84.0	40.6%	162.6	31.4	19.1%
FY2018†	300	71%	213	40.5	19.0%	187.9	27.6	14.7%
FY2019†	140	76%	106	4.8	4.6%	99.8	3.1	3.1%
FY2020	162	26%	120	9.7	8.3%	95.4	6.4	6.7%
FY2021*	125	64%	80			63.6	0.8	1.2%
FY2022**	200	61%	122			97.0	0.2	0.2%
	† Groundfish sub-ACL in table reflects final quota after in-season transfer from scallop to groundfish fishery, as required by regulation. *Indicates preliminary year-end catch data. **Preliminary in-season catch estimate as report run on August 4, 2022, data through August 2, 2022. Source: GARFO catch reports.							

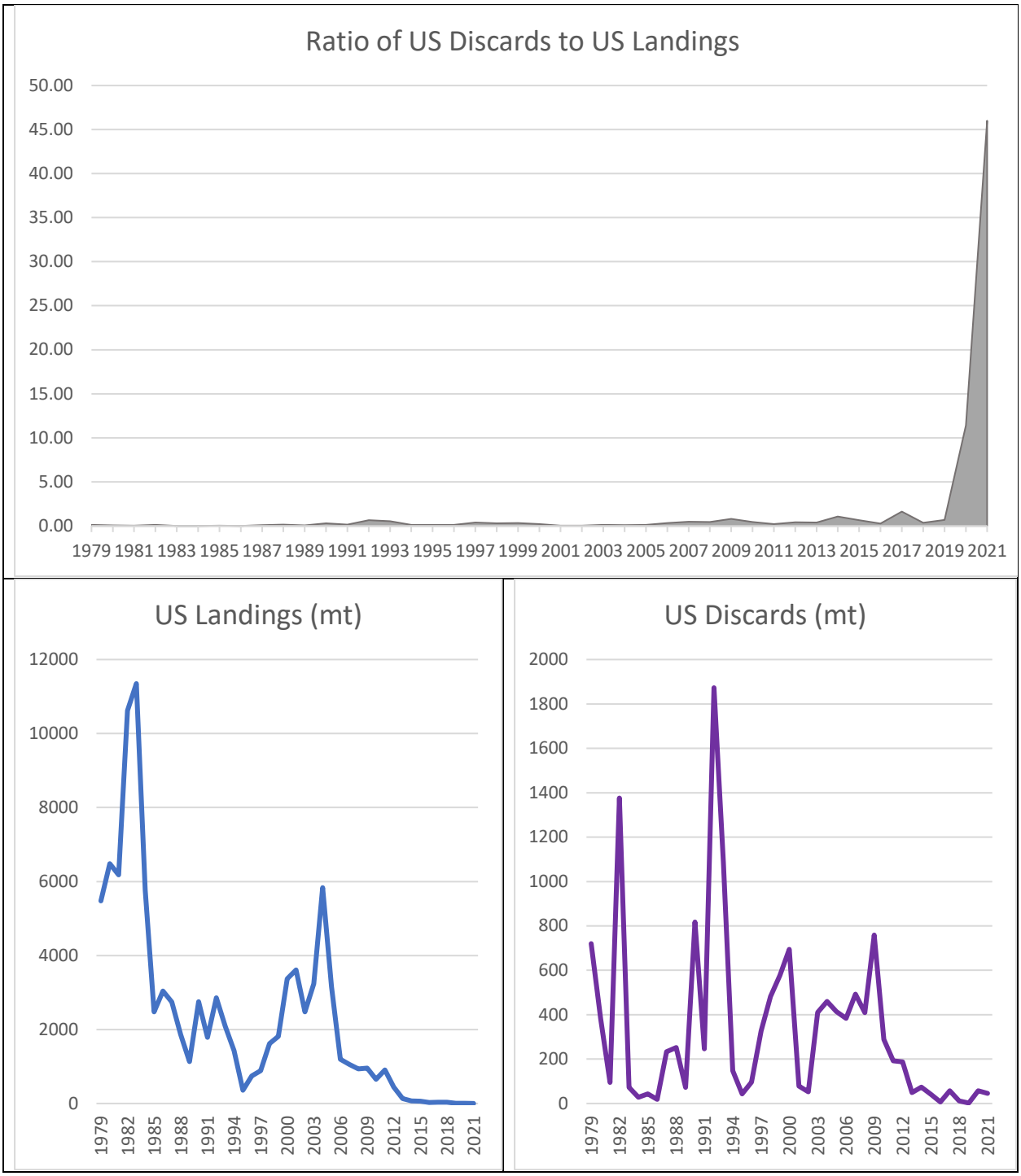
Table 3- Recent GB yellowtail flounder small-mesh fisheries sub-ACLs and catches (mt) for fishing years 2013 through FY2019. Values shown in metric tons (mt). Source: GARFO. The sub-ACL was implemented in FY2013 and is not evaluated in-season.

	Small-mesh fisheries sub-ACL (mt)	Small-mesh fisheries (mt)	Percent small-mesh fisheries Caught (%)
FY2013	4	2.5	63.7%
FY2014	6.1	1.1	18.1%
FY2015	5	0.1	1.0%
FY2016	5	4.8	95.2%
FY2017	4	0.4	9.7%
FY2018	4	0.1	2.5%
FY2019	2	<0.0	1.5%
FY2020	2	1.8	82.2%
FY2021	1.5		
FY2022	2.3		

2. *Ratio of US discards to US landings of GB yellowtail flounder*

Figure 2 displays the ratio of US discards to US landings of GB yellowtail flounder. Overall, total recent US catches continue to be low relative to historical catches. Recent catches continue to be mainly comprised of discards, notably in CY2020 and CY2021.

Figure 2 – Ratio of US discards to US landings of GB yellowtail flounder, CY1979-2021 (top), US landings in mt (bottom left), and US discards (bottom right). Data Source: Draft GB Yellowtail Flounder TSR for 2022, TRAC, Table A1.



3. Information on US observed catches of GB yellowtail flounder

Table 4 summarizes the count of observed large-mesh hauls of yellowtail flounder by haul weight (binned in 100 lb. increments) and statistical reporting areas (SRAs) for fishing year 2021. These data are all large-mesh bottom trawl hauls (NEGEAR=050) and are not filtered by fishery. New areas in FY2021 relative to FY2020 are highlighted, noting that the percentage of observed trips increased in FY2021.

Table 4- Count of observed hauls of yellowtail flounder by haul weight (lbs.) and SRA for FY2021 and by stock: Cape Cod/Gulf of Maine (CC/GOM) yellowtail flounder (513, 514, 515, 521), GB yellowtail flounder (522, 525, 561, 562), and Southern New England/Mid-Atlantic (SNE/MA) yellowtail flounder (537, 538, 539, 611, 613).

	CC/GOM				GB				SNE/MA				
	513	**514**	**515**	**521**	**522**	**525**	**561**	**562**	**537**	**538**	**539**	**611**	**613**
<100 lbs.	128	967	6	136	23	*	5	5	19	*	26	3	3
100-<200 lbs.		200		16									
200-<300 lbs.		84		5									
300+ lbs.		103		14			*						

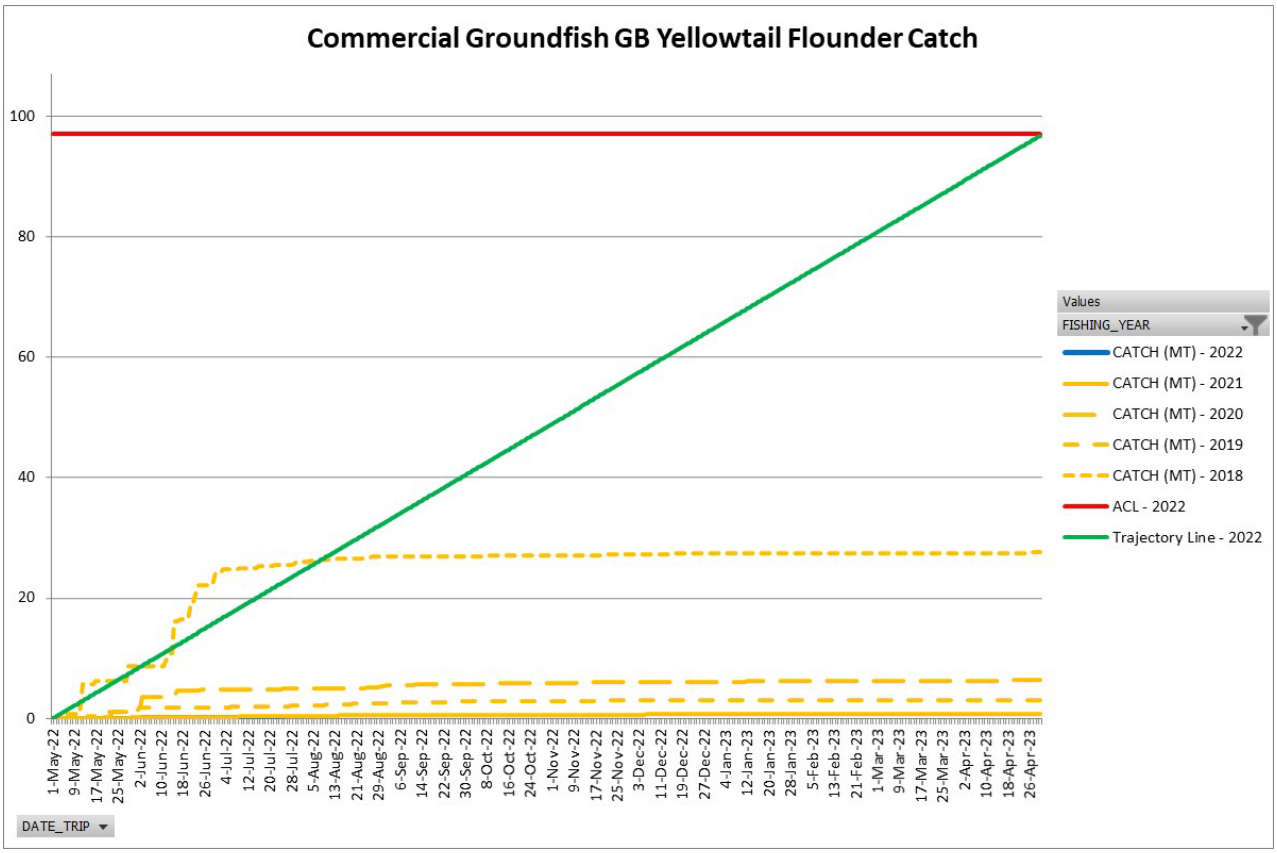
* Indicates confidential data based on <3 vessels.

4. In-season utilization by the commercial groundfish fishery.

Figure 3 shows groundfish commercial (sector and common pool) GB yellowtail flounder catches since FY2018 along with the FY2022 commercial ACL. GB yellowtail catch has been substantially below the sub-ACL from FY2017 to FY2021, not exceeded 10% utilization of the commercial ACL in the last three fishing years.

In the past, GB yellowtail catches in the groundfish commercial fishery showed a strong seasonal component with most of the catch occurring from late April into August. FY2019, FY2020, and FY2021 had substantially lower catch than other years. Absent any large increases in the quota, it appears that directed fishing effort for GB yellowtail flounder is unlikely to increase in FY2022 or FY2023.

Figure 3-In-season utilization of GB yellowtail flounder by the commercial (sector and common pool) groundfish fishery.



5. Summary of Economic Information

Table 5 compares the performance of the quota-change model (QCM) since FY2012 to realized outcomes. Performance of the QCM varies year to year (in some years it underpredicts, while in others it overpredicts) but generally has accurately predicted utilization trends (except for FYs 2014, 2019, and 2020), where utilization has been predicted to be low in recent fishing years as the sector-sub-ACLs have declined. Utilization rates for GB yellowtail flounder have been below 20% since FY2015 and below 10% since FY2019. The actual total ex-vessel value for GB yellowtail flounder in FY2021 was only $2,000.

Table 5- GB yellowtail flounder stock-level catch and revenue predictions from the Quota Change Model (QCM) for each fishing year between 2012 and 2021 compared to realized catch and revenue (in 2021$).

	Sector	Catch (mt)		*Utilization (%)*		Gross Rev ($mil, 2021)	
FY	**sub-ACL**	**Realized**	**Predicted**	***Realized***	***Predicted***	**Realized**	**Predicted**
2012	364	201	360	*0.55*	*0.99*	0.7	1.1
2013	100	46	97	*0.46*	*0.97*	0.2	0.3
2014	252	54	167	*0.21*	*0.66*	0.2	0.6
2015	192	36	55	*0.19*	*0.28*	0.1	0.2
2016	207	23	22	*0.11*	*0.10*	0.1	0.1
2017	160	31	18	*0.19*	*0.11*	0.1	0.1
2018	167	27	37	*0.16*	*0.22*	0.1	0.2
2019	83	3	37	*0.04*	*0.45*	<0.1	0.1
2020	93	5	27	*0.05*	*0.29*	<0.1	<0.1
2021	59	1	2	*0.01*	*0.04*	<0.1	<0.1

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Eric Reid, *Chair* | Thomas A. Nies, *Executive Director*

MEMORANDUM

DATE: August 11, 2022

TO: Groundfish PDT

FROM: Scallop PDT

SUBJECT: **Scallop Fishery Activity in Georges Bank Yellowtail Flounder Stock Area**

Preface

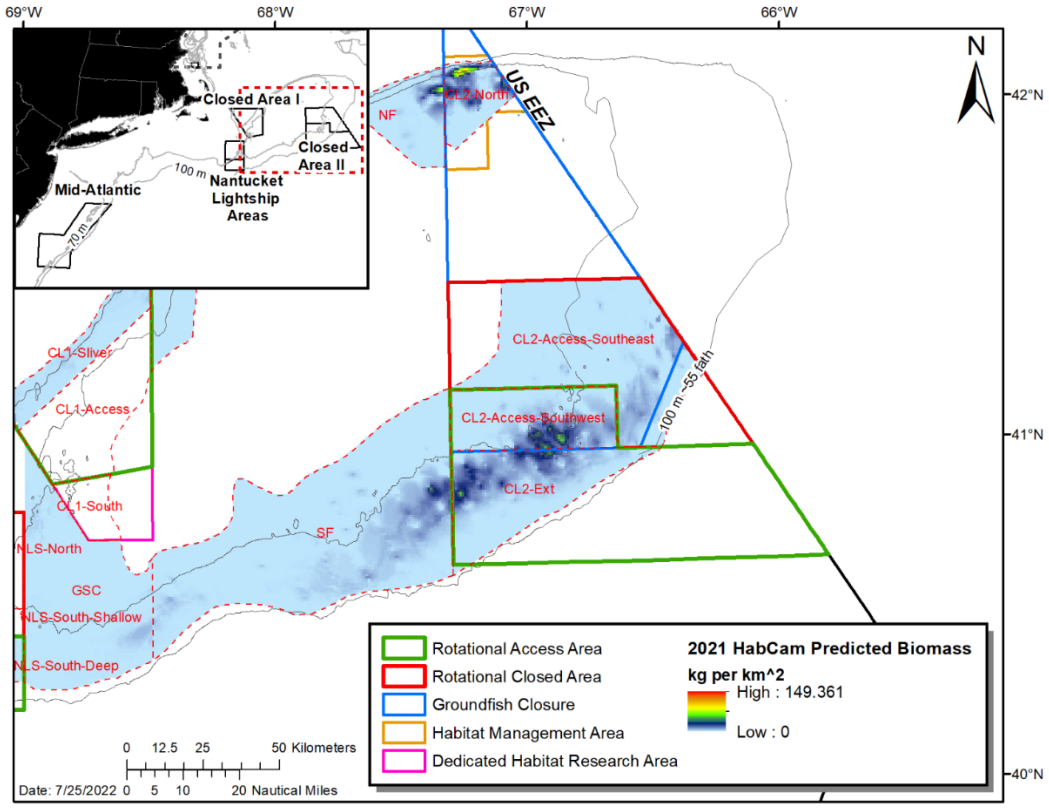
For several years, the Scallop Plan Development Team (PDT) has provided information to the Groundfish PDT for consideration during the Scientific and Statistical Committee (SSC)'s deliberations of the Georges Bank yellowtail flounder (GB yellowtail) Total Allowable Catch (TAC). These memos outline recent management measures within the GB yellowtail stock area, catch estimates of GB yellowtail, scallop fishing effort within the GB yellowtail stock area, and information on GB yellowtail catch advice (see Appendix I). The Scallop PDT revisited discussion on these topics at their August 10, 2022 meeting as well as through correspondence. This document communicates recent information on scallop fishing in the GB yellowtail stock area as well as the outlook for the scallop fishery and GB yellowtail bycatch on eastern Georges Bank in fishing year (FY) 2023.

Scallop Fishery Outlook in Closed Area II Access Area

- For FY2022, full time limited access vessels were allocated two 15,000-pound trips to Closed Area II Access Area (CAII AA) (30,000-pound allocation per vessel). The configuration of CAII AA in FY2022 includes the western portion of the traditional access area combined with the CAII Extension (i.e., CAII Southwest and Extension; Figure 1).
- The 2021 surveys of eastern Georges Bank observed the majority of exploitable biomass in the western portion of the traditional access area (Figure 1) as well as in the open bottom directly west of CAII AA in the Southern Flank (SF) Scallop Area Management Simulator (SAMS) area (Figure 1). The eastern portion of CAII AA (i.e., CAII East; Figure 1) remained closed for FY2022 to protect small scallops and reduce bycatch of GB yellowtail and northern windowpane flounder. Note that CAII East supported access area fishing by limited access vessels in FY2020 but was closed in FY2021. Results from the 2022 surveys will inform whether CAII-East is a candidate for rotational fishing in FY2023.
- Results of the 2021 surveys suggested that access area fishing in the CAII region may be possible for FY2023. There were three scallop surveys of CAII AA and surrounding open areas (dredge, drop camera, and HabCam) in 2022. The Scallop PDT will consider findings

from the 2022 surveys in its discussion around accessing scallops on eastern Georges Bank in FY2023.

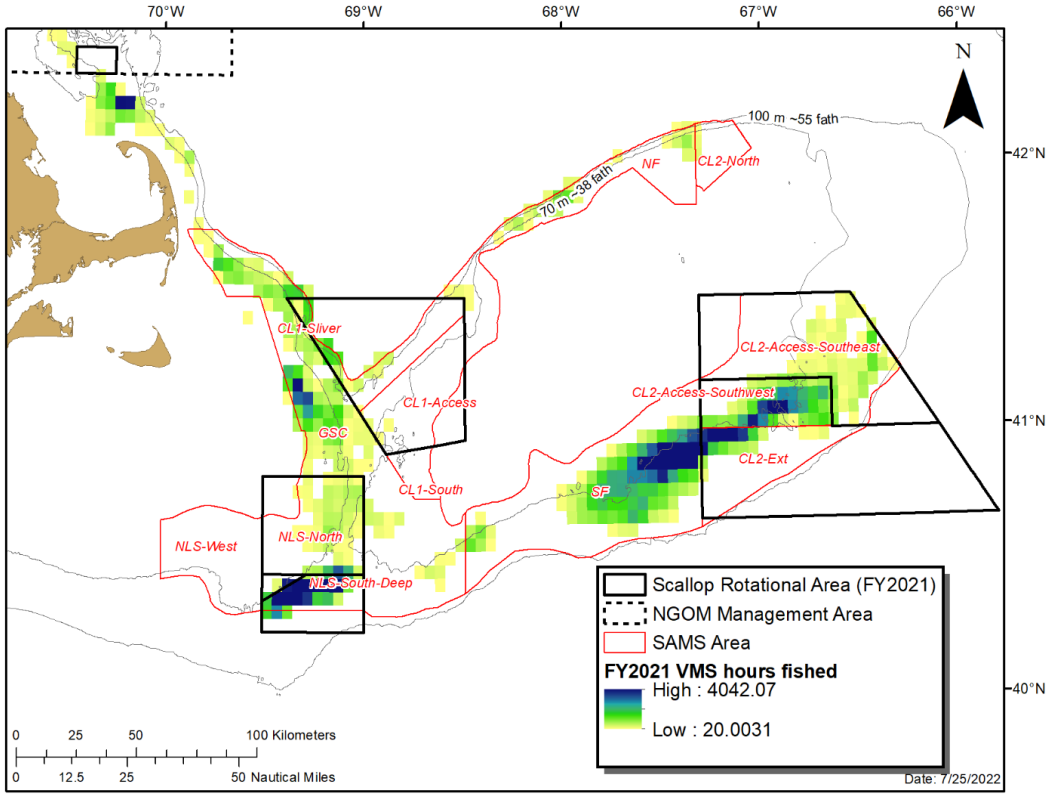
Figure 1 – Predicted scallop biomass (kg per km^2) of scallops greater than 40 mm shell height from the 2021 Coonamessett Farm Foundation (CFF) and Northeast Fisheries Science Center (NEFSC) HabCam surveys of eastern Georges Bank relative to FY2022 rotational management areas and groundfish/habitat closures. The dotted red lines and red labels show Scallop Area Management Simulator (SAMS) areas (note that 'SF' refers to the Southern Flank SAMS area).



Recent Scallop Fishery VMS Effort

- Vessel Monitoring System (VMS) data were used to estimate scallop fishery effort in FY2021 (Figure 2). The VMS data represent combined scallop fishery activity in terms of hours fished, aggregated at a resolution of 3 nautical mile squares with a minimum of 20 hours recorded per square. A speed filter of 2 to 5 kts was applied to remove vessel activity that was likely a result of transiting to and from fishing grounds.
- In FY2021, scallop effort in the GB yellowtail stock area occurred mostly in CAII Southwest and Extension and in the open area directly west of CAII AA (Figure 2). Some open area effort was directed along the northern flank of Georges Bank in FY2021, but to a lesser extent than what was observed in the open area directly adjacent to CAII (i.e., Southern Flank SAMS area; "SF").
- FY2022 VMS data are not available at this time; however, based on the current knowledge of the distribution of scallop biomass from the 2021 surveys, the spatial extent of effort on Georges Bank in FY2022 is expected to be similar to what was observed in FY2021. The spatial distribution of effort in FY2023 will likely follow a similar trend, though results from the 2022 surveys will provide better insight.

Figure 2 – Scallop fishery effort in terms of Vessel Monitoring System (VMS) hours fished for fishing year 2021 on Georges Bank. Scallop Area Management Simulator (SAMS) area boundaries are shown in red.



Scallop Fishery Bycatch of Georges Bank Yellowtail Flounder

- The Scallop PDT projected GB yellowtail bycatch to be about 17 mt for FY2022, which is slightly lower than the scallop fishery sub-ACL of 19 mt (see Framework 34). Due to several caveats associated with the data used for projections and lack of current observer information on bycatch rates of flatfish stocks on eastern Georges Bank, the Scallop PDT noted that the FY2022 GB yellowtail bycatch projection was highly uncertain. A full description of the caveats and anticipated bycatch of GB yellowtail for FY2022 is contained in the November 24, 2021 memo to the Groundfish PDT as well as Section 6.3.3 of Framework 34
- Due to an overage of the northern windowpane flounder sub-ACL in FY2020, the scallop fishery is subject to a reactive accountability measure (AM) for the duration of FY2022. The reactive AM requires use of a modified dredge (i.e., maximum 5-row apron with 1.5:1 hanging ratio) when fishing in Closed Area II for the entirety of FY2022. Use of the modified dredge is anticipated to reduce bycatch of both GB yellowtail and northern windowpane flounder.
- In season bycatch estimates are typically based on area-specific (i.e., in access areas and open areas) observed discard rates. Due to a lack of observer coverage in 2020 and data processing delays in 2021 and 2022, limited observer data are available to inform bycatch estimates for CAII, an area where GB yellowtail bycatch is typically higher than elsewhere in the stock area. The lack of up-to-date observer data has resulted in continued use of the 2019 broad stock discard rate for certain strata (LAGC in Closed Area I, LA in NLS North) when estimating GB yellowtail bycatch for FY2021 (i.e., 30 mt, 251% of the scallop sub-ACL).

The boundaries for Closed Area II changed between FY2020 and FY2021, from the Southeast to the Southwest, adjacent to the Southern Flank open area and Closed Area II Extension. The PDT reiterates that the FY2021 scallop fishery bycatch estimate of GB yellowtail remains uncertain and suggests that this estimate be revisited when more recent observer records are available from FY2021.

Table 1 – Recent Georges Bank (GB) yellowtail Total Allowable Catch limits (TAC), scallop fishery sub-Annual Catch Limits (sub-ACL) and catches, by fishing year (FY). Values are shown in metric tons (mt).

FY	Total Shared TAC	US % Share	US TAC	% US TAC Caught	Scallop sub-ACL	Scallop catch	% Scallop sub-ACL Caught
FY2010	1,500	64%	1,200	68%	146	17.6	12%
FY2011	2,650	55%	1,458	76%	200.8	83.9	42%
FY2012	1,150	49%	564	68%	156.9	164.0	105%
FY2013	500	43%	215	43%	41.5	37.5	90%
FY2014*	400	82%	328	37%	50.9	59.0	116%
FY2015*	354	70%	248	28%	38	29.7	78%
FY2016*	354	76%	269	12%	42	2.1	5%
FY2017*	300	69%	207	44%	32	52.6	164%
FY2018*	300	71%	213	20%	33	12.7	38%
FY2019*	140	76%	106	5%	17	1.7	10%
FY2020*	162	74%	120	7%	19	1.5	8%
FY2021*	125	64%	80		12	30[1]	251%

* retention of GB yellowtail prohibited for scallop fishery

[1] FY2021 estimate based on stock-wide observer data from 2019. As mentioned above, the PDT recommends revisiting the 2021 bycatch estimate when more recent observer records are available.

Appendix I: Recent Memos from Scallop PDT to Groundfish PDT re: GB yellowtail

Table 2 – Links to past memos from the Scallop PDT to the Groundfish PDT regarding GB yellowtail.

Date	Link
August 1, 2016	See page 14: https://s3.amazonaws.com/nefmc.org/B.2-160805-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-attachments_corrected-081716.pdf
August 2, 2017	See page 7: https://s3.amazonaws.com/nefmc.org/A6_170804-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo-attached_170807_114738.pdf
July 27, 2018	See page 7: https://s3.amazonaws.com/nefmc.org/A6_180809-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo-attachment.pdf
August 13, 2019	https://s3.amazonaws.com/nefmc.org/Doc.9-190813_Scallop-PDT-memo-to-Groundfish-PDT-re-GB-yellowtail.pdf
August 12, 2020	See page 11: https://s3.amazonaws.com/nefmc.org/5a_200821-GF-PDT-memo-to-SSC-re-GB-yellowtail-flounder-with-Scallop-PDT-memo_200921_093835.pdf
August 9, 2021	https://s3.us-east-1.amazonaws.com/nefmc.org/Doc.3e-210809-Scallop-PDT-memo-to-Groundfish-PDT-re-GB-yellowtail.pdf