Framework Adjustment 56

to the

Northeast Multispecies FMP

Appendix I

SSC Recommendations for Northeast Multispecies ABCs, FY 2017 – FY 2019

New England Fishery Management Council
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Ernest F. Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

To: Tom Nies, Executive Director
From: Scientific and Statistical Committee
Date: August 22, 2016

Subject: Overfishing levels (OFLs) and acceptable biological catch (ABC) recommendations for Georges Bank yellowtail flounder for fishing years 2017 and 2018.

The SSC met on August 10, 2016 in Boston, Massachusetts, to address the following term of reference (TOR):

Provide the OFL and an ABC for each year for fishing years 2017 and 2018 that will meet management objectives and prevent overfishing.

To address this TOR, the SSC considered the following information:

B.1 PDT presentation

B.2 Memo from PDT to SSC re GB yellowtail flounder ABCs (August 4, 2016)

B.3 Transboundary Resources Assessment Committee (TRAC) Status Report for GB yellowtail flounder (August 2016)

B.4 DRAFT TRAC Stock Assessment Report for GB yellowtail flounder for 2016 (July 2016)

B.5 2016-2017 SSC ABC and OFL recommendations for GB yellowtail flounder (September 8, 2015 Memo from SSC to Tom Nies)

Since the 2014 diagnostic benchmark assessment for Georges Bank yellowtail flounder, the stock has been assessed using an empirical approach based on the fishery-independent surveys conducted by DFO and NOAA (spring and fall), rather than an analytical model. This approach precludes formal estimation of reference points and status of the stock. Therefore, OFL for Georges Bank yellowtail flounder remains unknown.

The 2014 assessment recommended that ABC for the stock be set based on an exploitation rate ranging from 2% to 16% applied to the mean swept-area biomass estimate from the three surveys. The SSC accepted this recommendation in 2014, using the upper end of the range of exploitation rates, which resulted in a recommendation that ABC should not exceed 354 mt for FY2015.

In 2015, the SSC recommended that the status quo ABC of 354 mt should remain the upper limit for FY2016 because the biomass estimate had not changed substantially. Furthermore, despite endorsing the empirical approach as the best basis for developing catch advice, the SSC expressed concerns about the uncertainties inherent in the approach, including high variance and inconsistencies among the three surveys. The SSC concluded in our September 8, 2015 report that,

"…annual adjustments to the ABC are not warranted in the absence of evidence of substantial changes in biomass…" However, the SSC did not specify what would constitute a "substantial" change, although we did reiterate a suggestion from our August 29, 2014 report on Georges Bank yellowtail flounder that basing the ABC on the three-year moving average of biomass estimates might help to dampen both noise in the survey data and resulting inter-annual fluctuations in catch.

The 2016 TRAC assessment reports a larger change in the average biomass estimate from 2015 to 2016 (-32%) than the change from 2014 to 2015 (<1%). The Groundfish PDT recommended to the SSC that 245 mt, based on an exploitation rate of 16% applied to the average of the three survey-based biomass estimates (1,532 mt), should be considered an upper limit for the FY2017 ABC.

The SSC considered a recommendation that ABC should not exceed 245 mt, but ultimately decided to recommend that the status quo ABC of 354 mt be retained as the upper limit. The primary reason for this recommendation is similar to the SSC advice last year: The considerable uncertainties in survey-based estimates, especially high variability and inconsistencies among surveys, suggest that a one-year change might not reflect a meaningful change in the stock to which management needs to respond.

Uncertainties notwithstanding, given that the magnitude of change in the biomass estimate from 2015 to 2016 is more substantial than the change from 2014 to 2015, the SSC discussed in more detail some of the risk considerations accompanying our advice. In particular, we considered the likelihood that the advice will result in overfishing. This is a difficult question to answer given that OFL for the stock is unknown. However, OFL being unknown does not mean that OFL does not exist, and the challenge lies in determining whether an ABC recommendation is likely to be below the unknown OFL.

The SSC identified several factors that suggest the risks associated with status quo ABC might be low:

- Both catch limits and actual catches for Georges Bank yellowtail flounder have been the lowest on record, by far, in recent years.
- Actual catches have been well below the ABC for several years due to market factors, active avoidance by fishermen and other factors. This provides an additional layer of buffering against the risks of overfishing.
- Relative exploitation rates (catch divided by survey index) associated with recent catches are also by far the lowest on record, suggesting that the fishing mortality rate is also the lowest on record.
- Despite the drastic reduction in catch and very low relative exploitation rates, biomass has not shown a positive response, as indicated by the surveys, suggesting that environmental factors are having a strong effect delaying recovery.
- Although biomass has not shown a positive response, the proportion of fish in age classes 6+ is the highest observed in many years in the catch and the DFO survey. This is another indirect indication of low fishing mortality. Recovery of these older and more reproductively valuable fish, which has occurred under the status quo ABC, could be the precursor of a future biomass response. Comparable recovery of age structure has not been observed in the NOAA surveys.
- Because the TRAC assessment of Georges Bank yellowtail flounder is conducted annually, with catch specifications also adjusted annually, we expect that our advice that ABC should not exceed 354 mt will be revisited and potentially adjusted for FY2018.

It is important to reiterate the point from the SSC's September 8, 2015 report that if the ABC is set at the upper limit of 354 mt and if that full amount were to be caught, the risk profile may change. However, it is difficult to determine the scale of the change in risk. On the one hand, 354 mt would be proportionally much greater than catches from 2013-2015. On the other hand, 354 mt would remain considerably lower than any catches prior to 2013. Catch at that level would therefore maintain the dramatic reduction in removals achieved in recent years, albeit to a lesser degree. The SSC was not provided with any information to suggest that catches will increase dramatically in the near future, and are therefore likely to remain below ABC for the foreseeable future, but acknowledges the greater risks that would be faced if catch is closer to the ABC than it has been recently.

Finally, because the SSC was limited by the absence of clear metrics that would constitute "substantial" changes in the stock and trigger a change in the ABC, we have decided to form a sub-group that will develop a list of potential metrics and the pros and cons of each. These might include, but would not necessarily be limited to:

- A threshold (i.e., percentage) change in the average biomass estimate.
- Use of the three-year moving average of biomass estimates, rather than a single year estimate, with or without a threshold that would trigger a change.
- The trend in biomass estimates instead of or in addition to single year or multi-year estimates.
- Use of the 95% confidence interval or other measures of spread to determine whether inter-annual changes are significant and warrant a change.
- Changes in other relevant metrics beyond the biomass estimates and trends, e.g.:
    - Characteristics of the population structure (e.g., proportion of fish in older age classes).
    - Magnitude and trends in condition indices.
    - Changes in the ratio of catch:ABC.
    - Other biological, ecological or socio-economic indicators (e.g., price trends).

We will likely request time on the agenda at an upcoming SSC meeting to review the work of the sub-group and develop recommendations as appropriate. This process will be important in establishing greater transparency in future development of catch advice for the Georges Bank yellowtail flounder stock.

<u>Summary of recommendations</u>

1. **ABC for the Georges Bank yellowtail flounder stock should not exceed 354 mt for FY2017 and FY2018, with the expectation that the FY2018 catch specifications will be revisited and possibly adjusted following the 2017 TRAC assessment. OFL for the stock remains unknown.**
2. **An SSC sub-group should be formed to develop alternatives for quantitative metrics that would trigger an upward or downward adjustment of the ABC. We expect that the SSC will request time at an upcoming meeting to review the work of the sub-group and develop recommendations, as appropriate.**

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To: Tom Nies, Executive Director
From: Scientific and Statistical Committee
Date: January 22, 2016

Subject: Overfishing levels (OFLs) and acceptable biological catch (ABC) recommendations for witch flounder.

The SSC met on January 20, 2016 in Boston, Massachusetts, to address the following terms of reference (TORs):

1. Characterize the range of risks and benefits of setting a 2016 ABC for witch flounder that is between the ABC calculated at 75% of FMSY and the OFL. This discussion should, to the extent possible, identify the biological, economic, social impacts of the ABC.
2. Based on the analyses in TOR 1, consider identifying an ABC for witch flounder that is not bound by 75% of FMSY. Provide a clear rationale that identifies the risks and benefits of such an ABC.
3. If an ABC that exceeds 75% of FMSY is identified as considered by TOR 2, recommend any necessary adjustments to the OFLs and ABCs for FY 2017 and 2018.

To address these TORs, the SSC considered the following information:

1.1 Memo from the PDT to SSC re 2016 ABC for Witch Flounder (January 13, 2016)
1.2 Presentation: 2016 ABC for Witch Flounder (Paul Nitschke, NEFSC and Jamie Cournane, PhD, PDT Chair)
1.3 Northeast Fisheries Science Center. 2015. Operational Assessment of 20 Northeast Groundfish Stocks, Updated Through 2014. US Dept. Commerce, Northeast Fish Sci. Center Ref Doc. 15-24; 251 p. doi: Coming Soon. Available at: http://www.nefsc.noaa.gov/publications/crd/crd1524/ and for witch flounder http://www.nefsc.noaa.gov/publications/crd/crd1524/Individual%20Stocks/Witch_flounder.pdf
1.4 2015 Groundfish Assessment Stock Assessment Support Information (SASINF), located here: http://www.nefsc.noaa.gov/saw/sasi/sasi_report_options.php (Assessment Year = 2015, Species Name = Witch flounder, Stock Area = UNIT, Information Type = Select All)
1.5 2015 Groundfish Assessment Oversight Panel Meeting Summary, September 13, 2015, located here: http://www.nefsc.noaa.gov/groundfish/operational-assessments-2015/docs/AOP%20Minutes%20%20July%2027%202015_final_v2.pdf
1.6 2015 Groundfish Assessment – Witch Flounder Presentation, September 14-18, 2015, available at: http://www.nefsc.noaa.gov/groundfish/operational-assessments-2015/Presentations/2015_WIT_UNIT_presentation_v1.pdf
1.7 Northeast Fisheries Science Center. 2012. Assessment or Data Updates of 13 Northeast Groundfish Stocks through 2010. US Dept. Commerce, Northeast Fish Sci. Cent Ref Doc. 12-06; 789 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA

02543-1026. Available at: http://www.nefsc.noaa.gov/publications/crd/crd1206/ and for witch flounder http://www.nefsc.noaa.gov/publications/crd/crd1206/witchflounder.pdf
1.8 Northeast Fisheries Science Center. 2008. Assessment of 19 Northeast Groundfish Stocks through 2007: Report of the 3rd Groundfish Assessment Review Meeting (GARM III), Northeast Fisheries Science Center, Woods Hole, Massachusetts, August 4-8, 2008. US Dept. Commerce, NOAA Fisheries, Northeast Fish Sci. Cent Ref Doc. 08-15; 884 p + xvii. Available at http://www.nefsc.noaa.gov/publications/crd/crd0815/ and for witch flounder http://www.nefsc.noaa.gov/publications/crd/crd0815/pdfs/garm3g.pdf
1.9 Murphy T, Kitts A, Demarest C, Walden J. 2015. 2013 Final report on the performance of the northeast multispecies (groundfish) fishery (May 2013 – April 2014). US Dept. Commerce, Northeast Fish Sci. Center Ref. Doc. 15-02; 106 p. use this link: http://www.nefsc.noaa.gov/read/socialSCI./pdf/groundfish_report_fy2013.pdf
1.10 Memo from PDT to SSC re Groundfish OFLs/ABCs (October 9, 2015). Available at: http://s3.amazonaws.com/nefmc.org/3.5_151009-GF-PDT-memo-to-SSC-re-FY2016-FY2018-Groundfish-ABCs_FINAL.pdf
1.11 Sustainable Harvest Sector Witch Flounder Background Information
1.12 Northeast Seafood Coalition Witch Flounder Background Information

Term of Reference #1

Biological impacts

Projections suggest that witch flounder will not rebuild by the end of its rebuilding period (2017) even in the absence of fishing. The stock is currently overfished and overfishing is occurring. The projections presented by PDT suggest that differences in the near-term biological outcomes of ABCs in the range being considered are modest. As expected, larger ABC options would be expected to result in higher rates of fishing mortality, higher probabilities of overfishing, and lower biomass in 2017. However, the difference in biomass between the lowest (399mt) and highest (521mt) options is less than 200mt, or less than 5%, and both remain well below the biomass target and slightly below the biomass threshold. This outcome is not surprising given that the range of options being considered is not large, and the time horizon being examined is short.

The SSC also revisited concerns that have been discussed on numerous occasions in the past about the performance of stock projections. Past experience illustrates that the accuracy of projections is often low, and that the errors are more often biased toward overestimation of stock size. Those concerns become greater further into the future, and a projection out to 2017 might be less likely to entail significant error. However, the SSC also notes that the status of the stock is poor, and therefore that the consequences of errors in projections might be more severe. That caution notwithstanding, the biological impacts of the options being considered are likely to be similar, although those impacts might be underestimated if the projections are optimistic.

Importantly, if the ABC is set closer to the OFL, the implications of uncertainties in the OFL become greater. If the OFL is set such that the probability of overfishing is truly 50%, then higher ABCs up to the OFL will entail greater probabilities of overfishing, but the probability that overfishing will not occur will remain higher than 50%. On the other hand, if the OFL itself is overestimated, then ABCs closer to the OFL run the risk of probabilities of overfishing that are greater than 50%. The assessment suggests that overfishing has been occurring in every year of the time series for the witch flounder stock (terminal year F=246% F_{MSY}). Recent analytical decisions (split time series, rho adjustments) and management decision (constant, rather than increasing, three-

year ABCs) might counter that trend. Still, the potential for overestimation of OFL is an important issue that entails greater significance as ABC approaches OFL, and warrants careful consideration in management and future assessments.

Economic impacts

The analyses presented by the PDT suggest that differences in the near-term economic outcomes of ABCs in the range being considered are also modest, but perhaps counterintuitive. The Quota Change Model (QCM) showed little if any gain in total net revenue between the range of ABCs presented (399mt-521mt) and no appreciable differences in total net revenue from the ABCs considered in the model. The PDT explained that this outcome is due to the likelihood of approaching ACLs for other stocks with low quotas, particularly Gulf of Maine cod, or declining quotas, especially Georges Bank cod and Southern New England/Mid-Atlantic yellowtail flounder, if the witch flounder ACL is less of a constraint, and that the economic costs of approaching those other ACLs are greater.

Industry members in attendance questioned the validity of this conclusion based on experience, although the SSC noted that it is possible that a lower ABC for witch flounder could result in economic benefits at the macro scale, while also imposing very real economic costs at finer scales (e.g., particular vessels or communities). However, the PDT highlighted that the range of expected outcomes across all ABC options being considered is similar, and therefore that the trend of decreasing revenue with increasing ABC should not be overstated. Overall, the economic impacts of the options being considered are likely to be similar at the scale of the groundfish fleet.

Social impacts

Consistent with the input from industry members and the SSC's comments about the potential for different outcomes at different scales of resolution, the QCM outcomes suggest differences in impacts on different components of the fishing fleet. Specifically, modest increases in revenue are expected for smaller vessels, offset by losses among larger vessels. The SSC suggests that this outcome might represent a net social benefit of increasing the ABC. Available information indicates that smaller vessels make up a larger portion of the fleet, generate greater employment per pound landed, and operate within greater constraints such as limits on range and ability to work in adverse weather conditions. Also, industry members commented that smaller vessels are more dependent on witch flounder.

Overall, however, the SSC highlights that the expected social impacts are less clear than the biological and economic impacts due to a paucity of information and analysis. Ongoing research at various institutions might lend more insight into these impacts, and a dedicated discussion about those research efforts at a future SSC meeting would be worthwhile.

Terms of Reference #2 and #3

In light of the observations discussed above, guidance from the PDT and input from industry members, the SSC recommends the following OFLs and upper limits for ABCs for fishing years 2016, 2017 and 2018:

	2016	2017	2018
OFL	521mt	723mt	937mt
ABC	500mt	500mt	500mt

These recommendations are based on the following considerations:

- The SSC endorses the PDT's revised estimate of the 2015 catch for use in the projections.
- The recommended ABC includes some buffer below the OFL, per the PDT recommendation.
- Although the economic benefits of an increased ABC might be modest, per the outcomes of the QCM, the biological risks across the considered range are similar, per the stock projections. This is not to say that the biological risks of overfishing are low, however. Rather, the risks are high given the poor status of the stock (i.e., 22% SSB_{MSY}), but are similar among the options considered. Notably, the models underlying both expectations have received considerable scrutiny based upon important uncertainties.
- The SSC interprets the request to consider an ABC up to the OFL as the Council's willingness to adopt greater risk tolerance in this instance.
- The recommended ABC leaves the Council with the option to adopt a lower figure if it concludes that the cost-benefit trade-offs do not warrant an increase, whereas a lower figure does not allow the Council to adopt a higher figure if it reaches a different conclusion. In other words, the SSC wrestled with some uncertainty about the Council's precise intention with respect to risk tolerance and risk policy as reflected in this request, and therefore is erring on the side of allowing more flexibility.
- The SSC is recommending a constant ABC for the next three years to be consistent with recent catch advice for other stocks, whereby we generally followed the projections and allowed the ABC to increase through time for stocks that are not overfished, but held the ABC constant to increase the buffer between OFL and ABC for stocks that are overfished.
- The SSC expects that the ABC will be revisited and perhaps revised following the new benchmark stock assessment later this year.

Framework Adjustment 56

to the

Northeast Multispecies FMP

Appendix II

Calculation of Northeast Multispecies Annual Catch Limits, FY 2017 – FY 2019

This appendix documents the calculation of Northeast Multispecies Overfishing Levels (OFLs), Acceptable Biological Catches (ABCs), and Annual Catch Limits (ACLs) for FY 2017 - FY 2019. The general approach for all stocks is to first determine the OFL and then determine the ABC. The ABC in all cases is consistent with the recommendations of the SSC. The ABC is distributed to various components of the fishery, and then an adjustment is made to these "sub-ABCs" to determine the ACLs, sub-ACLs, or other sub-components. The descriptions in this Appendix reflect the Council's *Preferred Alternative* for specifications.

For this action, the *Preferred Alternative* lists specifications for GB yellowtail flounder for FY 2016 – FY 2017 and witch flounder for FY 2017-FY 2019.

This appendix also documents and clarifies how available catches are distributed to the sub-components of the fishery. These are listed for all stocks in order to keep a clear record of the distribution. Amendment 16 authorized changes to be made in a framework action and this summary documents several changes.

Determining OFL and ABC

Stocks with Index-Based Assessments

Is not possible to project stock sizes for the following stocks:

GB Yellowtail Flounder
Witch Flounder

For index-assessed stocks an estimate of the probability of overfishing cannot be determined but the proposed ABC is based on an exploitation rate applied to the most recent estimate of stock size. As a result, if stock size does not decline then the proposed ABC would not be expected to result in overfishing. This is an unrealistic assumption – stock size could increase or decrease but is unlikely to remain constant.

Distribution of ABCs

Because the Council wants the ability to consider a different adjustment for management uncertainty for different components of the fishery, ABCs were first distributed to the components prior to applying this adjustment. A brief description of the components follows. Note that there are a few stock-specific instances (described in a later section) that may differ from this general overview.

ABC: Acceptable Biological Catch for the entire stock.

Canadian Share/Allowance: An amount from the stock that Canadian vessels are expected to harvest, as is the case for GB winter flounder and halibut (see details that follow in the next section). For GB cod, GB haddock, and GB yellowtail

flounder, this is based on the Canadian allocation under the TMGC (but see the GB yellowtail flounder discussion below).

U.S. ABC: That portion of the ABC available to U.S. fishermen after accounting for Canadian harvests.

State waters: Portion of the U.S. ABC expected to be harvested from state waters, outside of the federal management plan. This is not an allocation.

Other sub-components: Portion of the U.S. ABC expected to be harvested by unidentified non-groundfish fishery components. These are not attributed to specific components because individual amounts are small. In cases where there is no specific recreational allocation, unless otherwise specified, recreational catches are counted against this sub-component. There are a few stocks where this may not be the case, such as when the majority of recreational catches are from state waters and the recreational catch is considered part of the state waters sub-component. These instances will be specifically identified.

Scallops: That portion of U.S. ABC allocated to the scallop fishery.

Groundfish: That portion of the U.S. ABC available to the groundfish fishery (including recreational and commercial vessels if there is a specific allocation). This ABC has several sub-components:

Commercial: The portion of the U.S. ABC available to commercial vessels; this is further sub-divided into sector and common-pool portions.

Recreational: The portion of the U.S. ABC available to recreational vessels, when a specific allocation is made.

MWT: Portion of the ABC available to herring mid-water trawl vessels. Currently only applies to the two haddock stocks.

Small-Mesh Fisheries: Portion of the U.S. ABC of GB yellowtail flounder for small-mesh fisheries.

Amendment 16 provides that the distribution to various sub-components can be modified in a framework or specification action. These adjustments are often made as more experience is gained with the ACL system adopted by Amendment 16. Changes can also be required if there are large changes in ABCs, particularly because the sub-components of the fishery are not subject to specific catch controls by the FMP and a specific percentage allocation has not been defined. This is the case for state waters and other sub-component catches. Unlike the case when a specific allocation has been specified, the PDT estimates the expected catch from these two components and then compares that amount to the ABC to determine the percentage that should be set aside to account for these catches.

Further, the Council has applied the default management uncertainty buffer of 5% for witch flounder. The PDT noted that the 62 SAW witch flounder summary report on pp. 23 states that:

> "Uncertainty in the catch of witch flounder has increased due to recent allegations of catch misreporting currently under litigation."

The magnitude of catch misreporting has not been publicly quantified to date. The PDT did not have any specific recommendations at present but wished to make the Committee/Council aware of the information in the assessment report since it is related to management uncertainty. However it is not possible to quantify this potential additional source of uncertainty, or recommend an appropriate adjustment to the management uncertainty buffer, at this time.

Error! Reference source not found. summarizes the state waters and other sub-component distribution for recent years and the distribution that would result from the *Preferred Alternative*.

Groundfish ABCs and ACLs are distributed to various components of the fishery. First, expected catch by Canadian vessels is deducted from the total ABC, and the amount remaining is the portion of the ABC available to U.S. vessels (U.S. ABC). Expected catch from state waters and the other sub-component is then deducted from the U.S. ABC[1]. These sub-components are not subject to specific catch controls by the Groundfish FMP. As a result, the state waters and other sub-components are not allocations, and these components of the fishery are not subject to accountability measures if the catch limits are exceeded. Because the state waters and other sub-component values are based on expected catch, there is no downward adjustment for management uncertainty that applies to fisheries with specific allocations and accountability measures.

After the state and other sub-components are deducted, the remaining portion of the U.S. ABC is the amount available to the fishery components that receive an allocation (i.e., subject to accountability measures). Allocation are made first to non-groundfish fisheries (e.g., scallop, midwater trawl, small-mesh fisheries), and the portion of the U.S. ABC remaining is the commercial groundfish allocation.

Once the U.S. ABC is distributed to the various fishery components, sub-annual catch limits (sub-ACLs) are set by reducing the amount of the ABC distributed to each component to account for management uncertainty (i.e., the likelihood that management measures will result in a level of catch greater than the catch target). For each stock, management uncertainty is estimated using the following criteria: Enforceability and precision of management measures, adequacy of catch monitoring, latent effort, and catch of groundfish in non-groundfish fisheries.

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[1] For GOM cod and haddock, the state waters and other sub-component are deducted from the commercial portion of the U.S. ABC (after allocating to the recreational fishery).

Canadian Catch of Stocks (for those not jointly managed)

Since fishing year 2010, expected Canadian catch has only been considered for Eastern GB cod and haddock and GB yellowtail, which are jointly managed with Canada. However, based on the results of recent assessments in 2015 and 2016, some Canadian catch of GB winter flounder, white hake, Atlantic halibut, and witch flounder does occur. Although these stocks are not jointly managed, Canadian catch should be accounted for when distributing the ABC/ACLs to ensure that biological objectives are met and total catch does not exceed the overall ABC.

Consistent with the approach used in FW 53 and FW55, the PDT recommends using the average catch of the most recent three years available (CY 2013- CY 2015) as the expected Canadian catch. The PDT worked with NEFSC stock assessment leads to obtain catch estimates for CY 2015 to complete this evaluation and update estimates since the 2015 Groundfish Operational Assessments. This expected Canadian catch should be reduced from the total ABC for the respective stock before distributing the remaining portion of the ABC to U.S. vessels (Table 1 and Table 2).

In addition based on the results of the 2016 benchmark assessment of witch flounder, the PDT does not recommend applying the same approach used for other groundfish stocks for estimating expected Canadian expected catch for witch flounder. Recent Canadian catch of witch flounder remains low with an average of 1 mt for CY 2013- CY 2015 and less than 5 mt in each year since 2010, although past catches since 2000 have been as high as 53 mt. Therefore, the PDT recommends continuing to track Canadian catches of witch flounder but not accounting for those catches at present in the distribution of the ABC (e.g., to determine a US ABC after a reduction from the ABC for expected Canadian catch) because the risk of exceeding the overall ABC is very low. The PDT feels that the management uncertainty buffer will cover this source of catch uncertainty.

Table 1- Estimate of expected Canadian catch for several groundfish stocks, based on the three year average catch (CY 2013- CY 2015). Source: NEFSC personal communication, Nov. 11, 2016, and Draft 2016 witch flounder benchmark assessment, NEFSC, October 2016.

Stock	Expected Canadian Catch (mt)
GB winter flounder	53
White hake	42
Atlantic halibut	34

Table 2- Summary of Canadian catch estimates for halibut, white hake, and GB winter flounder. Source: NEFSC personal communication, Nov. 11, 2016.

	Halibut		White Hake		GB winter flounder			
year	Canadian Landings	3 yr moving Avg	Canadian Landings	3 yr moving Avg	Canadian Landings	Canadian scallop discards	total catch	3 yr moving Avg
2010	23		104		45	109	154	
2011	29		86		52	88	140	
2012	32	28.0	83	91.0	83	79	162	152.0
2013	38	30.5	43	79.0	12	29	41	114.3
2014	33	34.3	59	61.7	12	47	59	87.3
*2015	31	34.0	25	42.3	13	47	60	53.2

*2015 Canadian scallop discards of GB winter flounder were assumed to be the same as 2014

Review of State Waters and Other sub-Components

The state waters and other sub-components values were initially established in Framework 44, which implemented specifications for fishing years 2010-2012, and a few sub-components were adjusted in Framework 47 for the 2012 fishing year. The PDT completed a comprehensive review of the sub-components for Frameworks 50 and 53, and most recently reviewed and adjusted the sub-components in Framework 55.

Table 3 summarizes the major highlights from the FY 2015 final catch report. The PDT also reviewed proposed 2017 specifications to determine if additional adjustments to the sub-components are necessary in anticipation of any expected ACL changes.

Table 3- Summary of FY 2015 sub-Component Catches (as percent of sub-component caught)

	Stock	State sub-Component	Other sub-Component
Sub-component 'overages'	GB Cod	230%	193%
	GOM Cod	181%	--
	GOM Haddock	-	117%
	CC/GOM Yellowtail Flounder	137%	102%
	Witch Flounder	171%	-
	Northern Windowpane Flounder	-	262%
	Southern Windowpane	-	138%
	Halibut	137%	-
Sub-Components with High Utilization (≥ 75%)	Plaice	76%	71%
	GOM Winter Flounder	92%	-
	Northern Windowpane Flounder	84%	-
	Ocean Pout	74%	95%

	Wolffish	99%	-
Sub-Components with Low Utilization (≤ 25%)	GB Haddock	10%	-
	GB Yellowtail Flounder	-	0%
	SNE/MA Yellowtail Flounder	15%	22%
	Redfish	4%	1%
	White Hake	2%	7%
	Wolffish	-	13%

PDT and Council Recommendations for Changes to sub-Components

Consistent with the process outlined in A16, the PDT developed recommended changes for all stocks to the state waters and other sub-components based on recent catch information (FY 2010- FY 2015), expected ACL changes and management measures for 2016/2017, stock abundance and availability, and other information[2]. However, the Council decided to only make changes for a few stocks and retain the distribution implemented in FW55 for the majority of groundfish stocks. The following description and **Error! Reference source not found.** summarizes the Council's recommended changes for the 2017 fishing year.

1. No changes are recommended for either the state waters or other sub-component values for GB cod, GOM cod, GB haddock, GOM haddock, GB yellowtail flounder, SNE/MA yellowtail flounder, CC/GOM yellowtail flounder, American plaice, GB winter flounder, GOM winter flounder, SNE/MA winter flounder, redfish, white hake, pollock, southern windowpane flounder, ocean pout, Atlantic halibut, and wolffish.

2. <u>Witch flounder</u> –
    a. *State Waters* – State waters catch in FY 2015 increased by about 2 mt over FY 2014. State sub-component catch was 17 mt more than the state sub-component value in FY 2015. There is no reason to expect a dramatic change in FY 2017 state waters catch compared to FY 2013-FY 2015. Based on its review, the PDT recommends basing the state sub-component on the most recent 3-yr average of state sub-component catch (35.2 mt). This represents an increase from the numerical value of the FY 2016 state sub-component (12 mt). Therefore, the PDT recommends increasing the 2017-2019 other sub-component to 4% of the ABC (from 2.6%).

    b. *Other Sub-Component* – In FY 2015, 85% of the 751 mt total ACL was caught. The groundfish fishery caught 88% of its 610 mt sub-ACL. In FY 2015, other sub-component catch decreased slightly from FY 2014 and it is expected that FY 2017 catch would be similar to FY 2013- FY 2015. In addition, the PDT is aware of two research projects that could lead to a potential increase in the other sub-component catches of witch flounder in the near-term – the Industry-NEFSC sweep experiment in 2016 and the MA cod Industry-Based Survey in 2016 and 2017. The sweep experiment is complete and there is not a reason to expect higher research catch in the future (2017-2018) from that project. The PDT is unaware of the magnitude of these research catches at present. Based on its review, the PDT recommends basing the other sub-component on the most recent 3-year average of other sub-component catch (69.5 mt). This represents an

[2] See Groundfish PDT memorandums to the Groundfish Committed dated November 10, 2016 (Development of alternatives for Framework Adjustment 56 and sub-component analysis, version 2) and January 11, 2017 (Witch flounder specifications for FY 2017 to FY 2019).

increase from the numerical value of the FY 2016 other sub-component (59 mt). Therefore, the PDT recommends decreasing the 2017-2019 other sub-component to 8% of the ABC (from 12.8%).

3. Northern windowpane flounder –
    a. *State Waters* – The state sub-component catch increased by ~1 mt in 2015 compared to 2014. The average catch for the last 5 years has been below the current state sub-component value. The PDT recommends maintaining the 2017-2019 state sub-component at 1% of the ABC. This represents no change for the numerical value of the other sub-component, 2 mt, from FY 2016 to FY 2017.

    b. *Other Sub-Component* – The Council recommended establishing a sub-ACL for northern windowpane flounder for the Atlantic sea scallop fishery. Other sub-component catch has almost exclusively come from the scallop fishery over the last six years. The PDT recommends reducing the 2017-2019 other sub-component to 2% of the ABC (from 60%), to cover the six year average of other sub-component catch in non-scallop fisheries. This represents a decrease from the numerical value of the other sub-component from 118 mt to 4 mt from FY 2016 to FY 2017.

The distribution of ABC values by stock are shown in Table 4 and Table 6.

ACLs

Once the U.S. ABC is distributed to the various fishery components, sub-annual catch limits (sub-ACLs) are set by reducing the amount of the ABC distributed to each component to account for management uncertainty (i.e., the likelihood that management measures will result in a level of catch greater than the catch target). As defined in National Standard 1, management uncertainty may include late catch reporting, misreporting, and underreporting of catches and is affected by a fishery's ability to control actual catch.

For each groundfish stock, management uncertainty is estimated using the following criteria: enforceability and precision of management measures, adequacy of catch monitoring, latent effort, and catch of groundfish in non-groundfish fisheries.

The following default management uncertainty buffers are used for groundfish stocks:

- 3% for stocks with no state waters catch;
- 7% for zero possession stocks;
- 7% for recreational allocations; and
- 5% for all other stocks/components of the fishery.

Stock specific sub-ACL values are shown in Table 7.

Review of Management Uncertainty Buffer

The PDT last reviewed and recommended changes to the management uncertainty buffer for Framework Adjustment 50 (FW 50). During the development of FW 50, the PDT discussed whether the buffer should be increased due to possible observer bias, but did not recommend any increase because no estimate of bias is available to correctly determine the appropriate changes. The PDT made the same conclusions during the development of FW 53.

The PDT reiterated that, at this time, it is not possible to quantify observer bias, and that the direction of any bias can change from year to year. As was the conclusion in FW 53 and FW 55, the PDT concluded that no new information is available that would warrant any changes to the default management uncertainty buffers for FW 56, and is recommending no change.

Further, the Council has applied the default management uncertainty buffer of 5% for witch flounder. The PDT noted that the 62 SAW witch flounder summary report on pp. 23[3] states that:

> "Uncertainty in the catch of witch flounder has increased due to recent allegations of catch misreporting currently under litigation."

The magnitude of catch misreporting has not been publicly quantified to date. The PDT did not have any specific recommendations at present but wished to make the Committee/Council aware of the information in the assessment report since it is related to management uncertainty. However it is not possible to quantify this potential additional source of uncertainty, or recommend an appropriate adjustment to the management uncertainty buffer, at this time.

Incidental Catch TACs

Part of the commercial non-sector ACL is allocated to the incidental catch TACs that limit catches of stocks of concern in the Category B (regular) DAS program and certain SAPs. The incidental catch TACs in FW53 have been carried forward into FW55 and FW56. Incidental catch TAC values for stocks of concern have remained consistent since 2010, though the list has been modified as the status of some stocks improved (see FW 44, FW47, FW50, FW53, and FW55).

The PDT plans to revisit incidental catch TACs in a future specifications action.

[3] Northeast Fisheries Science Center. 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Summary Report. US Dept Commer, Northeast Fish. Sci. Cent. Ref. Doc.17-01; 37p. http://nefsc.noaa.gov/publications/crd/crd1701/crd1701.pdf

Table 4- Summary of ABC Distribution to State and Other sub-Components (as percent of ABC).

Stock	State sub-Component						Other sub-Component					
	FW 47 (FY 12)	FW 50 (FY13-14)	FW51 (FY14)	FW53 (FY15-17)	FW55 (FY16-18)	FW56 (FY17-19)	FW 47 (FY 12)	FW 50 (FY13-14)	FW51 (FY14)	FW53 (FY15-17)	FW55 (FY16-18)	FW56 (FY17-19)
GB cod	0.01	0.01	0.01	0.01	0.03	0.03	0.04	0.04	0.04	0.04	0.13	0.13
GOM cod	0.10	0.10	0.10	0.10	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.03
GB Haddock	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.01	0.01
GOM Haddock	0.02	0.02	0.02	0.01	0.01	0.01	0.03	0.03	0.03	0.02	0.01	0.01
GB Yellowtail Flounder	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.02	0.01	0.01	0.01
SNE/MA Yellowtail Flounder	0.01	0.01	0.01	0.02	0.02	0.02	0.04	0.04	0.04	0.04	0.11	0.11
CC/GOM Yellowtail Flounder	0.03	0.06	0.06	0.07	0.10	0.10	0.02	0.02	0.02	0.05	0.06	0.06
Plaice	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.02	0.02	0.02	0.02	0.02
Witch Flounder	0.03	0.03	0.03	0.03	0.026	0.04	0.04	0.15	0.15	0.15	0.128	0.08
GB Winter Flounder	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.03	0.03	0.09	0.09
GOM Winter Flounder	0.25	0.25	0.25	0.17	0.15	0.15	0.05	0.05	0.05	0.02	0.02	0.02
SNE/MA Winter Flounder	0.28	0.14	0.14	0.07	0.09	0.09	0.20	0.10	0.10	0.11	0.12	0.12
Redfish	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.02	0.02	0.02	0.02
White Hake	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.02	0.02	0.02	0.02	0.02
Pollock	0.05	0.06	0.06	0.06	0.06	0.06	0.09	0.07	0.07	0.07	0.06	0.06
Northern Windowpane	0.01	0.01	0.01	0.01	0.01	0.01	0.19	0.29	0.29	0.29	0.60	0.02
Southern Windowpane	0.10	0.10	0.10	0.10	0.06	0.06	0.70	0.34	0.34	0.34	0.40	0.40
Ocean Pout	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.09	0.09	0.1	0.14	0.14
Halibut	0.50	0.40	0.40	0.30	0.20	0.20	0.05	0.05	0.05	0.03	0.03	0.03
Wolffish	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.04	0.04

Note: Highlighted cells indicate changes from the previous specifications (RED = increase to sub-component percentage; GREEN = decrease to sub-component percentage).

Table 5 – Distribution of ABC to fishery components. Sector PSCs are preliminary and may change based on final sector rosters.
(1) Includes commercial ABC in state waters and other subcomponents

Stock	Year	ABC	Canadian Share/ Allowance	US ABC	State Waters	Other Sub-Components	Scallops	Groundfish	Comm Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
GB Cod	2017	1,249	584	665	0.03	0.13		0.84	0.84		0.981179118	
	2018	1,249		1,249	0.03	0.13		0.84	0.84		0.981179118	
	2019				0.03	0.13		0.84	0.84		0.981179118	
GOM Cod	2017	500		500	0.08	0.03		na	0.663	0.337	0.968239355	
	2018	500		500	0.08	0.03		na	0.663	0.337	0.968239355	
	2019				0.08	0.03		na	0.663	0.337	0.968239355	
GB Haddock	2017	77,898	20,500	57,398	0.01	0.01		0.97	0.97		0.993433542	0.015
	2018	77,898		77,898	0.01	0.01		0.97	0.97		0.993433542	0.015
	2019				0.01	0.01		0.97	0.97		0.993433542	0.015
GOM Haddock	2017	4,534		4,534	0.01	0.01		0.97	0.725	0.275	0.989406182	0.01
	2018	4,815		4,815	0.01	0.01		0.97	0.725	0.275	0.989406182	0.01
	2019				0.01	0.01		0.97	0.725	0.275	0.989406182	0.01
GB Yellowtail Flounder	2017	300	93	207		0.01	0.16	0.81	0.81		0.985435251	0.02
	2018	354		354		0.01	0.16	0.81	0.81		0.985435251	0.02
	2019					0.01	0.16	0.81	0.81		0.985435251	0.02
SNE/MA Yellowtail Flounder	2017	267		267	0.02	0.11	0.127	0.743	0.743		0.8282647	
	2018	267		267	0.02	0.11	0.138	0.732	0.732		0.8282647	
	2019				0.02	0.11	0.138	0.732	0.732		0.8282647	
CC/GOM Yellowtail Flounder	2017	427		427	0.10	0.06		0.84	0.84		0.957478303	
	2018	427		427	0.10	0.06		0.84	0.84		0.957478303	
	2019				0.10	0.06		0.84	0.84		0.957478303	
Plaice	2017	1,336		1,336	0.02	0.02		0.96	0.96		0.98303116	
	2018	1,404		1,404	0.02	0.02		0.96	0.96		0.98303116	
	2019				0.02	0.02		0.96	0.96		0.98303116	
Witch Flounder	2017	878		878	0.04	0.08		0.88	0.88		0.978644841	
	2018	878		878	0.04	0.08		0.88	0.88		0.978644841	
	2019	878		878	0.04	0.08		0.88	0.88		0.978644841	

Stock	Year	ABC	Canadian Share/ Allowance	US ABC	State Waters	Other Sub-Components	Scallops	Ground-fish	Comm Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
GB Winter Flounder	2017	755	53	702		0.09		0.91	0.91		0.991959559	
	2018	755	53	702		0.09		0.91	0.91		0.991959559	
	2019					0.09		0.91	0.91		0.991959559	
GOM Winter Flounder	2017	810		810	0.15	0.02		0.83	0.83		0.949579334	
	2018	810		810	0.15	0.02		0.83	0.83		0.949579334	
	2019				0.15	0.02		0.83	0.83		0.949579334	
SNE/MA Winter Flounder	2017	780		780	0.09	0.12		0.79	0.79		0.894151935	
	2018	780		780	0.09	0.12		0.79	0.79		0.894151935	
	2019				0.09	0.12		0.79	0.79		0.894151935	
Redfish	2017	11,050		11,050	0.01	0.02		0.97	0.97		0.994541368	
	2018	11,501		11,501	0.01	0.02		0.97	0.97		0.994541368	
	2019				0.01	0.02		0.97	0.97		0.994541368	
White Hake	2017	3,686	42	3,644	0.01	0.02		0.97	0.97		0.992430762	
	2018	3,622	42	3,580	0.01	0.02		0.97	0.97		0.992430762	
	2019				0.01	0.02		0.97	0.97		0.992430762	
Pollock	2017	21,312		21,312	0.06	0.06		0.88	0.88		0.993670728	
	2018	21,312		21,312	0.06	0.06		0.88	0.88		0.993670728	
	2019				0.06	0.06		0.88	0.88		0.993670728	
N. Window-pane Flounder	2017	182		182	0.01	0.02	0.21	0.76	0.76			
	2018	182		182	0.01	0.02	0.21	0.76	0.76			
	2019				0.01	0.02	0.21	0.76	0.76			
S. Window-pane Flounder	2017	623		623	0.06	0.40	0.36	0.18	0.18			
	2018	623		623	0.06	0.40	0.36	0.18	0.18			
	2019				0.06	0.40	0.36	0.18	0.18			
Ocean Pout	2017	165		165	0.01	0.14		0.85	0.85			
	2018	165		165	0.01	0.14		0.85	0.85			
	2019				0.01	0.14		0.85	0.85			

Stock	Year	ABC	Canadian Share/ Allowance	US ABC	State Waters	Other Sub-Components	Scallops	Groundfish	Comm Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
Atlantic Halibut	2017	158	34	124	0.20	0.03		0.77	0.77			
	2018	158	34	124	0.20	0.03		0.77	0.77			
	2019				0.20	0.03		0.77	0.77			
Atlantic Wolffish	2017	82		82	0.01	0.04		0.95	0.95			
	2018	82		82	0.01	0.04		0.95	0.95			
	2019				0.01	0.04		0.95	0.95			

Table 6 – Distribution of ABC to fishery components
(1) Includes commercial ABC in state waters and other sub-components

Stock	Year	ABC	Canadian Share/ Allowance	US ABC	State Waters	Other Sub-Compo-nents	Scallops	Groundfish	Comm Groundfish	Rec Groundfish	Sector PSC	Non-Sector	MWT / Small-Mesh
GB Cod	2017	1,249	584	665	20	86		559	559		548	11	
	2018	1,249		1,249	37	162		1,049	1,049		1,029	20	
	2019												
GOM Cod	2017	500		500	27	10		500	332	169	286	9	
	2018	500		500	27	10		500	332	169	286	9	
	2019												
GB Haddock	2017	77,898	20,500	57,398	574	574		55,389	55,389		55,025	364	861
	2018	77,898		77,898	779	779		75,172	75,172		74,678	494	1,168
	2019												
GOM Haddock	2017	4,534		4,534	33	33		4,534	3,287	1,247	3,142	34	45
	2018	4,815		4,815	35	35		4,815	3,491	1,324	3,337	36	48
	2019												
GB Yellowtail Flounder	2017	300	93	207		2	33	168	168		165	2	4
	2018	354		354		4	57	287	287		283	4	7
	2019												
SNE/MA Yellowtail Flounder	2017	267		267	5	29	34	198	198		164	34	
	2018	267		267	5	29	37	195	195		162	34	
	2019												
CC/GOM Yellowtail Flounder	2017	427		427	43	26		359	359		343	15	
	2018	427		427	43	26		359	359		343	15	
	2019												
Plaice	2017	1,336		1,336	27	27		1,283	1,283		1,261	22	
	2018	1,404		1,404	28	28		1,348	1,348		1,325	23	
	2019												

Stock	Year	ABC	Canadian Share/ Allow-ance	US ABC	State Waters	Other Sub-Compo-nents	Scallops	Ground-fish	Comm Ground-fish	Rec Ground-fish	Sector PSC	Non-Sector	MWT/ Small-Mesh
Witch Flounder	2017	878		878	35	70		773	773		756	16	
	2018	878		878	35	70		773	773		756	16	
	2019	878		878	35	70		773	773		756	16	
GB Winter Flounder	2017	755	53	702		63		639	639		634	5	
	2018	755	53	702		63		639	639		634	5	
	2019												
GOM Winter Flounder	2017	810		810	122	16		672	672		638	34	
	2018	810		810	122	16		672	672		638	34	
	2019												
SNE/MA Winter Flounder	2017	780		780	70	94		616	616		551	65	
	2018	780		780	70	94		616	616		551	65	
	2019												
Redfish	2017	11,050		11,050	111	221		10,719	10,719		10,660	59	
	2018	11,501		11,501	115	230		11,156	11,156		11,095	61	
	2019												
White Hake	2017	3,686	42	3,644	36	73		3,535	3,535		3,508	27	
	2018	3,622	42	3,580	36	72		3,473	3,473		3,446	26	
	2019												
Pollock	2017	21,312		21,312	1,279	1,279		18,755	18,755		18,636	119	
	2018	21,312		21,312	1,279	1,279		18,755	18,755		18,636	119	
	2019												
N. Window-pane Flounder	2017	182		182	2	4	38	138	138			138	
	2018	182		182	2	4	38	138	138			138	
	2019												
S. Window-pane Flounder	2017	623		623	37	249	224	112	112			112	
	2018	623		623	37	249	224	112	112			112	
	2019												

Stock	Year	ABC	Canadian Share/ Allow-ance	US ABC	State Waters	Other Sub-Compo-nents	Scallops	Ground-fish	Comm Ground-fish	Rec Ground-fish	Sector PSC	Non-Sector	MWT/ Small-Mesh
Ocean Pout	2017	165		165	2	23		140	140			140	
	2018	165		165	2	23		140	140			140	
	2019												
Atlantic Halibut	2017	158	34	124	25	4		95	95			95	
	2018	158	34	124	25	4		95	95			95	
	2019												
Atlantic Wolffish	2017	82		82	1	3		78	78			78	
	2018	82		82	1	3		78	78			78	
	2019												

Table 7 – ACL adjustments

Stock	Year	State Waters	Other Sub-Components	Scallops	Groundfish	Comm/Non-Sector Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
GB Cod	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
GOM Cod	2017	1	1	1	0.95	0.95	0.93	0.95	1
	2018	1	1	1	0.95	0.95	0.93	0.95	1
	2019	1	1	1	0.95	0.95	0.93	0.95	1
GB Haddock	2017	1	1	1	0.95	0.95	0.95	0.95	0.93
	2018	1	1	1	0.95	0.95	0.95	0.95	0.93
	2019	1	1	1	0.95	0.95	0.95	0.95	0.93
GOM Haddock	2017	1	1	1	0.95	0.95	0.93	0.95	0.93
	2018	1	1	1	0.95	0.95	0.93	0.95	0.93
	2019	1	1	1	0.95	0.95	0.93	0.95	0.93
GB Yellowtail Flounder	2017	1	1	0.97	0.97	0.97	0.95	0.97	0.93
	2018	1	1	0.97	0.97	0.97	0.95	0.97	0.93
	2019	1	1	0.97	0.97	0.97	0.95	0.97	0.93
SNE/MA Yellowtail Flounder	2017	1	1	0.93	0.95	0.95	0.95	0.95	1
	2018	1	1	0.93	0.95	0.95	0.95	0.95	1
	2019	1	1	0.93	0.95	0.95	0.95	0.95	1
CC/GOM Yellowtail Flounder	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
Plaice	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
Witch Flounder	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1

Stock	Year	State Waters	Other Sub-Components	Scallops	Groundfish	Comm/Non-Sector Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
GB Winter Flounder	2017	1	1	1	0.97	0.97	0.97	0.97	1
	2018	1	1	1	0.97	0.97	0.97	0.97	1
	2019	1	1	1	0.97	0.97	0.97	0.97	1
GOM Winter Flounder	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
SNE/MA Winter Flounder	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
Redfish	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
White Hake	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
Pollock	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
N. Windowpane Flounder	2017	1	1	0.93	0.93	0.93	0.95	0.93	1
	2018	1	1	0.93	0.93	0.93	0.95	0.93	1
	2019	1	1	0.93	0.93	0.93	0.95	0.93	1
S. Windowpane Flounder	2017	1	1	0.93	0.93	0.93	0.95	0.93	1
	2018	1	1	0.93	0.93	0.93	0.95	0.93	1
	2019	1	1	0.93	0.93	0.93	0.95	0.93	1
Ocean Pout	2017	1	1	1	0.93	0.93	0.95	0.93	1
	2018	1	1	1	0.93	0.93	0.95	0.93	1
	2019	1	1	1	0.93	0.93	0.95	0.93	1

Stock	Year	State Waters	Other Sub-Components	Scallops	Groundfish	Comm/Non-Sector Groundfish	Rec Groundfish	Sector PSC	MWT/ Small-Mesh
Atlantic Halibut	2017	1	1	1	0.95	0.95	0.95	0.95	1
	2018	1	1	1	0.95	0.95	0.95	0.95	1
	2019	1	1	1	0.95	0.95	0.95	0.95	1
Atlantic Wolffish	2017	1	1	1	0.93	0.93	0.95	0.95	1
	2018	1	1	1	0.93	0.93	0.95	0.95	1
	2019	1	1	1	0.93	0.93	0.95	0.95	1

Table 8 – Proposed incidental catch TACs for major stocks of concern (mt). TACs are for the fishing year. TACs shown are metric tons, live weight. Note: GB cod and GB yellowtail flounder TAC is determined annually and cannot be estimated in advance. Values are dependent on ACLs, which have not yet been determined.

	Percentage of Common Pool ACL
GB cod	2%
GOM cod	1%
GB Yellowtail	2%
CC/GOM yellowtail	1%
Plaice	5%
Witch Flounder	5%
SNE/MA Winter Flounder	1%

Table 9 - Proposed allocation of incidental catch TACs for major stocks of concern to Category B DAS programs (shown as percentage of the incidental catch TAC)

	Category B (regular) DAS Program	CAI Hook Gear SAP	Eastern US/CA Haddock SAP	Southern CAII Haddock SAP
GOM cod	100%	NA	NA	
GB cod	50%	16%	34%	
CC/GOM yellowtail	100%	NA	NA	
Plaice	100%	NA	NA	
White Hake	100%	NA	NA	
SNE/MA Winter Flounder	100%	NA	NA	
Witch Flounder	100%	NA	NA	
GB Yellowtail	50%	NA	50%	