



New England Fishery Management Council

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MEMORANDUM

DATE: June 6, 2016
TO: Groundfish Committee
FROM: Groundfish Plan Development Team
CC: Scallop Committee and Scallop Plan Development Team
SUBJECT: **Potential approaches for allocating northern windowpane flounder to the Atlantic Sea Scallop Fishery**

The Groundfish Plan Development Team (PDT) met on May 11, 2016, in Boston, Massachusetts to discuss potential approaches for developing allocations of northern windowpane flounder for groundfish sectors and the Atlantic sea scallop fishery. This PDT summary focusses on the topic of allocation of northern windowpane flounder to the scallop fishery. A subsequent memo summarizes PDT analysis regarding allocation of northern windowpane flounder to groundfish sectors.

This work does not address the development of an associated accountability measure (AM) for a scallop fishery allocation of northern windowpane flounder. AMs have typically been developed in a subsequent action by the fishery management plan (FMP) that receives the allocation.

A. Background

1. Committee Tasking

At its April 7, 2016, meeting, the Groundfish Committee tasked the Groundfish PDT with developing approaches for allocating northern windowpane flounder to groundfish sectors using other allocated groundfish stocks as proxies, and to establish sub-Annual Catch Limits (sub-ACLs) for northern windowpane flounder for other fisheries such as scallops. The Council considered establishing a northern windowpane sub-ACL for scallops in earlier framework adjustment (FW) actions, including FW47 and FW53, yet did not establish a sub-ACL. The Committee requested that the PDT first examine approaches for setting a northern windowpane scallop sub-ACL that were pursued in FW53 (but ultimately moved to the “Considered but Rejected” section of the action).

2. Draft problem statement for northern windowpane flounder, modified from the windowpane flounder management discussion paper

Draft problem statement: Gulf of Maine (GOM)/Georges Bank (GB) (northern) windowpane flounder total catches exceeded catch limits and management uncertainty buffers in recent fishing years, triggering accountability measures (AMs). Besides the groundfish fishery, the scallop fishery is the major contributor to northern windowpane flounder catches. The scallop fishery catches of northern windowpane flounder are not subject to limits, and the groundfish fishery is therefore accountable for any overages. When triggered, AMs restrict the ability of the groundfish fishery to target and catch marketable species – mainly other flatfish such as winter flounder, resulting in adverse economic impacts to the groundfish fishing fleet on Georges Bank. [Link to full discussion paper.](#)

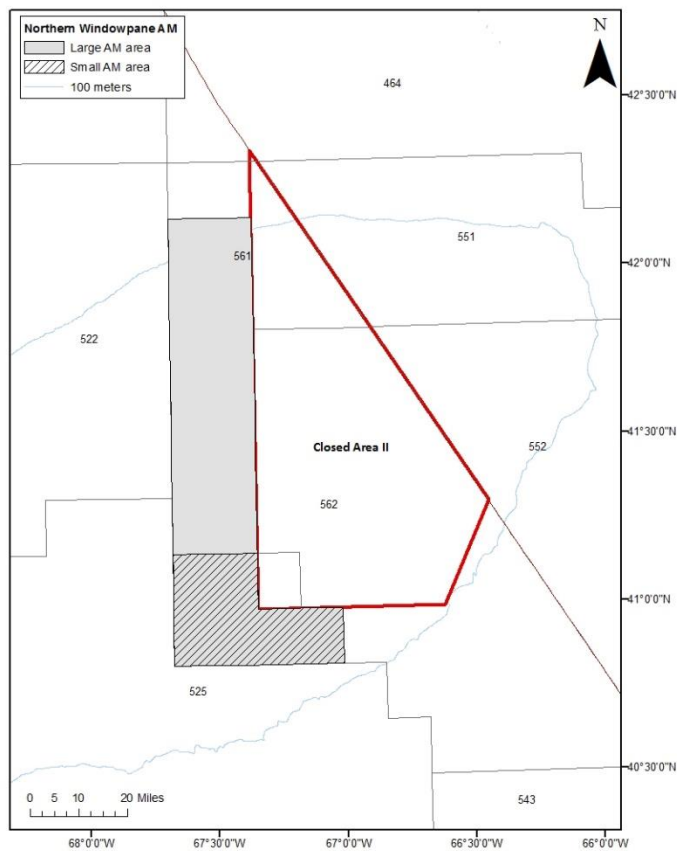
Question #1 for the Committee: Does the Committee wish to adopt this draft problem statement for the action, with respect to the development of a northern windowpane flounder sub-ACL for the scallop fishery?

3. Groundfish accountability measures for northern windowpane flounder

The Council has developed large and small gear restricted areas (GRA) as AMs for both windowpane flounder stocks. AMs are triggered for windowpane flounder when the catches exceed the ACL plus a management uncertainty buffer. The size of the AM is dependent upon the overage. Catches exceeding the ACL by 20%, or more, trigger a large AM, while when catches exceed 5% of the ACL but are less than 21% of the ACL the small AM is implemented. If an AM is triggered, bottom-trawl vessels are required to use selective large-mesh trawl gear that is designed to reduce the catch of windowpane (and subsequently other flatfish). Approved gears include haddock separator trawls or Rhule trawls.

The large northern windowpane AM area was triggered in FY2014 following catch overages in FY2012 and FY2013. The large AM area remained in place for FY2015 after it was determined that windowpane catches had exceeded the ACL by over 20% in FY2014. This GRA overlaps with the U.S./Canada management area, and is located to the west of Closed Area II in statistical reporting areas 561, 562, and 525. Note that the overage in FY2012 was from the combined scallop and groundfish catch (Table 2). Groundfish sector catches alone in FY2013 and FY2014 were large enough to trigger the large AM area (GRA). The size and duration of the AM may also be modified depending on stock condition and fishery performance criteria.

Figure 1 - Northern windowpane flounder groundfish accountability measures (large and small gear restricted areas).



4. Recent catches in ‘other’ fisheries, including the scallop fishery:

Catch of northern windowpane flounder that is not attributed to the groundfish fishery is currently categorized as ‘other’ catch for accounting purposes. Nearly all ‘other’ northern windowpane flounder catch can be attributed to the scallop fishery. Catch data for groundfish sectors has been added to the following tables for comparison purposes. Table 1 describes recent catches of northern windowpane for fisheries with an estimated catch of >1mt. Final catch data for northern windowpane flounder is not available for FY2015, and the groundfish sector catch estimate is preliminary. Table 2 shows catch by fishery as a percentage of the overall ACL. In 2012, the combined scallop/groundfish sector catch exceeded the overall ACL (46.44% + 79.45%). In subsequent years, groundfish catch alone exceed the overall ACL.

Table 1 - Recent northern windowpane flounder catch estimates by fishery (mt). *FY2015 data is preliminary. Scallop, squid/whiting, and lobster/crab are accounted for in the other sub-component of catches for each fishing year.

<i>Fishing Year</i>	<i>Scallop</i>	<i>Squid/Whiting</i>	<i>Lobster/Crab</i>	<i>Groundfish Sectors</i>
2012	75.7	0.9	0	129.5
2013	40.7	0.6	0	237.3
2014	99.7	1.0	7.4	157.4
2015*	<i>Final data not available</i>			74.5

Table 2 – Northern windowpane flounder estimated catches by fishery as a percentage of the total ACL (not sub-ACL). Scallop, squid/whiting, and lobster/crab are accounted for in the other sub-component of catches for each fishing year. *FY2015 data is preliminary.

<i>Fishing Year</i>	<i>Estimated catches as a percentage of the total ACL</i>				
	<i>Total ACL (mt)</i>	<i>Scallop</i>	<i>Squid/Whiting</i>	<i>Lobster/Crab</i>	<i>Groundfish Sectors</i>
2012	163	46.44%	0.55%	0.00%	79.45%
2013	144	28.26%	0.42%	0.00%	164.79%
2014	144	69.24%	0.69%	5.14%	109.31%
2015*	144	<i>Final data not available</i>			51.74%

5. Overview of approaches used to allocate groundfish sub-ACLs to the scallop fishery

The Council has allocated groundfish sub-ACLs to the Atlantic sea scallop fishery for Georges Bank (GB) yellowtail flounder (YT), Southern New England/Mid-Atlantic (SNE/MA) YT, and SNE/MA windowpane flounder.

Scallop fishery allocations are currently set as either:

1. A fixed percentage applied to the overall ABC (i.e., approach for GB yellowtail flounder and southern windowpane flounder sub-ACLs).
2. A recurring estimate of expected catch prepared by the Scallop PDT (i.e., approach for SNE/MA yellowtail flounder sub-ACL).

Table 3 summarizes the approaches to setting scallop fishery allocations of groundfish stocks.

Table 3- Summary of approaches to setting scallop fishery allocations of groundfish stocks.

<i>Stock</i>	<i>Action</i>	<i>Approach</i>	<i>Percentage or recurring estimate?</i>	<i>Details</i>
SNE/MA windowpane flounder	FW48	Catch history (10 year period)	<u>Fixed</u> percentage at 36%	90 th percentile of estimated catch from 2001-2010
GB yellowtail flounder	FW48	Catch history	<u>Fixed</u> percentage at 16%	Council considered a range (8%-16%)
SNE/MA yellowtail flounder	Multiple (FW44, FW55)	Percentage of estimated catch (90% - 100% in past actions)	<u>Recurring estimate</u> of catch.	Estimated catch completed by Scallop PDT

Fixed percentage, based on catch history (10-year period - SNE/MA windowpane flounder):

The scallop sub-ACL for SNE/MA windowpane flounder is based the 90th percentile of the scallop fishery catches (as a percent of the total) for the period calendar year 2001 through 2010 from information in the 2012 stock assessment. The last three assessments for SNE/MA windowpane flounder have only included catches from limited access scallop dredges and trawls. Prior to 2004, there was limited observer coverage of General Category scallop dredge and trawl trips. The Groundfish PDT averaged General Category catch of this stock using data from 2004-2011, and applied it to all years (22 mt). The combined total was 36 percent.

Fixed percentage, based on catch history (range history – GB Yellowtail Flounder): The scallop sub-ACL for GB YT is a fixed percentage (16%). This value was selected after the Council considered a range of scallop discards as percentages of catch (8% - 16%) between 2002 and 2011 (calendar year). If NMFS determines that less than 90% of the GB YT sub-ACL will be caught by January 15th of each year, it may consider an in-season transfer to the groundfish fishery.

Recurring estimate of catch – (SNE/MA yellowtail flounder): The scallop sub-ACL for SNE/MA YT is based on a percentage of expected catch by the scallop fishery (projections). The Scallop PDT provides an estimate of expected catch (based on scallop specifications alternatives) to the Groundfish PDT. The sub-ACL is considered by the Groundfish Committee and Council as part the groundfish specifications process. The Council has elected to allocate between 90% and 100% of this estimate to the scallop fishery in past actions. In its most recent action (FW55), the Council recommended setting the sub-ACL at 90% of expected catch as a way to incentivize bycatch avoidance. If NMFS determines that less than 90% of the SNE/MA YT sub-ACL will be caught by January 15th of each year, it may consider an in-season transfer to the groundfish fishery.

6. Summary of recent performance for the scallop fishery regarding sub-ACLs for groundfish stocks (allocations, projections, and catches):

In a November 7, 2015, memorandum to the Groundfish PDT, the Scallop PDT summarized the performance of actual scallop catches with respect to allocations and projected catches (Table 4). Note that the catch values for 2015 have been updated but remain preliminary. The recent sub-ACLs developed using the fixed percentage approach have provided sufficient catch to cover the estimate of actual catch by the scallop fishery in 2 out of 3 years. The recurring catch estimate approach has also performed well. The apparent overage in 2013 (111% of ACL) was the result of an in-season transfer of SNE/MA yellowtail to the groundfish fishery. Actual catch did not exceed the overall estimate of catch in 2013. Recent scallop catch estimates have not triggered AMs for the scallop fishery because overall catch by all fishery components has not exceeded the overall ACL for these stocks.

Table 4 - Summary of sub-ACL allocations, projected catches (mt), and actual catches from FY2013, FY2014, and preliminary estimates for FY2015 (data from Scallop PDT memo to Groundfish PDT, dated Nov. 7, 2015).

	GB YT	SNE/MA YT	S. Windowpane
Calculation	Fixed %	Recurring Estimate (90% of estimate)	Fixed %
2013 Allocated	41.5	43.6*	183
2013 Projected	85.3	66	N/A
2013 Actual	37.5	48.6	129.1
2013 Catch/Allocation (%)	90%	111%	71%
2014 Allocated	50.9	66	183
2014 Projected	62.4-103.7	61.1-67.7	74.4
2014 Actual	59	63	136
2014 Catch/Allocation (%)	116%	95%	74%
2015 Allocated	38	66	183
2015 Projected	27.9-49.6	54	134
2015 Actual**	29.7	34.7	188.3
2015 Catch/Allocation (%)	78%	53%	103%
*Scallop sub-ACL was reduced after in-season transfer to the groundfish fishery.			
**Preliminary catch data, updated from reports run on Feb. 23, 2016			

B. Considerations for development of scallop sub-ACLs of northern windowpane flounder

The following includes considerations about how the actual allocation is set.

1. In-season transfer of allocation from scallop fishery to the groundfish fishery

The Committee may wish to consider a provision similar to the in-season transfer of GB YT and SNE/MA YT from the scallop fishery to the groundfish fishery for northern windowpane flounder. Even though the possession of northern windowpane flounder is currently prohibited and this stock is not targeted, the ability to transfer allocation in-season may provide relief to the groundfish fishery late in the fishing year. For example in FY 2015, 7.9 mt of GB YT and 22.3

mt of SNE/MA YT were transferred to the groundfish fishery in-season. If the northern windowpane flounder were to be allocated to individual sectors, the Committee may wish to consider the in-season transfer provision in conjunction with modifying the AMs to be in-season for the groundfish fishery.

Question #2 for the Committee: Does the Committee wish to develop an alternative that would allow for an in-season transfer of northern windowpane flounder allocation from the scallop fishery to the groundfish fishery, should the stock be allocated to groundfish sectors?

2. Limited Access General Category IFQ catch estimates for northern windowpane flounder

LAGC IFQ catch estimates are not used in the stock assessment for northern windowpane flounder. The 2015 assessment peer review recommended including these catches in subsequent assessments. When developing the approaches for allocating southern windowpane flounder to the scallop fishery in FW48, the Groundfish PDT applied the average LAGC IFQ catch from 2004 – 2011 to the time series (this value was 22 mt). The Groundfish PDT used this approach in developing alternatives for FW53 and it is updated in Table 5 with an average of 4 mt of northern windowpane flounder estimated discards for LAGC permits for CY 2004 to CY 2014.

Table 5 - Northern windowpane flounder discard estimates for LAGC permits, by calendar year. The time series average is 4 mt.

	Discards	
CY	(mt)	CV
2004	9	0.52
2005	5	0.45
2006	5	1.10
2007	3	0.74
2008	2	1.06
2009	5	1.70
2010	5	0.73
2011	1	0.51
2012	2	0.33
2013	3	0.47
2014	6	0.40
Average (2004-2014)	4	

3. Atlantic Sea Scallop Area Rotation Program and DAS

Scallop fishing effort within the northern windowpane flounder stock area may vary year to year, and is in part dependent on the availability of the scallop resource in open and access areas, as well as the number of days at sea allocated to the limited access fleet. The area rotation program employed in the scallop fishery has periodically closed access areas on Georges Bank (CAI & CAII) within the northern windowpane stock area, as shown in Table 6. Calendar year catch data used in the 2015 northern windowpane flounder operational assessment has been added for

comparison purposes. However, the scallop fishing year currently begins on March 1 each year, so fishing year specifications are not a perfect match with calendar year data (10 month overlap)¹.

Table 6 - Scallop fishery specifications for Limited Access (LA) vessels by fishing year and LA discard estimates of northern windowpane flounder by calendar year from the 2015 northern windowpane flounder assessment.

FY	DAS	CAI	CAII	CY	LA Discard estimates of NWP (mt)
2001	120	Closed	Closed	2001	22.26
2002	120	Closed	Closed	2002	20.98
2003	120	Closed	Closed	2003	12.69
2004	42	Closed	2 trips	2004	6.94
2005	40	1 trip	1 trip	2005	16.59
2006	52	Closed	3 trips: bycatch closure	2006	73.07
2007	51	1 trip	Closed	2007	97.77
2008	35	Closed	Closed	2008	43.33
2009	42	Closed	1 trip: bycatch closure	2009	15.45
2010	38	Closed	Closed	2010	8.59
2011	32	1.5 trips (all 313 vessels get 1 trip, 156 vessels get additional trip)	0.5 trips (157 vessels)	2011	32.72
2012	34	1 trip after emergency action May 2012	1 trip (313 vessels)	2012	34.85
2013	33	118 trips (FW25 later allows unused trips to carryover to future year)	182 trips	2013	63.37
2014	31	Closed	197 trips	2014	95.37

4. Proactive AM for northern windowpane flounder, southern windowpane flounder, GB YT, and SNE/MA YT expanded in Scallop FW 26

The proactive AM requires all scallop vessels to have a maximum of seven rows of rings in the apron of the dredge. This measure has been effective at reducing flatfish bycatch in the scallop fishery. The AM applies to all open areas and access areas, all year long as implemented in 2015 FW 26 expanded the scope of the AM from that of FW 25 - which generally covered the southern windowpane flounder stock area. This restriction applies to all vessels, LA and LAGC regardless of permit type or dredge size. Since this measure now applies to all areas, it is considered a proactive AM for both stocks of windowpane flounder and yellowtail flounder.

¹ The date that GB access areas open varies greatly from year to year which may impact bycatch. For example, there have been years when vessels can start fishing in March, and other years they have to wait until August (based on when a FW is implemented).

5. Potential changes to access in Gulf of Maine and Georges Bank (Omnibus Habitat Amendment 2, OHA2)

The Council identified final recommendations for modifications to habitat management areas over two Council meetings, April 2015 and June 2015. The Council's preferred alternatives would modify existing closures for both the groundfish and scallop fisheries in the Gulf of Maine and on Georges Bank (Figure 2 and Figure 3). Note that these measures have not been approved.²

C. Potential approaches for developing a northern windowpane flounder sub-ACL for the Atlantic sea scallop fishery

1. Potential Approaches

The Committee may wish to consider a range of approaches for allocating northern windowpane to the scallop fishery. The Groundfish PDT reviewed existing approaches used for allocating flatfish stocks to the scallop fishery. These include, but are not limited to the following list. A summary is provided in Table 7.

- A. Fixed percentage based on the 90th percentile of a 10 year average – *approach used for Southern windowpane flounder*
- B. Select a percentage from a range (of recent scallop catches) – *approach used for GB yellowtail flounder*
- C. Estimated expected catch, and select a % of that value – *approach used for SNE/MA yellowtail flounder*
- D. Alternatives to past approaches:
 - i. Adjust the range of years (EX: FW53 used 2001-2010, could use 2005-2014)
 - ii. Focus on more recent catch history (EX: most recent 5 years of data)

Table 7 – Summary of percent allocations of scallop sub-ABC based on potential approaches A-D.

Approach:	Fixed Percentage Approaches				Projections
	A	D _i	D _{ii}	B	C
	2001-2010 (FW53)	2005-2014	2010-2014 (5 years)	Range	Expected Catch Projection
Mean (Average)	8.0%	14.6%	21.4%	Low=2% (2005)	FY2016 = 105.8 (60%)
Median	7.5%	11.7%	18.5%	High=46% (2014)	FY2017=91.7 (52%)
90th percentile	12.3%	21.4%	35.0%		FY2018=90.7 (50%)

ABC for FY2016 - FY2018 = 182 mt

² A proposed rule is expected early summer 2016, and a final decision on the amendment will be available 90 days from publication of the amendment, by late September. The final rule based on this decision would be published in December of 2016.

Table 8 provides a more detailed summary of recent catch data and the data used to calculate the values in Table 7. Table 9 compares potential allocations in metric tons based on the groundfish and scallop fishery's percent share of the 2016 - 2018 windowpane flounder ABC. The values do not take into account any reduction for state waters catch or management uncertainty and are intended to only serve as a guide when considering various scallop sub-ABCs.

Question #3 for the Committee: What range of options for scallop fishery sub-ACLs of northern windowpane flounder does the Committee wish to pursue?

2. PDT Discussion

The PDT discussion focused on the existing approaches (fixed percentage and expected catch projection) used to allocate scallop fishery sub-ACLs for other groundfish stocks. The Groundfish PDT does not recommend a particular approach for setting a scallop sub-ACL. Rather, the PDT discussed some of the merits and limitations of the approaches, and made several recommendations on the development of potential approaches. In general for the recurring estimate approach, it can adapt to projected changes in scallop resource distribution and scallop fishery location, but may be labor intensive to develop. Whereas the fixed percentage approach is less labor intensive to calculate, but does not adapt to changes in the scallop fishery.

The PDT acknowledged that AMs for the groundfish fishery will not be in place for FY 2016, and discussed the potential changes in access to fishing grounds on George's Bank (pending implementation of the OHA2 final rule). Changes in closures may impact fishery catches of northern windowpane flounder, and recent catch data may not reflect the potential catch in newly opened areas.

With regard to the in-season transfer of allocation from the scallop fishery to the groundfish fishery, the PDT noted that Amendment 19 to the scallop fishery proposes changing the start of the scallop fishing year to April 1 (from March 1). The April 1 start date should not change anything with respect to in-season transfers. The date that NMFS plans to do the mid-year calculation for potential transfer is going to stay the same – that is clarified in A19. Therefore, there should be essentially no impact (no less time) that transfer would be available to groundfish fleet.

The PDT reviewed the calendar year limited access scallop catch data used in the 2015 assessment update, and noted the scallop fishery catches range widely year to year. With 23 years of scallop limited access catch data in this time series, the PDT felt that the use of an expanded time series may include catches (from all fleets) that do not reflect the current status of northern windowpane flounder.

The PDT noted that scallop fishing effort is likely to be driven by scallop resource availability. As such, the group felt that the projected landings approach would be reflective of the likely scallop effort and catch of windowpane on Georges Bank (in open areas and access areas), but noted that estimated in the out-years (i.e., year 2 and year 3) are less certain. The PDT noted

that projecting landings is less straightforward than the fixed percentage approach. The group noted that while allocations for projected landings have been based on 100% and 90% of expected catch in the past, the Committee may wish to set allocations using a different percentage of expected catch.

Finally, the PDT noted that both allocation approaches (fixed and projected) have performed relatively well – despite small overages in some years. The scallop fishery AMs for allocated groundfish stocks have not been recently triggered.

3. PDT Recommendations

The Groundfish PDT recommends that if the Committee pursues:

Fixed Percentage Approach:

- Use scallop fishery calendar year catch data from the most recent ten year period (2005-2014) for both Limited Access and General Category IFQ components.
- Consider using the most recent five years of data (2010- 2014), or weighting the most recent five years of data if a longer time period is used.

Fixed Percentage or Projected Catch Approaches:

- Consider an in-season transfer of northern windowpane flounder allocation from the scallop fishery to the groundfish fishery, should the northern windowpane flounder stock be allocated to groundfish sectors.

Figure 2 - Council's preferred alternative for year-round spatial management areas. Seasonal areas not shown.

- Gear exemption areas hatched. In western Gulf of Maine, shrimp trawls exempt. In Great South Channel and Georges Shoal, clam dredges exempt for one year. On Northern Edge (red area), scallop access fishing exempt, bottom trawling for groundfish exempt west of 67° 20' W.
- Dedicated Habitat Research Areas are cross-hatched. Stellwagen DHRA (north), Georges Bank DHRA (south)
- Mortality closures shown with heavy black outline. Current gear restrictions.
- Largest shaded area is the roller gear restricted area.
- Other shaded/colored areas are mobile bottom-tending gear closures, with gear exemptions as noted above.
- Cox Ledge closed to clam dredges, and trawls cannot use ground cables.
- Ammen Rock closed to all gears except lobster traps.

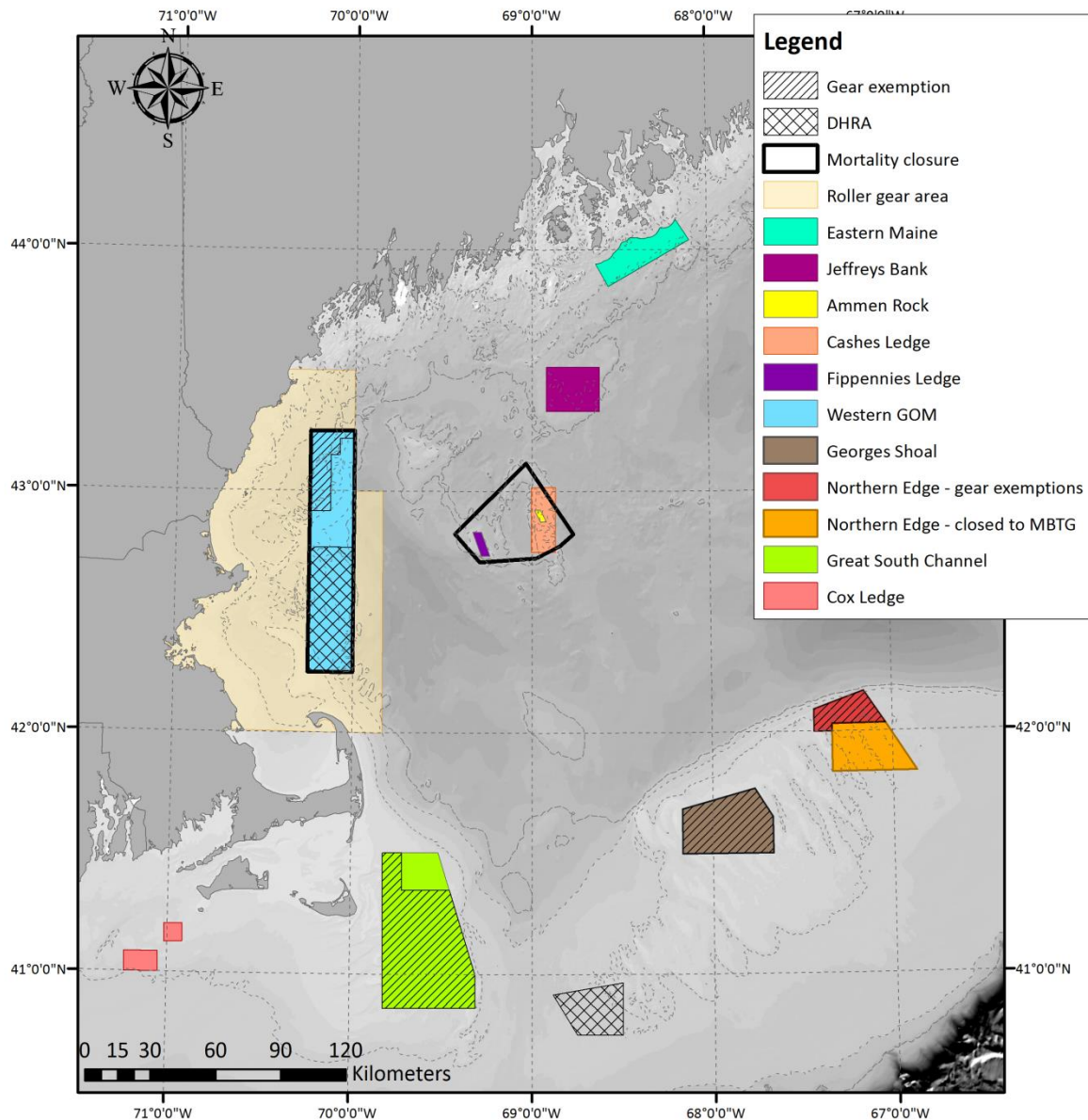


Figure 3 - Council's preferred alternative seasonal spatial management areas. Year-round closures not shown.

GOM COD PROTECTION CLOSURES	SPAWNING AREAS
Closed to commercial gears with various exemptions	-- Whaleback and Massachusetts Bay Cod Spawning Protection Areas have the same gear restrictions, i.e. closed to commercial and recreational gears with various exemptions
Nov-Jan: 125 and 124 (southwest corner of 124 only)	-- Georges Bank areas closed to various commercial and recreational gears capable of catching groundfish, with various exemptions, including scallop dredges
Feb: None	** Block 125 in April is not part of Cod Protection Closures, but was added by Council in June as a spawning area from April 15 - April 30
Mar: 121, 122, and 123 (all areas common pool only)	
April: None**	
May: 125 (northern part only), 132, 133, 138, 139, 140	
June: 125 (northern part only), 132, 139, 140, 146, 147	
July-September: None	
October: 124 and 125 (both areas common pool only)	

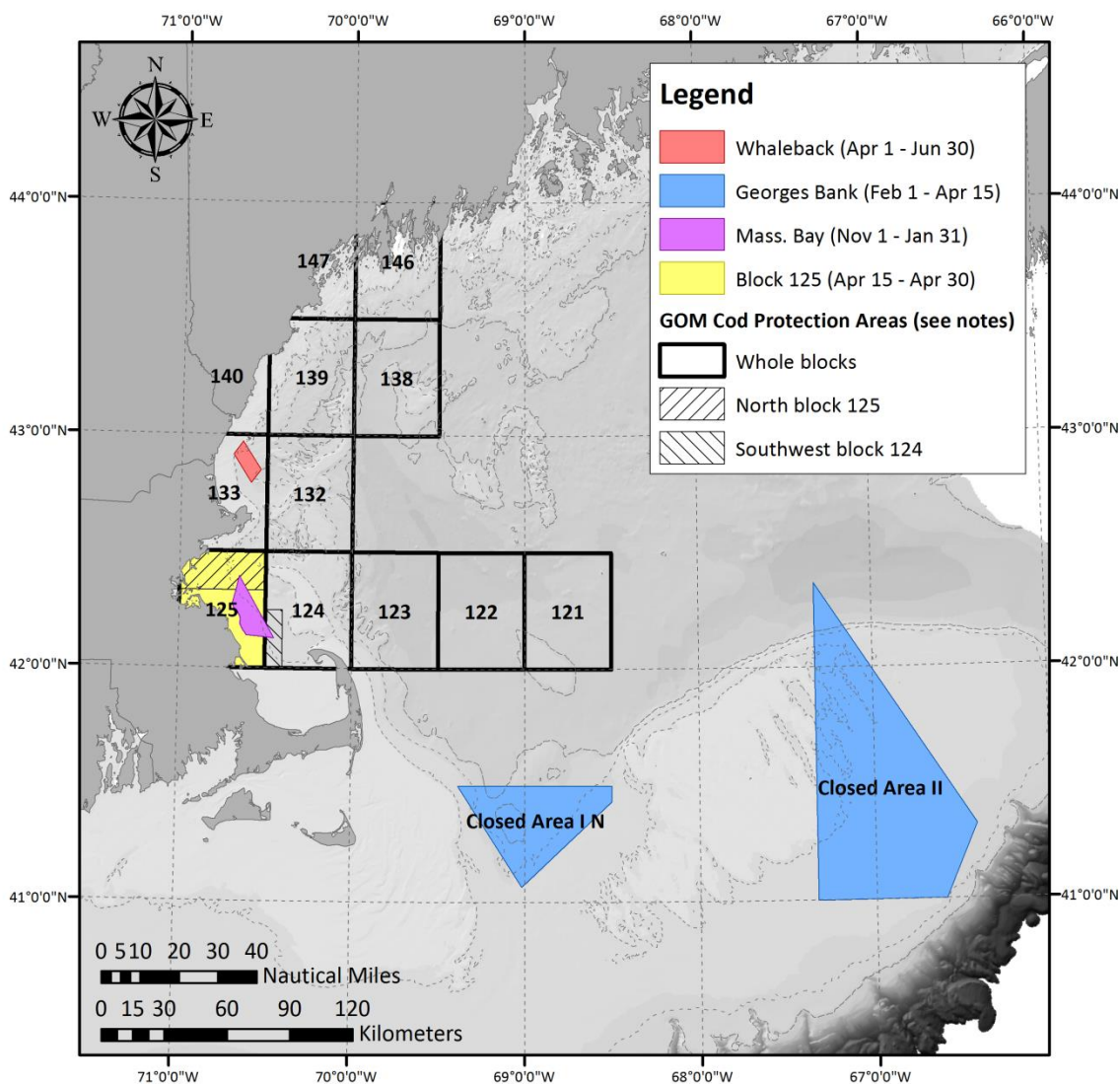


Table 8 - Detailed summary of potential approaches for setting a scallop sub-ABC for northern windowpane flounder. Note that the Y column “Total Catch Data” represents CY bycatch estimates used in the 2015 operational assessment (sum of large mesh bottom trawl, small mesh bottom trawl, and limited access dredge).

Catch Data				Fixed Percentage Approaches							Projected Catch
CY	LA Catch Estimate	Total Catch Estimate	Gen Cat IFQ Catch estimate	A	Di	Di	Di	Di	Dii	B	C
				2001-2010 (FW53)	2002-2011	2003-2012	2004-2013	2005-2014	2010-2014 (Five years)	Range of Percentages	Expected Catch Projection
	X	Y	Z	$(X+Z)/(Y+Z)$	$X+Z/(Y+Z)$	$X+Z/(Y+Z)$	$X+Z/(Y+Z)$	$X+Z/(Y+Z)$	$(X+Z)/(Y+Z)$	Low=2% (2005) High=46% (2014)	FY2016 = 105.8 (60%) FY2017=91.7 (52%) FY2018=90.7 (50%)
2001	22.26	228.53	4	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%		
2002	20.98	175.66	4	13.9%	13.9%	13.9%	13.9%	13.9%	13.9%		
2003	12.69	377.50	4	4.4%	4.4%	4.4%	4.4%	4.4%	4.4%		
2004	6.94	327.52	9	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%		
2005	16.59	967.52	5	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%		
2006	73.07	682.92	5	11.3%	11.3%	11.3%	11.3%	11.3%	11.3%		
2007	97.77	1091.46	3	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%		
2008	43.33	375.67	2	12.1%	12.1%	12.1%	12.1%	12.1%	12.1%		
2009	15.45	439.56	5	4.6%	4.6%	4.6%	4.6%	4.6%	4.6%		
2010	8.59	235.90	5	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%		
2011	32.72	179.84	1	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%		
2012	34.85	199.22	2	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%		
2013	63.37	354.81	3	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%		
2014	95.37	214.67	6	45.9%	45.9%	45.9%	45.9%	45.9%	45.9%		
n years				10	10	10	10	10	5		
Mean (Average)				8.0%	8.7%	9.1%	10.5%	14.6%	21.4%		
Median				7.5%	7.5%	7.5%	10.3%	11.7%	18.5%		
90th percentile				12.3%	14.4%	18.2%	18.5%	21.4%	35.0%		

Table 9 - Comparison of allocations based on the percent share of the 2016 - 2018 windowpane flounder ABC. Note that these values do not take into account any reduction for state waters catch or management uncertainty. These values are intended to serve as a guide when considering various scallop sub-ABCs.

Groundfish		Scallops		Groundfish		Scallops		Groundfish		Scallops		Groundfish		Scallops	
ABC (mt)	% Share	% Share	ABC (mt)	ABC (mt)	% Share	% Share	ABC (mt)	ABC (mt)	% Share	% Share	ABC (mt)	ABC (mt)	% Share	% Share	ABC (mt)
182	100%	0%	0	134.68	74%	26%	47.32	89.18	49%	51%	92.82	43.68	24%	76%	138.32
180.18	99%	1%	1.82	132.86	73%	27%	49.14	87.36	48%	52%	94.64	41.86	23%	77%	140.14
178.36	98%	2%	3.64	131.04	72%	28%	50.96	85.54	47%	53%	96.46	40.04	22%	78%	141.96
176.54	97%	3%	5.46	129.22	71%	29%	52.78	83.72	46%	54%	98.28	38.22	21%	79%	143.78
174.72	96%	4%	7.28	127.4	70%	30%	54.6	81.9	45%	55%	100.1	36.4	20%	80%	145.6
172.9	95%	5%	9.1	125.58	69%	31%	56.42	80.08	44%	56%	101.92	34.58	19%	81%	147.42
171.08	94%	6%	10.92	123.76	68%	32%	58.24	78.26	43%	57%	103.74	32.76	18%	82%	149.24
169.26	93%	7%	12.74	121.94	67%	33%	60.06	76.44	42%	58%	105.56	30.94	17%	83%	151.06
167.44	92%	8%	14.56	120.12	66%	34%	61.88	74.62	41%	59%	107.38	29.12	16%	84%	152.88
165.62	91%	9%	16.38	118.3	65%	35%	63.7	72.8	40%	60%	109.2	27.3	15%	85%	154.7
163.8	90%	10%	18.2	116.48	64%	36%	65.52	70.98	39%	61%	111.02	25.48	14%	86%	156.52
161.98	89%	11%	20.02	114.66	63%	37%	67.34	69.16	38%	62%	112.84	23.66	13%	87%	158.34
160.16	88%	12%	21.84	112.84	62%	38%	69.16	67.34	37%	63%	114.66	21.84	12%	88%	160.16
158.34	87%	13%	23.66	111.02	61%	39%	70.98	65.52	36%	64%	116.48	20.02	11%	89%	161.98
156.52	86%	14%	25.48	109.2	60%	40%	72.8	63.7	35%	65%	118.3	18.2	10%	90%	163.8
154.7	85%	15%	27.3	107.38	59%	41%	74.62	61.88	34%	66%	120.12	16.38	9%	91%	165.62
152.88	84%	16%	29.12	105.56	58%	42%	76.44	60.06	33%	67%	121.94	14.56	8%	92%	167.44
151.06	83%	17%	30.94	103.74	57%	43%	78.26	58.24	32%	68%	123.76	12.74	7%	93%	169.26
149.24	82%	18%	32.76	101.92	56%	44%	80.08	56.42	31%	69%	125.58	10.92	6%	94%	171.08
147.42	81%	19%	34.58	100.1	55%	45%	81.9	54.6	30%	70%	127.4	9.1	5%	95%	172.9
145.6	80%	20%	36.4	98.28	54%	46%	83.72	52.78	29%	71%	129.22	7.28	4%	96%	174.72
143.78	79%	21%	38.22	96.46	53%	47%	85.54	50.96	28%	72%	131.04	5.46	3%	97%	176.54
141.96	78%	22%	40.04	94.64	52%	48%	87.36	49.14	27%	73%	132.86	3.64	2%	98%	178.36
140.14	77%	23%	41.86	92.82	51%	49%	89.18	47.32	26%	74%	134.68	1.82	1%	99%	180.18
138.32	76%	24%	43.68	91	50%	50%	91	45.5	25%	75%	136.5	0	0%	100%	182
136.5	75%	25%	45.5												