## Appendix III

## Calculation of Northeast Multispecies Annual Catch Limits, FY 2010-FY 2012

This appendix documents the calculation of Northeast Multispecies Overfishing Levels (OFLs), Acceptable Biological Catches (ABCs), and Annual Catch Limits (ACLs) for FY 2010 - FY 2012. The general approach for all stocks is to first determine the OFL, then determine the ABC . 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.

## Determining OFL and ABC

## Stocks with Age-Based Assessments and Projections

Catch levels (including OFLs, ABCs, and ACLs) for the following stocks are based on age-based projections:

GB cod<br>GOM cod<br>GB haddock<br>GOM haddock<br>GB yellowtail flounder<br>CC/GOM yellowtail flounder<br>SNE/MA yellowtail flounder<br>GB winter flounder<br>SNE/MA winter flounder<br>Witch flounder<br>Plaice<br>White Hake<br>Redfish<br>Atlantic halibut

For most stocks, the projections were performed using the Northeast Fisheries Science Center’s (NEFSC) AGEPRO projection model; the exception is white hake and Atlantic halibut, which used a projection model developed by SCAA/ASP. Initial conditions for the projections are based on five year averages (2003-2007) from the most recent assessment. For all stocks except GB yellowtail flounder, the most recent assessment was completed in GARM III (NEFSC 2008), and the terminal year in the assessment is 2007. GB yellowtail flounder was assessed by the Transboundary Resource Assessment Committee (TRAC) in 2009, with a terminal year of 2008.

There are a number of assumptions that must be made to complete the projections. All of these assumptions are potential sources of error. The assumptions for recruitment, selectivity, and weights-at-age that were used were those recommended by the GARM and TRAC review panels.

Since the first year for ACLs is 2010, an additional assumption must be made in the projections for the years between the terminal year and 2010. For the assessments with a

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terminal year of 2007, an estimate of 2008 catch developed by the NEFSC was input into the projection model. While these catches were calculated using the same techniques as were used by GARM III, the values have not been subject to a peer review and could be modified in the future when an assessment is completed. The 2008 catches used are shown in Table 1.

The assumption for 2009 was based on an estimate of 2009 fishing mortality. This estimate was developed after considering the expected impacts of the Northeast Multispecies interim action that was implemented May 1, 2009. For most stocks, the expected change in exploitation predicted to result from the interim action were applied to the 2008 mortality that results from the updated 2008 catch to get an estimate of the 2009 mortality. An exception was made for three stocks, two affected by the U.S./Canada Resource Sharing Understanding. The first is for GB yellowtail flounder. Since this stock is managed by a hard TAC, the 2009 TAC of 2100 mt was used in the projection (consistent with the projection approach used by the Transboundary Resource Assessment Committee (TRAC)). The second exception is for GB haddock. The interim action analysis cannot reliably predict GB haddock mortality because much of the catch comes from the Canadian fishery in recent years and this is not affected by U.S. management measures. The Canadian fishery has nearly harvested its TAC in recent years, so the 2009 TAC of 19,000 mt was assumed caught. The 2009 U.S. catch was assumed to be the same as the 2008 catch of 6,000 mt. Total 2009 GB haddock catch assumed was $25,000 \mathrm{mt}$. The 2009 catch assumption is not as critical for this stock since recent catches are well below catch projections for future years. The third exception is for Atlantic halibut. The 2009 catch was assumed to be 100 mt , a 40 percent increase from the four year average catch but only a 20 percent increase from the 2007 catch. An increase seems warranted since the Canadian TAC is increasing by 15 percent from 2008 to 2009 (only a small portion of this TAC is taken from the stock area used in the U.S. assessment).

When calculating the OFL in future years, $\mathrm{F}_{\text {MSY }}$ is used as the fishing mortality in the projection. When calculating the ABC, either $75 \%$ of $\mathrm{F}_{\text {MSY }}$ or Frebuild is used (whichever is lower). This is consistent with the ABC control rules recommended by the Science and Statistical Committee (SSC) and adopted in Amendment 16. For SNE/MA winter flounder, the ABC was calculated using the fishing mortality expected to result from management measures designed to achieve a mortality as close to 0 as possible. Specific mortality targets used for the ABC projections are provided in Table 2.

Projection output used for setting ABCs is in Appendix IV.

## Stocks with Index-Based Assessments

For these four stocks, the OFL was calculated as the $\mathrm{F}_{\text {MSY }}$ proxy applied to the most recent biomass estimate (a survey-based proxy). The ABC was calculated as $75 \%$ of $\mathrm{F}_{\text {MSY }}$ applied to the most recent biomass estimate. The index-based projection model was not used for any of these stocks.

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Northern Windowpane Flounder
Southern Windowpane Flounder
Ocean Pout
Pollock

## GOM Winter Flounder

GARMI III did not accept the GOM winter flounder assessment. As determined by the SSC, the ABC was set as 75 percent of the average catch for the most recent three years (CYY 2006/2007/2008).

## Atlantic Wolffish

The OFL for Atlantic wolffish was established as $\mathrm{F}_{\text {MSy }}$ applied to the most recent estimate of exploitable biomass, while the ABC was set as $75 \%$ of $\mathrm{F}_{\text {MSY }}$ applied to the exploitable biomass. Alternative assumptions of selectivity and size at maturity provide a range of $\mathrm{F}_{\text {MSY }}$ and exploitable biomass estimates (e.g., $\mathrm{F}_{\text {MSY }}=0.2$ to 0.7 and exploitable biomass $=215$ to 533 t ). Based on the guidance from the DPSWG that $\mathrm{F}_{\text {MSY }}$ is most likely less than 0.35 and that survey-based estimates of size-at-maturity may not be reliable, the OFL and ABC are based on the assessment model that assumes steep selectivity and 75 cm knife edge size at maturity.

## 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:

ABC: Acceptable Biological Catch for the entire stock.
Canadian Share/Allowance: An amount from the stock that Canadian vessels are expected to harvest. 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). For other stocks with substantial Canadian catches this is based on an estimate of Canadian catch.
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.

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.

Scallops: Portion of U.S. ABC either allocated to, or expected to be harvested by, the U.S. scallop fishery.

Groundfish: Portion of the U.S. ABC available to the groundfish fishery (including recreational and commercial vessels). This ABC has several subcomponents:

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

Recreational: Portion of the U.S. ABC available to commercial vessels.

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

Table 3 summarizes the distribution of the U.S. ABC to the various sub-components, while Table 4 provides the resulting ABCs. Details for specific stocks are provided below.
a. GOM cod: The division into sub-components was calculated differently for this stock based on the way the components were calculated by the PDT. First, the PDT calculated the recreational/commercial allocation as described in Amendment 16 using the numbers of fish caught (as determined by GARM III). This was done without regard to whether the fish were caught in state waters or not. In contrast, the state waters component (10 percent) came from a NMFS report required by the M-S Act reauthorization and included commercial catches only. Similarly, "other sub-components" represented only commercial catches since a specific recreational/commercial component was anticipated. The state waters component and the other sub-component portion are thus calculated as a percent of the commercial allocation (e.g. 10 percent of the 66.3 percent commercial allocation).

The recreational harvest of cod from state waters (without regard to stock) averaged 19 percent from 2001-2008, but was highly variable and ranged from 9 percent to 35 percent. Proportional standard errors (PSEs) are also high for the state waters components, indicating high uncertainty over these values. It is not known how much of the state waters recreational catch came from party/charter boats with federal permits that should be subject to ACL requirements. These factors make it difficult to determine what percentage of the recreational allocation is expected to be harvested from state waters.

The PDT calculated the groundfish recreational and commercial ACLs based on the recreational/commercial percentages as determined by the Council (based on historical data). Since some of the recreational catch comes from state waters, the ACL for recreational fishermen is higher than if a specific state water recreational allocation could

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be identified. It also means in order to monitor and account for recreational catch, all recreational catches (including state waters catches) should be applied against the ACL.

The commercial components (state waters, other sub-components, and federal waters) add to the total commercial allocation.

| Shares, |  | Rec | Comm | Total |
| :---: | :---: | :---: | :---: | :---: |
|  | Based on Total Catch, in Numbers | 0.337 | 0.663 | 1.0 |
|  | ABC, Based on Totals | 2,875 | 5,655 | 8,530 |
|  | State waters (assumed all commercial) |  | 566 |  |
|  | Other sub (assumed all commercial) |  | 283 |  |
|  | Adjusted ABC | 2,875 | 4,807 |  |

b. GOM haddock: This stock has similar issues as GOM cod. Calculations were done in a similar fashion. One difference is that there is a portion of this stock that is allocated to the MWT fishery. This is based on $0.2 \%$ of the total ABC. The ABC is first divided between the recreational and commercial fisheries, then $1 \%$ of the commercial share is allowed for state waters and $4 \%$ for other subcomponents. The MWT share is also subtracted from the commercial ABC.

|  | Rec | Comm | Total |
| :--- | :--- | ---: | ---: | ---: |
| Shares, | 0.275 | 0.725 | 1 |

c. GB yellowtail flounder: To be completed.
d. SNE/MA yellowtail flounder: To be completed.
e. GB winter flounder: There is no state waters allocation because the stock area does not include state waters.
f. GOM winter flounder: The recreational fishery is almost entirely in state waters. From 2005 to 2007, the recreational harvest averaged 29 mt , but increased to 107 mt in 2008. ASMFC is adopting management measures to reduce harvests 11 percent. The PDT has allowed 60 mt for state waters/recreational harvest for this stock. This is 89 percent of the 2007/2008 average, reflecting the expected impacts of ASMFC measures. This is 25 percent of the ABC.
g. SNE/MA winter flounder: Recreational harvest increased from 92 mt in 2004 to 167 mt in 2006, then declined to 75 mt in 2008. ASMFC is adopting management measures to reduce harvest 46 percent. The PDT allowed 53 mt in 2010 for recreational/state waters harvest for this stock, 54 percent of the 2007/2008 average. This is 8 percent of the ABC; 8 percent was used for FY 2011 and FY 2012; this gives a slightly larger allocation in future years, reflecting stock rebuilding.
h. Pollock: Recreational harvest increased to 912 mt in 2008, about 2.5 times the harvest from 2005 through 2007 and 24 percent of the ABC. Since 2001, about half of the recreational harvest has been from state waters. The PDT allowed 400 mt for recreational harvest, reflecting the approximate average amount harvested from 2003 through 2007. This value is split between state waters and the "other sub-components" category. Canadian catches in 2008 were 650 mt , but Canadian TACs are expected to decline on the order of 20 percent in 2010. The PDT allowed 520 mt for Canadian catches (80 percent of 2008).
i. Atlantic halibut: The PDT estimates that about 50 percent of halibut catches are by Maine state vessels from state waters.

## ACLs

After the ABCs are distributed to the various components, they are adjusted for management uncertainty. As discussed in Appendix I, the default sets the ACL at 95 percent of the ABC. For stocks with less management uncertainty the ACL is set at 97 percent of the ABC; for stocks with more uncertainty it is set at 93 percent of the ACL. Adjustments are shown in Table 5. The rationale for deviation from 95 percent for specific stocks is provided below.
a. GOM cod: The management uncertainty associated with the recreational fishery is greater than that associated with the commercial fishery because data for the recreational fishery is more uncertain than that from the commercial fishery, the number of participants is unknown, the AMs for the recreational fishery are implemented after a

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time lag, and impacts of the management measures are less predictable. Therefore the ACL for the recreational component was set at 93 percent of the ABC.
b. GOM haddock: The MWT ACL was set at 93 percent of the ABC due to uncertainty over monitoring of the herring MWT fishery.
c. GB yellowtail flounder: The management uncertainty is less for this stock because this stock has been successfully managed with a hard TAC for several years and there are inseason AMs (Regional Administrator authority to modify in-season measures including trip limits, closures, gear restrictions, etc.). Therefore, the PDT set the ACL at 97 percent of the ABC. See below for additional discussion on the allocation to the scallop fishery. There is no state waters allocation because the stock area does not include state waters.
d. SNE/MA yellowtail flounder: This stock is the only stock where catches exceeded TTACs for several years. Also, non-groundfish fisheries may catch this stock. The PDT set the ACL at 93 percent of the ABC in recognition of the fact management measures may not be as effective at keeping catch levels below the desired catch level for this stock.
e. SNE/MA winter flounder: The ACL was set at 93 percent of the ABC. With the adoption of Amendment 16, landings are prohibited, which will increase the uncertainty over catch. In addition, there are no controls on the catch of this stock by sector vessels other than a prohibition on retention (in contrast, the proposed measures for the common pool include two gear restricted areas that will help reduce impacts on this stock).
f. Windowpane flounders, ocean pout, Atlantic wolffish: Retention of these stocks is prohibited. In addition, there are no controls on the catches of these stocks by sector vessels other than a prohibition on retention. The ACL was set at 93 percent of the ABC, reflecting the additional uncertainty over catch.
g. GB haddock: The MWT ACL was set at 93 percent of the ABC due to uncertainty over monitoring of the herring MWT fishery.

## 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. Table 6 and Table 7 are reproduced from Amendment 16.

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An incidental catch TAC is specified for American plaice even though GARM III determined this stock was not overfished and overfishing was not occurring. This was done for several reasons. First, stock size barely exceeds the minimum biomass threshold and is at $51 \%$ of $B_{\text {MSY }}$, and has not completed stock rebuilding. Given uncertainty in the assessment it was considered prudent to continue to control catches until certain that rebuilding is on track. Second, plaice is often caught with witch flounder, an overfished stock, and allowing vessels to target plaice in these programs would likely lead to excessive catches of witch flounder.

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Table 1-2008 catch used in age-based projections

| Stock | Actual 2008 Catch $^{1}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Landings | Commercial discards ${ }^{2}$ | Recreational Landings or Harvest ${ }^{3}$ | Canada | Total 2008 <br> Catch |
| GB Cod | 3,207 | 366 | 32 | 1,529 | 5,134 |
| GB Haddock | 5,744 | 343 |  | 14,814 | 20,901 |
| GB Yellowtail(1) | 748 | 370 |  | 158 | 1,276 |
| SNE/MA Yellowtail | 354 | 150 |  |  | 504 |
| CC/GOM Yellowtail | 566 | 161 |  |  | 727 |
| GOM Cod | 5,439 | 1,356 | 1,704 |  | 8,499 |
| Witch Flounder | 1,005 | 58 |  |  | 1,063 |
| Plaice | 1,106 | 242 |  |  | 1,348 |
| GOM Winter Flounder | 284 | 12 | 107 |  | 402 |
| SNE/MA Winter Flounder | 1,247 | 109 | 76 |  | 1,432 |
| GB Winter Flounder | 824 | 139 |  |  | 963 |
| White Hake | 1,876 |  |  |  | 1,876 |
| Pollock | 9,964 |  | 912 | 493 | 11,370 |
| Redfish | 1,190 | 174 |  |  | 1,364 |
| GOM Haddock | 575 | 11 | 611 |  | 1,197 |
| Ocean pout | 7 | 118 |  |  | 125 |
| Northern window | 34 | 316 |  |  | 350 |
| Southern window | 87 | 276 |  |  | 363 |

Notes:

1. Actual 2008 catch as calculated by NEFSC in July 2009. These numbers are preliminary until incorporated into an assessment.
2. For winter flounder stocks, discards are after application of a 50 percent mortality rate to commercial catch.
3. For winter flounder stocks, discard mortality for recreational catch is 15 percent.

Table 2 - Mortality targets used to calculate ABCs, FY 2010-2012

| Species | Stock | Basis for Target Fishing Mortality | Targeted Fishing Mortality | $F_{\text {msy }}$ |
| :---: | :---: | :---: | :---: | :---: |
| Cod | GB | 75\%FMSY | 0.184 | 0.2466 |
| Cod | GOM | 75\%FMSY | 0.18 | 0.237 |
| Haddock | GB | 75\%FMSY | 0.26 | 0.35 |
| Haddock | GOM | 75\%FMSY | 0.32 | 0.43 |
| Yellowtail Flounder | GB | Frebuild | 0.068/.048 | 0.254 |
| Yellowtail Flounder | SNE/MA | Frebuild | 0.072 | 0.254 |
| Yellowtail Flounder | CC/GOM | 75\%FMSY | 0.18 | 0.239 |
| American Plaice | GB/GOM | 75\%FMSY | 0.14 | 0.19 |
| Witch Flounder |  | 75\%FMSY | 0.15 | 0.2 |
| Winter Flounder | GB | 75\%FMSY | 0.2 | 0.26 |
| Winter Flounder | GOM | 75 average catch | n/a | 0.283 |
| Winter Flounder | SNE/MA | See text | 0 | 0.248 |
| Redfish |  | 75\%FMSY | 0.03 | 0.038 |
| White Hake | GB/GOM | Frebuild | 0.084 | 0.125 |
| Pollock | GB/GOM | See text | 4.245 | 5.66 |
| Windowpane | GOM/GB | 75\%FMSY | n/a | 0.5 |
| Windowpane | SNE/MA | 75\%FMSY | n/a | 1.47 |
| Ocean Pout |  | 75\%FMSY | n/a | 0.76 |
| Atlantic Halibut |  | Frebuild | 0.044 | 0.073 |
| Atlantic Wolffish |  |  |  |  |

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Table 3 - Distribution of ABC to fishery components.
(1) Includes commercial ABC in state waters and other subcomponents

| Stock | Year | ABC | Canadian Sharel Allowance | US ABC | State Waters | Other SubComponents Scallops | Groundfish | Comm Groundfish | Rec Groundfish | Sector PSC | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GB Cod | 2010 | 4,812 | 1,012 | 3,800 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.949389974 |  |
|  | 2011 | 5,616 | 0 | 5,616 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.949389974 |  |
|  | 2012 | 6,214 | 0 | 6,214 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.949389974 |  |
| GOM Cod | 2010 | 8,530 | 0 | 8,530 | 0.10 | 0.05 | na | 0.663 | 0.337 | 0.926205087 |  |
|  | 2011 | 9,012 | 0 | 9,012 | 0.10 | 0.05 | na | 0.663 | 0.337 | 0.926205087 |  |
|  | 2012 | 9,018 | 0 | 9,018 | 0.10 | 0.05 | na | 0.663 | 0.337 | 0.926205087 |  |
| GB <br> Haddock | 2010 | 62,515 | 17,612 | 44,903 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.972129238 | 0.002 |
|  | 2011 | 46,784 | 0 | 46,784 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.972129238 | 0.002 |
|  | 2012 | 39,846 | 0 | 39,846 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.972129238 | 0.002 |
| GOM <br> Haddock | 2010 | 1,265 |  | 1,265 | 0.01 | 0.04 | na | 0.725 | 0.275 | 0.952531093 | 0.002 |
|  | 2011 | 1,206 |  | 1,206 | 0.01 | 0.04 | na | 0.725 | 0.275 | 0.952531093 | 0.002 |
|  | 2012 | 1,013 |  | 1,013 | 0.01 | 0.04 | na | 0.725 | 0.275 | 0.952531093 | 0.002 |
| GB <br> Yellowtail <br> Flounder | 2010 | 1,500 | 300 | 1,200 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.93516549 |  |
|  | 2011 | 1,689 | 608 | 1,081 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.93516549 |  |
|  | 2012 | 1,916 | 690 | 1,226 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.93516549 |  |
| SNE/MA <br> Yellowtail <br> Flounder | 2010 | 493 |  | 493 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.726460172 |  |
|  | 2011 | 687 |  | 687 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.726460172 |  |
|  | 2012 | 1,003 |  | 1,003 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.726460172 |  |
| CC/GOM <br> Yellowtail <br> Flounder | 2010 | 863 |  | 863 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.932830303 |  |
|  | 2011 | 1,041 |  | 1,041 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.932830303 |  |
|  | 2012 | 1,159 |  | 1,159 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.932830303 |  |
| Plaice | 2010 | 3,156 |  | 3,156 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.935528195 |  |
|  | 2011 | 3,444 |  | 3,444 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.935528195 |  |
|  | 2012 | 3,632 |  | 3,632 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.935528195 |  |
| Witch | 2010 | 944 |  | 944 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.950533446 |  |
| Flounder | 2011 | 1,369 |  | 1,369 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.950533446 |  |

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| Stock | Year | ABC | Canadian Sharel Allowance | US ABC | State Waters | Other SubComponents Scallops | Groundfish | $\qquad$ | Rec Groundfish | Sector PSC | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GB Winter Flounder | 2010 | 2,052 |  | 2,052 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.970333537 |  |
|  | 2011 | 2,224 |  | 2,224 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.970333537 |  |
|  | 2012 | 2,543 |  | 2,543 | 0.00 | 0.05 | 0.95 | 0.95 |  | 0.970333537 |  |
| GOM <br> Winter Flounder | 2010 | 238 |  | 238 | 0.25 | 0.05 | 0.70 | 0.70 |  | 0.835133988 |  |
|  | 2011 | 238 |  | 238 | 0.25 | 0.05 | 0.70 | 0.70 |  | 0.835133988 |  |
|  | 2012 | 238 |  | 238 | 0.25 | 0.05 | 0.70 | 0.70 |  | 0.835133988 |  |
| SNE/MA <br> Winter Flounder | 2010 | 644 |  | 644 | 0.08 | 0.05 | 0.87 | 0.87 |  |  |  |
|  | 2011 | 897 |  | 897 | 0.08 | 0.05 | 0.87 | 0.87 |  |  |  |
|  | 2012 | 1,198 |  | 1,198 | 0.08 | 0.05 | 0.87 | 0.87 |  |  |  |
| Redfish | 2010 | 7,586 |  | 7,586 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.965879893 |  |
|  | 2011 | 8,356 |  | 8,356 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.965879893 |  |
|  | 2012 | 9,224 |  | 9,224 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.965879893 |  |
| White Hake | 2010 | 2,832 |  | 2,832 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.952587679 |  |
|  | 2011 | 3,295 |  | 3,295 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.952587679 |  |
|  | 2012 | 3,638 |  | 3,638 | 0.01 | 0.04 | 0.95 | 0.95 |  | 0.952587679 |  |
| Pollock | 2010 | 3,813 | 520 | 3,293 | 0.06 | 0.06 | 0.88 | 0.88 |  | 0.956936325 |  |
|  | 2011 | 3,813 | 520 | 3,293 | 0.06 | 0.06 | 0.88 | 0.88 |  | 0.956936325 |  |
|  | 2012 | 3,813 | 520 | 3,293 | 0.06 | 0.06 | 0.88 | 0.88 |  | 0.956936325 |  |
| N . <br> Window- <br> pane <br> Flounder | 2010 | 169 |  | 169 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
|  | 2011 | 169 |  | 169 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
|  | 2012 | 169 |  | 169 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
| S. Windowpane Flounder | 2010 | 237 |  | 237 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
|  | 2011 | 237 |  | 237 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
|  | 2012 | 237 |  | 237 | 0.01 | 0.29 | 0.70 | 0.70 |  |  |  |
| Ocean <br> Pout | 2010 | 271 |  | 271 | 0.01 | 0.04 | 0.95 | 0.95 |  |  |  |
|  | 2011 | 271 |  | 271 | 0.01 | 0.04 | 0.95 | 0.95 |  |  |  |
|  | 2012 | 271 |  | 271 | 0.01 | 0.04 | 0.95 | 0.95 |  |  |  |

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| Stock | Year | ABC | Canadian Sharel Allowance | US ABC | State Waters | Other SubComponents | Scallops | Groundfish | Comm Groundfish | Rec Groundfish | $\begin{aligned} & \text { Secto } \\ & \text { r PSC } \end{aligned}$ | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlantic | 2010 | 71 |  | 71 | 0.50 | 0.05 |  | 0.45 | 0.45 |  |  |  |
| Halibut | 2011 | 78 |  | 78 | 0.50 | 0.05 |  | 0.45 | 0.45 |  |  |  |
|  | 2012 | 85 |  | 85 | 0.50 | 0.05 |  | 0.45 | 0.45 |  |  |  |
|  | 2010 | 83 |  | 83 | 0.01 | 0.04 |  | 0.95 | 0.95 |  |  |  |
| Atlantic | 2011 | 83 |  | 83 | 0.01 | 0.04 |  | 0.95 | 0.95 |  |  |  |
| Wolffish | 2012 | 83 |  | 83 | 0.01 | 0.04 |  | 0.95 | 0.95 |  |  |  |

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Table 4 - Distribution of ABC to fishery components
(1) Include s commercial ABC in state waters and other sub-components

| Stock | Year | ABC | Canadian Sharel Allowance | $\begin{aligned} & \text { US } \\ & \text { ABC } \end{aligned}$ | State Waters | Other Sub-Components | Scallops | Groundfish | Comm Groundfish | Rec Groundfish | $\begin{aligned} & \text { Sector } \\ & \text { PSC } \end{aligned}$ | NonSector | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GB Cod | 2010 | 4,812 | 1,012 | 3,800 | 38 | 152 | 0 | 3,610 | 3,610 | 0 | 3,427 | 183 | 0 |
|  | 2011 | 5,616 | 0 | 5,616 | 56 | 225 | 0 | 5,335 | 5,335 | 0 | 5,065 | 270 | 0 |
|  | 2012 | 6,214 | 0 | 6,214 | 62 | 249 | 0 | 5,903 | 5,903 | 0 | 5,605 | 299 | 0 |
| GOM Cod | 2010 | 8,530 | 0 | 8,530 | 566 | 283 | 0 | 8,530 | 5,655 ${ }^{(1)}$ | 2,875 | 4,452 | 355 | 0 |
|  | 2011 | 9,012 | 0 | 9,012 | 597 | 299 | 0 | 9,012 | 5,975 ${ }^{(1)}$ | 3,037 | 4,704 | 375 | 0 |
|  | 2012 | 9,018 | 0 | 9,018 | 598 | 299 | 0 | 9,018 | 5,979 ${ }^{(1)}$ | 3,039 | 4,707 | 375 | 0 |
| GB <br> Haddock | 2010 | 62,515 | 17,612 | 44,903 | 449 | 1,796 | 0 | 42,568 | 42,568 | 0 | 41,382 | 1,186 | 90 |
|  | 2011 | 46,784 | 0 | 46,784 | 468 | 1,871 | 0 | 44,351 | 44,351 | 0 | 43,115 | 1,236 | 94 |
|  | 2012 | 39,846 | 0 | 39,846 | 398 | 1,594 | 0 | 37,774 | 37,774 | 0 | 36,721 | 1,053 | 80 |
| GOM Haddock |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2010 | 1,265 |  | 1,265 | 9 | 37 | 0 | 1,265 | $917{ }^{(1)}$ | 348 | 828 | 41 | 3 |
|  | 2011 | 1,206 |  | 1,206 | 9 | 35 | 0 | 1,206 | $874{ }^{(1)}$ | 332 | 789 | 39 | 2 |
|  | 2012 | 1,013 |  | 1,013 | 7 | 29 | 0 | 1,013 | $734{ }^{(1)}$ | 279 | 663 | 33 | 2 |
| GB <br> Yellowtail <br> Flounder | 2010 | 1,500 | 300 | 1,200 | 0 | 60 | 0 | 1,140 | 1,140 | 0 | 1,066 | 74 | 0 |
|  | 2011 | 1,689 | 608 | 1,081 | 0 | 54 | 0 | 1,027 | 1,027 | 0 | 960 | 67 | 0 |
|  | 2012 | 1,916 | 690 | 1,226 | 0 | 61 | 0 | 1,165 | 1,165 | 0 | 1,089 | 76 | 0 |
| SNE/MA <br> Yellowtail <br> Flounder | 2010 | 493 |  | 493 | 5 | 20 | 0 | 468 | 468 | 0 | 340 | 128 | 0 |
|  | 2011 | 687 |  | 687 | 7 | 27 | 0 | 653 | 653 | 0 | 474 | 179 | 0 |
|  | 2012 | 1,003 |  | 1,003 | 10 | 40 | 0 | 953 | 953 | 0 | 692 | 261 | 0 |
| CC/GOM <br> Yellowtail Flounder | 2010 | 863 |  | 863 | 9 | 35 | 0 | 820 | 820 | 0 | 765 | 55 | 0 |
|  | 2011 | 1,041 |  | 1,041 | 10 | 42 | 0 | 989 | 989 | 0 | 923 | 66 | 0 |
|  | 2012 | 1,159 |  | 1,159 | 12 | 46 | 0 | 1,101 | 1,101 | 0 | 1,027 | 74 | 0 |
| Plaice | 2010 | 3,156 |  | 3,156 | 32 | 126 | 0 | 2,998 | 2,998 | 0 | 2,805 | 193 | 0 |
|  | 2011 | 3,444 |  | 3,444 | 34 | 138 | 0 | 3,272 | 3,272 | 0 | 3,061 | 211 | 0 |
|  | 2012 | 3,632 |  | 3,632 | 36 | 145 | 0 | 3,450 | 3,450 | 0 | 3,228 | 222 | 0 |

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| Stock | Year | ABC | Canadian Sharel Allow- ance | $\begin{gathered} \text { US } \\ \text { ABC } \end{gathered}$ | State Waters | Other Sub- Compo- nents | Scallops | $\begin{aligned} & \text { Ground- } \\ & \text { fish } \end{aligned}$ | Comm Groundfish | Rec Ground- fish | Sector PSC | NonSector | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Witch | 2010 | 944 |  | 944 | 9 | 38 | 0 | 897 | 897 | 0 | 852 | 44 | 0 |
| Flounder | 2011 | 1,369 |  | 1,369 | 14 | 55 | 0 | 1,301 | 1,301 | 0 | 1,236 | 64 | 0 |
|  | 2012 | 1,639 |  | 1,639 | 16 | 66 | 0 | 1,557 | 1,557 | 0 | 1,480 | 77 | 0 |
|  | 2010 | 2,052 |  | 2,052 | 0 | 103 | 0 | 1,949 | 1,949 | 0 | 1,892 | 58 | 0 |
| GB Winter | 2011 | 2,224 |  | 2,224 | 0 | 111 | 0 | 2,113 | 2,113 | 0 | 2,050 | 63 | 0 |
| Flounder | 2012 | 2,543 |  | 2,543 | 0 | 127 | 0 | 2,416 | 2,416 | 0 | 2,344 | 72 | 0 |
| GOM | 2010 | 238 |  | 238 | 60 | 12 | 0 | 166 | 166 | 0 | 139 | 27 | 0 |
| Winter Flounder | 2011 | 238 |  | 238 | 60 | 12 | 0 | 166 | 166 | 0 | 139 | 27 | 0 |
|  | 2012 | 238 |  | 238 | 60 | 12 | 0 | 166 | 166 | 0 | 139 | 27 | 0 |
| SNE/MA | 2010 | 644 |  | 644 | 53 | 32 | 0 | 559 | 559 | 0 | 0 | 559 | 0 |
| Winter | 2011 | 897 |  | 897 | 72 | 45 | 0 | 780 | 780 | 0 | 0 | 780 | 0 |
| Flounder | 2012 | 1,198 |  | 1,198 | 96 | 60 | 0 | 1,042 | 1,042 | 0 | 0 | 1,042 | 0 |
| Redfish | 2010 | 7,586 |  | 7,586 | 76 | 303 | 0 | 7,207 | 7,207 | 0 | 6,961 | 246 | 0 |
|  | 2011 | 8,356 |  | 8,356 | 84 | 334 | 0 | 7,938 | 7,938 | 0 | 7,667 | 271 | 0 |
|  | 2012 | 9,224 |  | 9,224 | 92 | 369 | 0 | 8,763 | 8,763 | 0 | 8,464 | 299 | 0 |
| White Hake | 2010 | 2,832 |  | 2,832 | 28 | 113 | 0 | 2,690 | 2,690 | 0 | 2,563 | 128 | 0 |
|  | 2011 | 3,295 |  | 3,295 | 33 | 132 | 0 | 3,130 | 3,130 | 0 | 2,982 | 148 | 0 |
|  | 2012 | 3,638 |  | 3,638 | 36 | 146 | 0 | 3,456 | 3,456 | 0 | 3,292 | 164 | 0 |
| Pollock | 2010 | 3,813 | 520 | 3,293 | 200 | 200 | 0 | 2,893 | 2,893 | 0 | 2,768 | 125 | 0 |
|  | 2011 | 3,813 | 520 | 3,293 | 200 | 200 | 0 | 2,893 | 2,893 | 0 | 2,768 | 125 | 0 |
|  | 2012 | 3,813 | 520 | 3,293 | 200 | 200 | 0 | 2,893 | 2,893 | 0 | 2,768 | 125 | 0 |
| N. Windowpane Flounder | 2010 | 169 |  | 169 | 2 | 49 | 0 | 118 | 118 | 0 | 0 | 118 | 0 |
|  | 2011 | 169 |  | 169 | 2 | 49 | 0 | 118 | 118 | 0 | 0 | 118 | 0 |
|  | 2012 | 169 |  | 169 | 2 | 49 | 0 | 118 | 118 | 0 | 0 | 118 | 0 |
| S. Windowpane Flounder | 2010 | 237 |  | 237 | 2 | 69 | 0 | 166 | 166 | 0 | 0 | 166 | 0 |
|  | 2011 | 237 |  | 237 | 2 | 69 | 0 | 166 | 166 | 0 | 0 | 166 | 0 |
|  | 2012 | 237 |  | 237 | 2 | 69 | 0 | 166 | 166 | 0 | 0 | 166 | 0 |

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| Stock | Year | ABC | Canadian <br> Sharel <br> Allow- <br> ance | US <br> ABC | State <br> Waters | Other <br> Sub- <br> Compo- <br> nents | Scallops | Ground- <br> fish | Comm <br> Ground- <br> fish | Rec <br> Ground- <br> fish | Sector <br> PSC | Non- <br> Sector |
| :--- | :---: | ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MWT |  |  |  |  |  |  |  |  |  |  |  |  |

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Table 5-ACL adjustments

| Stock | Year | State Waters | Other SubComponents | Scallops | Groundfish | Comm/Non Sector Groundfish | Rec Groundfish | Sector PSC | MWT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GB Cod | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
| GOM Cod | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 1 |
| GB Haddock | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 0.93 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 0.93 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 0.93 |
| GOM Haddock | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 0.93 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 0.93 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.93 | 0.95 | 0.93 |
| GB Yellowtail Flounder | 2010 | 1 | 1 | 1 | 0.97 | 0.97 | 0.95 | 0.97 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.97 | 0.97 | 0.95 | 0.97 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.97 | 0.97 | 0.95 | 0.97 | 1 |
| SNE/MA <br> Yellowtail Flounder | 2010 | 1 | 1 | 1 | 0.93 | 0.93 | 0.95 | 0.93 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.93 | 0.93 | 0.95 | 0.93 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.93 | 0.93 | 0.95 | 0.93 | 1 |
| CC/GOM <br> Yellowtail Flounder | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
| Plaice | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
| Witch Flounder | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |

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| Stock | Year | State <br> Waters | Other Sub- <br> Components | Scallops | Groundfish | Comm/Non <br> Gector <br> Groundfish | Rec <br> Groundfish | Sector PSC |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | MWT

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| Stock | Year | State <br> Waters | Other Sub- <br> Components | Scallops | Groundfish | Comm/Non <br> -Sector <br> Groundfish |  |  |  |
| :--- | :---: | ---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: |
|  | 2010 | 1 | 1 | 1 | 0.95 | 0.95 | Rec <br> Groundfish | Sector PSC | MWT |
| Atlantic Halibut | 2011 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.95 | 0.95 | 0.95 | 0.95 | 1 |
|  | 2010 | 1 | 1 | 1 | 0.9 | 0.93 | 0.95 | 0.95 | 1 |
| Wolffish | 2011 | 1 | 1 | 1 | 0.9 | 0.93 | 0.95 | 0.95 | 1 |
|  | 2012 | 1 | 1 | 1 | 0.93 | 0.93 | 0.95 | 0.95 | 1 |

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Table 6 - 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 <br> ACL |
| :--- | :---: |
| GB cod | Two |
| GOM cod | One |
| GB Yellowtail | Two |
| CC/GOM yellowtail | One |
| SNE/MA Yellowtail | One |
| Plaice | Five |
| Witch Flounder | Five |
| SNE/MA Winter | One |
| Flounder |  |
| GB Winter Flounder | Two |
| White Hake | Two |
| Pollock | Two |

Table 7 - 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 <br> (regular) DAS <br> Program | CAI Hook Gear <br> SAP | Eastern <br> US/CA <br> Haddock SAP | Southern CAII <br> 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 Yellowtail | $100 \%$ | NA | NA |  |
| SNE/MA Winter Flounder | $100 \%$ | NA | NA |  |
| Witch Flounder | $100 \%$ | NA | NA |  |
| GB Yellowtail | $50 \%$ | NA | $50 \%$ |  |
| GB Winter Flounder | $50 \%$ | NA | $50 \%$ |  |
| Pollock | $50 \%$ | $16 \%$ | $34 \%$ |  |

