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New England Fishery Management Council
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MEMORANDUM

DATE: November 24, 2017

TO: Groundfish Committee

FROM: Groundfish Plan Development Team

SUBJECT: **Sub-Component Analysis for Framework Adjustment 57**

The Groundfish Plan Development Team (PDT) met on November 15, 2017, via webinar and discussed the PDT's sub-component review. This document summarizes the results of the PDT's review.

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. Table 3 summarizes the state waters and other sub-component distribution for recent years and the distribution that would result for FY2018-FY2020 if recommended.

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.

[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 Groundfish Stocks

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, some Canadian catch of GB winter flounder, white hake and halibut 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, FW55, and FW56, the PDT recommends using the average catch of the most recent three years available (CY 2014- CY 2016) from the 2017 groundfish operational assessments as the expected Canadian catch. 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).

Table 1- Estimate of expected Canadian catch for several groundfish stocks, based on the three-year average catch (CY 2014-CY 2016).

Stock	Expected Canadian Catch (mt)
GB winter flounder	45
White hake	33
Atlantic halibut	33

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, 53, and 55, and were most recently reviewed and adjusted in Framework 56.

Table 2 summarizes the major highlights from the FY2016 final catch report. The PDT also reviewed proposed 2018 specifications to determine if additional adjustments to the sub-components are necessary in anticipation of any expected ACL changes.

Table 2- Summary of FY 2016 sub-Component Catches (as percent of sub-component caught)

	Stock	State sub-Component	Other sub-Component
Sub-component 'overages'	GB Cod	308.3%	462.6%
	GOM Cod	332.7%	-
	GOM Haddock	-	379.0%
	CC/GOM Yellowtail Flounder	125.2%	187.3%
	Plaice	147.8%	129.5%
	Witch Flounder	389.6%	-
	SNE/MA Winter	-	125.3%
	Ocean Pout	-	151.7%
	Halibut	191.5%	-
Sub-Components with High Utilization (≥ 75%)	GOM cod	-	89.9%
	Witch Flounder	-	93.6%
	GOM Winter	82.7%	-
	SNE/MA Winter	92.5%	-
	S. Windowpane	77.6%	-
	Halibut	-	83.4%
Sub-Components with Low Utilization (≤ 25%)	GB Haddock	2.5%	-
	GB Yellowtail	NA	0.0%
	SNE Yellowtail	23.6%	-
	GB Winter	NA	7.2%
	Redfish	4.6%	4.3%
	Ocean Pout	21.6%	-
	White Hake	3.2%	13.4%
	Wolffish	1.9%	5.8%

PDT 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 (FY2010-FY2016), expected ACL changes and management measures for 2018, stock abundance and availability, and other information. In addition, for FW57, the PDT used a formulaic approach to the recent catch information evaluation such that the most recent three years of complete fishing year data from GARFO catch reports (e.g., FY2014-FY2016) would be averaged. Then, the average catch value was used to determine the nearest percentage of the ABC. In some cases, the PDT recommended other information be used to determine the percentage, rather than the formulaic approach

outlined. **Table 3** summarizes the PDT's recommended changes for the 2018 fishing year, and each recommended change is described in more detail below[2].

[2] The PDT did not include lobster/crab fishery groundfish catch estimates which were only in the FY 2014 final year catch report, due to the lack of direct link to the assessment and monitoring of the ACLs at this time.

Table 3- Summary of ABC Distribution to State Waters 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 (FY17-18)	FW57 (FY18-19)	FW 47 (FY 12)	FW 50 (FY13-14)	FW51 (FY14)	FW53 (FY15-17)	FW55 (FY16-18)	FW56 (FY17-18)	FW57 (FY18-19)
GB cod	0.01	0.01	0.01	0.01	0.03	0.03	0.01	0.04	0.04	0.04	0.04	0.13	0.13	0.09
GOM cod	0.10	0.10	0.10	0.10	0.08	0.08	0.12	0.05	0.05	0.05	0.05	0.03	0.03	0.02
GB Haddock	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.01	0.01	0.01
GOM Haddock	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.02	0.01	0.01	0.01
GB Yellowtail Flounder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.02	0.01	0.01	0.01	0.00
SNE/MA Yellowtail Flounder	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.04	0.11	0.11	0.31
CC/GOM Yellowtail Flounder	0.03	0.06	0.06	0.07	0.10	0.10	0.10	0.02	0.02	0.02	0.05	0.06	0.06	0.08
Plaice	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.04	0.02	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	0.04	0.15	0.15	0.15	0.128	0.08	0.06
GB Winter Flounder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	0.03	0.03	0.09	0.09	0.07
GOM Winter Flounder	0.25	0.25	0.25	0.17	0.15	0.15	0.22	0.05	0.05	0.05	0.02	0.02	0.02	0.01
SNE/MA Winter Flounder	0.28	0.14	0.14	0.07	0.09	0.09	0.10	0.20	0.10	0.10	0.11	0.12	0.12	0.15
Redfish	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.02	0.02	0.02	0.02	0.01
White Hake	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.01
Pollock	0.05	0.06	0.06	0.06	0.06	0.06	0.01	0.09	0.07	0.07	0.07	0.06	0.06	0.01
Northern Windowpane	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.19	0.29	0.29	0.29	0.60	0.02	0.03
Southern Windowpane	0.10	0.10	0.10	0.10	0.06	0.06	0.06	0.70	0.34	0.34	0.34	0.40	0.40	0.46
Ocean Pout	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.09	0.09	0.09	0.1	0.14	0.14	0.18
Halibut	0.50	0.40	0.40	0.30	0.20	0.20	0.32	0.05	0.05	0.05	0.03	0.03	0.03	0.02
Wolffish	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.04	0.04	0.01

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

1. No changes are recommended for either the state waters or other sub-component values for GB haddock, GOM haddock, and American plaice. No changes are recommended for the state water sub-component for CC/GOM yellowtail flounder, witch flounder, redfish, white hake, southern windowpane flounder, and wolffish.

2. GB cod–

    a. *State Waters* -The three-year (FY2014-FY2016) average non-recreational catch plus 10% of the recreational catch target of 138mt is 23.7mt. Management measures for the recreational fishery are expected to change through implementation of FW57 in time for FY2018. This evaluation assumes that states will adjust their measures accordingly and that state recreational anglers will comply with changes in management measures. Based on this evaluation, the PDT recommends decreasing the 2018-2020 state sub-component to 1% of the U.S. ABC (from 3%).
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average non-recreational catch plus 90% of the recreational catch target of 138mt is 150.6 mt. Management measures for the recreational fishery are expected to change through implementation of FW57 in time for FY2018. This evaluation assumes that federal recreational fisheries will comply with the changes in measures and that measures are design to reduce catches from FY2016 to the catch target. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 9% of the U.S. ABC (from 13%).

3. GOM cod –

    a. *State Waters* - The three-year (FY2014-FY2016) average catch is 58.1mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 12% of the Commercial ABC (from 8%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 6.4mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 2% of the Commercial ABC (from 3%) to cover the three-year average catch.

4. GB yellowtail flounder–
    a. *Other Sub-Component* – Since FY2013, the catch in the other sub-component has been zero. Major components of the catch of GB yellowtail flounder (i.e., the groundfish fishery, scallop fishery, small-mesh fisheries, and Canadian fisheries catches) are allocated and subject to management measures. Therefore, the PDT recommends that no value (i.e., zero) be set aside for the 2018-2020 other sub-component (rather than 1% of the U.S. ABC). The PDT will continue to monitor catches in the other sub-component.
5. SNE/MA yellowtail flounder –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 1.3mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 3% of the ABC (from 2%) to cover the three-year average catch.

b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 16.1mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 31% of the ABC (from 11%) to cover the three-year average catch.

6. CC/GOM yellowtail flounder
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 38.4mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 8% of the ABC (from 6%) to cover the three-year average catch. Furthermore, after consulting with the Scallop PDT, the Groundfish PDT expects that scallop fishery catches of CC/GOM yellowtail flounder will be consistent with previous years (30.2mt average for FY2014-FY2016).

7. Witch flounder –
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 62.6mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 6% of the ABC (from 8%) to cover the three-year average catch.

8. GB winter flounder–
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 21.9mt. Based on this evaluation, there could be a decrease in the 2018-2020 other sub-component to 7% of the U.S. ABC (from 9%). However, the PDT recommends maintaining the other sub-component at 9% of U.S. ABC. After consulting with the Scallop PDT, the Groundfish PDT expects that scallop fishery catches of GB winter flounder will be greater in FY2017 and FY2018 then in previous years (19.1mt average for FY2014-FY2016) due to anticipated scallop fishery activity on Georges Bank.

9. GOM winter flounder –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 98mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 22% of the ABC (from 15%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 4.4mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 1% of the ABC (from 2%) to cover the three-year average catch.

10. SNE/MA winter flounder –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 73.7mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 10% of the ABC (from 9%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 105.9mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 15% of the ABC (from 12%) to cover the three-year average catch.

11. Redfish –
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 15.6mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 1% of the ABC (from 2%) to cover the three-year average catch.

12. White hake –
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 12mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 1% of the U.S. ABC (from 2%) to cover the three-year average catch.

13. Pollock –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 538.7mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 state sub-component to 1% of the ABC (from 6%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 401.9mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 1% of the ABC (from 6%) to cover the three-year average catch.

14. Northern windowpane flounder –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 1.6mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 2% of the ABC (from 1%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch excluding scallop fishery catches (as the scallop fishery is subject to a sub-ACL as of FY2017) is 2.7mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 3% of the ABC (from 2%) to cover the three-year average catch.

15. Southern windowpane flounder –
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 217.4mt. This component is used to evaluate if accountability measures are triggered for large-mesh non-groundfish trawl fisheries (e.g., summer flounder and scup). Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 46% of the ABC (from 40%) to cover the three-year average catch.

16. Ocean Pout
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 2mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 2% of the ABC (from 1%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 23.2mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 other sub-component to 18% of the ABC (from 14%) to cover the three-year average catch.

17. Halibut –
    a. *State Waters* -The three-year (FY2014-FY2016) average catch is 39.2mt. Based on this evaluation, the PDT recommends increasing the 2018-2020 state sub-component to 32% of the U.S. ABC (from 20%) to cover the three-year average catch.
    b. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 2.1mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 2% of the U.S. ABC (from 3%) to cover the three-year average catch.
18. Wolffish –
    a. *Other Sub-Component* – The three-year (FY2014-FY2016) average catch is 0.2mt. Based on this evaluation, the PDT recommends decreasing the 2018-2020 other sub-component to 1% of the ABC (from 4%) to cover the three-year average catch.