



New England Fishery Management Council

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MEMORANDUM

DATE: March 20, 2012
TO: Science and Statistical Committee (SSC)
Groundfish Oversight Committee
FROM: Groundfish Plan Development Team (PDT)
SUBJECT: **FY 2013 - 2014 ABCs**

1. This memo provides information to support FY 2013 -2014 ABCs recommendations for GB haddock, redfish, the two windowpane flounder stocks, ocean pout, wolffish, and Atlantic halibut. The remainder of the groundfish stocks will be addressed at a subsequent meeting. The Terms of Reference request ABCs and OFLs for 2013 and 2014; the PDT has provided information for an additional year. The SSC may want to specify an additional year in case a future action gets delayed, as occurred this year. There is also some uncertainty about the schedule for future operational assessments, and specifying an additional year may give more scheduling flexibility.
2. The recommendations are based on groundfish assessment updates completed in February, 2012. Generally these assessments are updates of GARM III assessments with minor changes in model formulation. The assessment report is provided as a separate document and the data in the assessments are not repeated here.
3. The terminal year of the assessments is 2010. For GB haddock and redfish projections – the two stocks with analytic assessments and a projection model that will be addressed at this meeting – 2011 catches were estimated, and an assumption was developed for 2012. Details are provided in Table 2 and Table 3. All other projection assumptions were those approved at the assessment meeting.
4. ABCs are based on the current default ABC control rule that was proposed by the SSC and adopted in Amendment 16:

“Action: The MSY control rules adopted by Amendment 13 are replaced by the ABC control rules listed below. These ABC control rules will be used in the absence of better information that may allow a more explicit determination of scientific uncertainty for a stock or stocks. If such information is available – that is, if scientific uncertainty can be characterized in a more accurate

fashion -- it can be used by the SSC to determine ABCs. These ABC control rules can be modified in a future Council action (an amendment, framework, or specification package):

- a. ABC should be determined as the catch associated with 75% of FMSY.
- b. If fishing at 75% of FMSY does not achieve the mandated rebuilding requirements for overfished stocks, ABC should be determined as the catch associated with the fishing mortality that meets rebuilding requirements (Frebuild).
- c. For stocks that cannot rebuild to BMSY in the specified rebuilding period, even with no fishing, the ABC should be based on incidental bycatch, including a reduction in bycatch rate (i.e., the proportion of the stock caught as bycatch).
- d. Interim ABCs should be determined for stocks with unknown status according to case-by case recommendations from the SSC.”

4. There are two overarching issues related to all of the analytic assessments that are discussed below. While both are of less concern for GB haddock and redfish than the other stocks, they are raised to prompt discussion before setting ABCs for other stocks.

Performance of Projections

5. Over the last few years evidence has increased that the projections used to set future catches and plan rebuilding strategies do not perform well – that is, the projected catch does not result in the desired fishing mortality, and stock growth does not occur as expected.

- During development of ABCs for FY 2010 – 2012, the PDT explored a complicated framework for evaluating scientific uncertainty. This approach was tested by applying it to several GARM II assessments and evaluating whether the resulting catches would have ended overfishing during the period 2004 – 2007. The results showed that the method would not have ended overfishing because the projection results were biased high. These results were part of the reason the SSC recommended a default ABC control rule. Interpretation was confounded, however, because at GARM III several assessment models were different than those used at GARM II.
- In the summer of 2011 the NEFSC augmented the PDT to examine an alternative to using updated assessments for setting FY 2012 – 2014 ABCs. Extensive analyses based on the GARM III assessments showed that in most instances projections were biased high – that is, they over-estimated stock growth and future catches. Since these analyses were based on the GARM III assessment, they avoided the interpretation problems caused by a change in assessment models.
- As part of the assessment updates, for the stocks with analytic assessments a comparison was made between projected stock size and realized stock size. There are only minor differences between the models used at GARM III and the updated assessments, and for most stocks the 2008 and 2009 actual catches are similar to those used as projection inputs. This work is detailed in Appendix 5 of the assessment report. For 6 of 7 stocks, the projected stock size was well outside the 90 percent confidence interval of the projection. For 4 of 7 stocks, the realized fishing mortality was higher than the 90 percent confidence interval of the projection. This is additional evidence that the projections

often over-estimate stock growth, and over-estimate the catch that will achieve the target fishing mortality.

6. Given this information and the results of the updated assessments, the current ABC control rules did not adequately account for the scientific uncertainty that was in the GARM III assessments. The apparent inability to determine the catch that will return the desired fishing mortality rate is troubling. Failure of the ABC control rule to fully account for scientific uncertainty occurred despite the GARM III model adjustments for retrospective patterns either through a split survey model configuration or Mohn's- ρ adjustment to the numbers at age. These results indicate there may be a need to develop a different approach to setting ABCs for many of the groundfish stocks. This will require considerable effort and may prove beyond the expertise of the PDT. The PDT could explore a few possible approaches prior to setting ABCs for the remaining groundfish stocks in April. Options that may be worth considering include:

- Base catch projections on a different percentage of FMSY
- Determine the ABC associated with the most recent reliable estimate of stock size and hold catch constant at that level until an assessment is updated
- Adjust the projected ABC based on the performance of the GARM III projection (in a manner yet to be determined)
- Prior to performing projections or constant catch calculations, adjust t+1 population estimates based either on the general performance of the GARM III projections or model diagnostic issues (retrospective patterns).

7 The performance of the ABC control rules for the stocks assessed with a survey index was not evaluated at the assessment update meeting. Table 5 provides an overview for the two windowpane flounder stocks and ocean pout. The control rules worked reasonably well for GOM/GB windowpane flounder and ocean pout where the ratio of the actual catch to the OFL is similar to the realized exploitation index. The control rule for SNE/MAB windowpane flounder did not work as well, where the ratio of actual catch to the OFL exceeds the realized exploitation rate.

Retrospective Patterns

7. The assessment updates document that retrospective patterns continue to trouble groundfish stock assessments. While the pattern for redfish is reduced when compared to that observed at GARM III, the patterns for GB cod, plaice, and witch flounder have increased. CC/GOM yellowtail flounder – a stock that did not have a retrospective pattern at GARM III – now has a substantial pattern, and GOM haddock also has a pattern. While extensive work has been done over the years on possible causes for these patterns, the specific causes for these stocks have not been identified.

8. The assessment updates followed the precedents set at GARM III for addressing retrospective patterns. GARM III generally adopted two methods to reduce these errors: *either* resource surveys were split into two time series, *or* an adjustment was applied to the terminal year

numbers at age prior to performing projections. The same approach was used for the updated assessments. For two stocks that have a split survey time series (GB cod, witch flounder), the updated assessments have large retrospective patterns in spite of this split. For GOM haddock, the adjustment in numbers at age was not applied because the retro-adjusted estimates of SSB and F do not fall outside the confidence intervals of the unadjusted estimates (see Table 4).

9. The persistence of the retrospective errors warrants careful consideration in the setting of ABCs. The PDT strongly recommends that these errors be considered when setting ABCs, even if the assessment uses a split-survey time series to reduce the pattern. This will be more of an issue at the next meeting when ABCs will be set for GB cod, GOM haddock, plaice, witch flounder, and CC/GOM yellowtail flounder. Neither GB haddock nor redfish has a large retrospective pattern.

Table 1 – PDT recommended OFLs and ABCs for FY 2012 – FY 2014. FY 2011 and 2012 values provided for context. Grayed out values previously adopted and do not need to be revisited.

(1) For US/CA stocks, total ABC is shown. After allowing for Canadian share, US ABC will be lower.

Stock	2011		2012		2013		2014		Remarks
	OFL	ABC	OFL	ABC	OFL	ABC	OFL	ABC	
GB cod ⁽¹⁾	7,311	5,616	7,311	5,616					2012 assessment update
GOM cod	11,715	9,012	11,742	9,018					
GB haddock ⁽¹⁾	59,948	46,784	51,150	39,846	46,185	35,783	46,268	35,699	2012 assessment update
GOM haddock	1,536	1,206	1,296	1,013					2012 assessment update
GB yellowtail flounder ⁽¹⁾	3,495	2,650	1,691	1,303	2,136	1,640			Rebuild by 2023
SNE/MA yellowtail flounder	2,174	687	3,166	1,003	TBD	TBD	TBD	TBD	
CC/GOM yellowtail flounder	1,355	1,041	1,508	1,159					2012 assessment update
Plaice	4,483	3,444	4,727	3,632					2012 assessment update
Witch flounder	1,792	1,369	2,141	1,639					2012 assessment update
GB winter flounder	2,886	2,224	4,839	3,753	4,819	3,750	4,626	3,598	75% of FMSY
GOM winter flounder	441	238	1,458	1,078	1,458	1,078	1,458	1,078	75% of F_{MSY} ; 60% survey efficiency
SNE/MA winter flounder	2,117	897	2,336	626	2,637	697	3,471	912	Low mortality to promote rebuilding
Redfish	10,903	8,356	12,036	9,224	15,468	10,995	16,130	11,465	2012 assessment update
White hake	4,805	3,638	5,306	3,638	TBD	TBD	TBD	TBD	
Pollock	21,853	16,900	19,887	15,400	20,060	15,600	20,554	16,000	75% of FMSY
N windowpane	225	169	230	173	202	151	202	151	75% of FMSY
S windowpane	317	237	515	386	730	548	730	548	75% of FMSY
Ocean pout	361	271	342	256	313	235	313	235	75% of FMSY
Atlantic halibut	130	78	143	85	164	99	180	109	2012 assessment update
Atlantic wolffish	92	83	92	83	94	70	94	70	2012 assessment update

Catch Assumption for Stock Projections

The terminal year for the updated assessments is 2010. ABCs are being set for 2013 -2014. In order to perform the projections, an input of catch or fishing mortality is needed for 2011 and 2012.

For 2011, NERO APSD provided an estimate of total catches. Estimates are provided in Table 2.

For 2012, catch assumptions were developed using information from FY 2010 and 2011. In simple terms, for commercial groundfish catches the observed proportion of the sub-ACL caught from January - April 2011 (FY 2010 sub-ACL) and May – December 2011 (FY 2011 sub-ACL) was applied to the FY 2011 and FY 2012 sub-ACLs. These values were adjusted to account for the possibility of carry-over. Other component catches were estimated using several different techniques, detailed in the footnotes. The resulting assumptions are shown in Table 3.

Table 2 - CY 2011 End of Year Accounting of NE Multispecies Catch (mt) (Note: Catch assumption for GB haddock added 2011 Canadian quota to the value shown here)

Stock	ACLs and sub-ACLs; (with accountability measures (AMs))							sub-components: No AMs	
	Total Groundfish	Commercial Groundfish*	Sector	Common Pool	Recreational	Herring Fishery	Scallop Fishery	State Water	Other
	A to G	A+B+C	A	B	C	D	E	F	G
GB cod	3,768.6	3,542.0	3,433.8	108.2				48.0	178.6
GOM cod	7,963.3	7,333.2	4,424.3	84.9	2,824.0			597.0	33.1
GB Haddock	5,884.5	5,354.8	5,343.1	11.7		89.8		342.0	97.8
GOM Haddock	695.6	677.3	431.0	2.6	243.6	2.6		9.0	6.7
GB Yellowtail Flounder	1,032.8	950.2	948.2	2.0			63.2	0.0	19.4
SNE Yellowtail Flounder	425.3	276.5	260.0	16.5			128.0	7.0	13.9
CC/GOM Yellowtail Flounder	746.8	722.9	711.5	11.4				10.0	13.9
Plaice	1,624.0	1,574.3	1,568.0	6.2				34.0	15.7
Witch Flounder	1,069.0	910.2	905.5	4.7				14.0	144.7
GB Winter Flounder	1,937.1	1,888.1	1,887.0	1.1				0.0	49.0
GOM Winter Flounder	204.8	140.3	137.5	2.8				60.0	4.4
SNE Winter Flounder	318.1	95.4	91.9	3.5				72.0	150.7
Redfish	2,302.9	2,215.4	2,211.6	3.7				84.0	3.5
White Hake	2,903.1	2,852.8	2,838.6	14.2				33.0	17.4
Pollock	8,950.9	7,310.4	7,236.4	74.0				769.0	871.5
Northern Windowpane	169.3	158.4	158.1	0.3				2.0	8.8
Southern Windowpane	436.5	65.9	53.8	12.0				2.0	368.6
Ocean Pout	87.0	49.6	46.6	3.0				3.0	34.5
Halibut	79.1	38.7	37.6	1.1				39.0	1.4
Wolffish	32.7	31.7	30.4	1.2				1.0	0.0

<p>Values in live weight *Includes estimate of missing dealer reports Source: NMFS Northeast Regional Office Run Date: March 7, 2012</p>	<p>Sector/Common Pool - from DMIS Rec - GOM Cod - subcomponent value Rec - GOM Haddock - avg of MRIP, MRFSS, landings only Herring - approx. from monitoring reports - CY11 Scallop Est. = CY11 Kall * disc rate from Nov. '10 to Oct. '11 Scallop State Water - subcomponent value</p>
<p>These data are the best available to NOAA's National Marine Fisheries Service (NMFS). Data sources for this report include: (1) Vessels via VMS; (2) Vessels via vessel logbook reports; (3) Dealers via Dealer Electronic reporting. Differences with previous reports are due to corrections made to the database.</p>	<p>Other subcomponent - For SNE winter flounder & S. windowpane: CY11 non-scallop Kall * non-scallop disc rate from Nov. '10 through Oct. '11, + CY11 scallop catch est. - GB cod and pollock: - For other stocks: CY11 non-scallop Kall * non-scallop disc rate from Nov. '10 through Oct. '11 + FY10 actual scallop catch where included same as "other stocks" + FY10 recreational catch</p>

Table 3 - CY 2012 End of Year Accounting of NE Multispecies Catch (mt) ((Note: Catch assumption for GB haddock added 20121 Canadian quota to the value shown here)

Stock	ACLs and sub-ACLs; (with accountability measures (AMs))							sub-components: No AMs	
	Total Groundfish	Groundfish Fishery	Sector	Common Pool	Recreational	Herring Fishery	Scallop Fishery	State Water	Other
	A to G	A+B+C	A	B	C	D	E	F	G
GB cod	4,401.6	4,146.6	4,058.5	88.1				51.0	204.0
GOM cod	6,967.1	6,265.1	3,984.3	65.8	2,215.0			468.0	234.0
GB Haddock	6,487.1	4,665.1	4,656.3	8.8		286.0		307.0	1,229.0
GOM Haddock	727.4	681.4	420.2	2.1	259.0	9.0		15.0	22.0
GB Yellowtail Flounder	871.0	540.9	540.6	0.3			307.5	0.0	22.6
SNE Yellowtail Flounder	633.5	457.5	431.2	26.3			126.0	10.0	40.0
CC/GOM Yellowtail Flounder	950.4	892.4	881.2	11.2				35.0	23.0
Plaice	1,921.5	1,740.5	1,734.8	5.6				36.0	145.0
Witch Flounder	1,318.4	1,203.4	1,198.3	5.1				49.0	66.0
GB Winter Flounder	3,232.1	3,044.1	3,042.4	1.8				0.0	188.0
GOM Winter Flounder	646.1	320.1	315.9	4.2				272.0	54.0
SNE Winter Flounder								175.0	125.0
Redfish	2,998.6	2,537.6	2,533.0	4.6				92.0	369.0
White Hake	3,543.7	3,361.7	3,342.4	19.2				73.0	109.0
Pollock	8,834.5	6,710.5	6,652.7	57.9				754.0	1,370.0
Northern Windowpane								2.0	33.0
Southern Windowpane								39.0	270.0
Ocean Pout								3.0	23.0
Halibut								43.0	4.0
Wolffish								1.0	3.0

Values in live weight

Source: NMFS Northeast Regional Office

Run Date: March 9, 2012

- For allocated stocks, Total CY12 Catch =
Spring CY12 catch = {(Spring% of FY10 ACL) * (FY11 ACL + FY10 Carryover)} +
Fall CY12 catch = (Fall FY11 catch/(FY11 ACL + FY10 Carryover)) * (FY12 ACL +
FY11 Carryover Est.)
Where FY11 Carryover Est. = ((FY10 Carryover/FY10 ACL) * FY11 ACL)

These data are the best available to NOAA's National Marine Fisheries Service (NMFS). Data sources for this report include: (1) Vessels via VMS; (2) Vessels via vessel logbook reports; (3) Dealers via Dealer Electronic reporting. Differences with previous reports are due to corrections made to the database.

All other components: - FY12 subcomponent value

Table 4 – Average retrospective patterns (based on a seven year peel) present in 2012 updated groundfish assessments. A positive value means the parameter is over-estimated in the terminal year of the assessment.

Stock	SSB	Fishing Mortality	Recruitment	Comments
GB Cod	0.7059	-0.47	1.632	Survey time series split; pattern increased since GARM III
GB Haddock	0.2	-0.15	0.14	
GOM haddock	-0.21	0.95	4.62	Terminal year estimates not rho-adjusted because adjusted values are within the confidence interval of the assessment results
CC/GOM yellowtail flounder	0.68	-0.19	0.34	No pattern noted at GARM III; rho-adjustment used for status determination for 2012 updates; splitting the survey did not appreciably reduce this pattern
Plaice	0.62	-0.35	1.24	Rho-adjustment used for status determination, as at GARM III
Witch Flounder	0.61	-0.33	0.06	Survey time series split; retrospective pattern increased since GARM III; terminal year estimates not rho-adjusted
Redfish	0.047	-0.045	0.742	

Table 5 – Review of ABC control rule performance for three stocks assessed with a survey index

Stock/Year	Catch	Realized Exploitation Index	OFL	Updated FMSY Proxy	F/FMSY	Catch/Projected Catch	Difference
S WINP							
2008	321	1.58	317	2.10	0.75	1.01	0.35
2009	463	1.86	317	2.10	0.89	1.46	0.65
2010	490	1.4	317	2.10	0.67	1.55	1.32
N WINP							
2008	376	0.841	225	0.44	1.91	1.67	-0.13
2009	440	0.998	225	0.44	2.27	1.96	-0.14
2010	236	0.515	225	0.44	1.17	1.05	-0.10
Ocean Pout							
2008	127	0.261	361	0.76	0.34	0.35	0.02
2009	168	0.373	361	0.76	0.49	0.47	-0.05
2010	127	0.311	361	0.76	0.41	0.35	-0.14

Northeast Multispecies
Acceptable Biological Catch

FY 2012 -2014

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Georges Bank Haddock

I. Stock status

Last assessment/terminal year: 2012/2010 (Update of GARM III)
 Assessment Model: VPA
 Assessment Results: 134% of SSB_{MSY} /46% of F_{MSY}
 Overfished/overfishing status: Not overfished/overfishing not occurring
 Rebuilding plan: N/A

II. Proposed OFL/ABC

	OFL	Total ABC	U.S. ABC	Total CY Catch
2010	80,007	62,515	44,903	25,903
2011	59,948	46,784	34,244	18,384*
2012	51,150	39,846	TBD	
2013	46,185	35,783	TBD	
2014	46,268	35,699	TBD	
2015	56,293	43,606	TBD	

* Calendar year catch based on NERO in-season ACL monitoring; assumes Canadian catch equals Canadian quota

Basis: Projection from 2012 update of GARM III assessment based on 75 percent of F_{MSY}

Probability of overfishing/overfished:

Year	Overfishing	Overfished
2013	19%	0
2014	27%	0
2015	33%	1%

III. Comments

ABC based on projections performed after 2012 update assessment GARM III.

Gulf of Maine/Georges Bank Acadian Redfish

I. Stock status

Last assessment/terminal year: 2012/2010 (Update of GARM III)
 Assessment Model: ASAP
 Assessment Results: 132% of SSB_{MSY} /16% of F_{MSY}
 Overfished/overfishing status: Not overfished/overfishing not occurring
 Rebuilding plan: Rebuilt (change from GARM III)

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	9,899	7,586	1,852
2011	10,903	8,356	2,303*
2012	12,036	9,224	
2013	15,468	10,995	
2014	16,130	11,465	
2015	16,845	11,974	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: Projection from updated GARM III assessment based on 75 percent of F_{MSY}

Probability of overfishing/overfished: 0%/0% in all years

III. Comments

ABC based on projections performed after 2012 update of GARM III.

Atlantic Halibut

I. Stock status

Last assessment/terminal year: 2012/2010 (Update of GARM III assessment)
Assessment Model: Replacement yield
Assessment Results: 7% of B_{MSY} /52% of F_{MSY} proxy
Overfished/overfishing status: Overfished/overfishing not occurring
Rebuilding plan: Rebuild by 2055

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	119	71	52
2011	130	78	79*
2012	143	85	
2013	164	99	
2014	180	109	
2015	198	119	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: Projection from updated GARM III assessment based on 75 percent of F_{MSY}

Probability of overfishing/overfished: Not estimated

III. Comments

ABC based on projections performed after most recent assessment.

Atlantic Wolffish

I. Stock status

Last assessment/terminal year: 2012/2010 (Update of GARM III assessment)
Assessment Model: SCALE
Assessment Results: 29% of B_{MSY} proxy/10% of F_{MSY}
Overfished/overfishing status: Overfished/overfishing not occurring
Rebuilding plan: Rebuild; unable to determine end date

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	92	83	17.5
2011	92	83	32.7*
2012	92	83	
2013	94	70	
2014	94	70	
2014	94	70	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: 75% of F_{MSY} proxy applied to most recent biomass estimate

Probability of overfishing/overfished: Not estimated

III. Comments

The data poor working group recommend against using projections for this stock..

There is no conversion coefficient to convert R/V Bigelow surveys to R/V Albatross equivalents. The assessment update applied the ocean pout conversion to wolffish. This adds uncertainty to the results shown here.

Index Based Stocks

Gulf of Maine/Georges Bank Windowpane Flounder

I. Stock status

Last assessment/terminal year: 2012/2010
Assessment Model: AIM
Assessment Results: 29% of B_{MSY} proxy/117% of F_{MSY} proxy
Overfished/overfishing status: Overfished/overfishing occurring
Rebuilding plan: Rebuild by 2017

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	225	169	236
2011	225	169	169.3*
2012	230	173	
2013	202	151	
2014	202	151	
2015	202	151	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: 75% of F_{MSY} proxy applied to most recent biomass estimate.

Probability of overfishing/overfished: Not estimated

III. Comments

This stock is assessed using a lagged three-year moving average of the NEFSC fall survey biomass index. Additional uncertainty in stock status is created by the adoption of the R/V Bigelow. The AIM model has been updated to use consistent survey strata for both the Bigelow and the Albatross time series.

Both stock size and fishing mortality have declined since GARM III.

Southern New England/Mid-Atlantic Bight Windowpane Flounder

I. Stock status

Last assessment/terminal year: 2012/2010
 Assessment Model: AIM
 Assessment Results: 116% of B_{MSY} proxy/83% of F_{MSY} proxy
 Overfished/overfishing status: Not overfished/overfishing occurring
 Rebuilding plan: Rebuilt (change from GARM III)

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	317	237	490
2011	317	237	436.5*
2012	515	386	
2013	730	548	
2014	730	548	
2015	730	548	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: 75% of F_{MSY} proxy applied to most recent biomass estimate

Probability of overfishing/overfished: Not estimated

III. Comments

This stock is assessed using a lagged three-year moving average of the NEFSC fall survey biomass index. Additional uncertainty in stock status is created by the adoption of the R/V Bigelow. The conversion of the R/V Bigelow to R/V Albatross indices does not use a length-based conversion. The AIM model has been updated to use consistent survey strata for both the Bigelow and the Albatross time series.

The stock is rebuilt. Because of concerns this stock's ABC may constrain the scallop fishery two options could be considered to increase catches.

- Setting ABC at a higher relative F than the default ABC control rule of 75% of the F_{MSY} proxy. The default control rule was recommended by the SSC and implemented by the Council because scientific uncertainty could not be accurately quantified. There does not seem to be less uncertainty for this stock since the control rule was adopted. The change in survey vessels and resulting strata and the lack of a length-based survey calibration coefficient suggest uncertainty may have increased. Indeed, the change in status is highly dependent on the calibration factor. Given the fact the survey index is highly variable, it is possible that the stock's status might change next year after this year's fall survey.

- If/when the Council is officially notified that this stock is rebuilt, it may be a candidate for the Mixed Stock Exception to allow overfishing for this stock. The Council may consider using the MSE for this stock, in which case the ABC will have to be revised.

Ocean Pout

I. Stock status

Last assessment/terminal year: 2012/2010
Assessment Model: Survey index and exploitation ratio
Assessment Results: 8% of B_{MSY} proxy/41% of F_{MSY} proxy
Overfished/overfishing status: Overfished/overfishing not occurring
Rebuilding plan: Rebuild by 2017 with a 75 percent probability of success

II. Proposed OFL/ABC

	OFL	ABC	CY Catch
2010	361	271	127
2011	361	271	87*
2012	342	256	
2013	313	235	
2014	313	235	
2015	313	235	

* Calendar year catch based on NERO in-season ACL monitoring

Basis: 75% of F_{MSY} proxy applied to most recent biomass estimate

Probability of overfishing/overfished: Not estimated

III. Comments

This stock is assessed using a centered three-year moving average of the NFSC spring survey biomass index. Additional uncertainty in stock status is created by the adoption of the R/V Bigelow. The conversion of the R/V Bigelow to R/V Albatross indices does not use a length-based calibration factor.

While overfishing is not occurring the stock has declined since GARM III. Rebuilding by 2017 appears unlikely.

GARM III reviewers cautioned that ocean pout may be in a dispensatory state where the stock is unlikely to rebuild even in the absence of removals. Recent catches have been below the ABC but stock size continues to decline. Given the depressed nature of this stock, possible dispensatory condition, rebuilding requirements, and the concerns expressed at GARM III it may not be appropriate to implement an ABC that is nearly three times higher than recent catches. It may be more appropriate to us an ad hoc approach to set ABCs for this stock until stock size increase.