

# 4

Draft Framework Adjustment 47  
Economic Impacts Analysis  
Effect of ACLs on Fishing Revenues

#### 7.4.1.5 Annual Catch Limit Specifications

This measure considers two options: Option 1/No Action, and Option 2/Revised ABCs/ACLs. Option 2 includes a range of possible ABCs for GOM cod. In order to reflect the range the analyses that follow are performed for Option 1 (No Action) and Option 2 (Revised ACLs, Low and High). Note that Option 2 has Low and High ACL sub-options that change the allocation for GOM cod in order to capture the range of possible GOM cod ABCs/ACLs.

This analysis focuses on sector vessels, which constitute greater than 98% of the commercial groundfish fishery. ACE allocations are scheduled to remain relatively stable from 2011 to 2012 for all options with the exception of Georges Bank yellowtail flounder and Gulf of Maine cod (Table 63). All revenues are reported in nominal dollars. The revenues are based on VTR trips reported during FY 2010.

**Table 63 –Sector ACE allocations FY2010 – 2012, live pounds**

SPECIES	STOCK	2010	2011	2012 <i>Option 1</i>	2012 <i>Option 2</i>	
					<i>Low</i>	<i>High</i>
American plaice		5,836,518	6,697,766	6,761,576	7,063,609	7,063,609
Cod	GB	7,008,304	9,277,222	10,244,878	9,934,027	9,934,027
	GOM	9,355,985	10,408,214	10,414,634	577,611	23,097,825
Haddock	GB	83,914,795	67,575,126	56,458,165	60,120,042	60,120,042
	GOM	1,683,057	1,717,432	1,388,912	1,426,390	1,426,390
Halibut						
Ocean pout						
Pollock		34,156,917	30,530,173	27,826,739	27,597,458	27,597,458
Redfish		14,109,702	16,545,996	17,727,366	18,265,293	18,265,293
White hake		5,292,674	6,494,937	6,896,058	7,169,431	7,169,431
Windowpane	North					
	South					
Winter flounder	GB	3,980,218	4,393,893	4,909,693	7,416,348	7,416,348
	GOM	288,899	330,699	291,010	1,496,938	1,496,938
	SNEMA					
Witch flounder		1,745,117	2,669,847	3,099,699	3,128,359	3,128,359
Wolffish						
Yellowtail flounder	CCGOM	1,581,720	2,012,857	2,151,711	2,239,896	2,239,896
	GB	1,738,477	2,473,632	1,467,617	471,789	471,789
	SNE	504,685	890,684	1,216,973	1,289,727	1,289,727
<b>GRAND TOTAL</b>		<b>171,197,068</b>	<b>162,018,479</b>	<b>150,855,030</b>	<b>148,196,919</b>	<b>170,717,133</b>

***Analyzing impacts using a quota change model***

To analyze potential impacts on vessels enrolled in the sector program, a simple Monte Carlo simulation is used to estimate the catch of all 20 groundfish stocks simultaneously. This approach is conditioned on the technology, fishing practices and stock levels/catchability that existed during FY 2010. Such an approach is necessary because one cannot assume that all allocated ACE will be converted into catch. Performance during the first year of quota-based fishing demonstrated that either existing technology is inadequate to allow for targeting stocks with excess ACE capacity, or alternatively ACE allocations exceed resource availability (Table 64).

Changes in aggregate ACE allocations will not scale linearly with revenues—allocating more fish (or less) will not result in generating more or less gross revenues. For example, critical stocks such as white hake and GOM cod, both of which were somewhat constraining in FY2010, may see ACE allocations moving in opposite directions under Option 2-Low, with white hake increasing and GOM cod decreasing by nearly 95%. Option 1, which maintains allocations for most stocks, contains a roughly 40% reduction in the GB yellowtail flounder allocation. Option 2-High, on paper perhaps the most liberal of the three Options, includes an 80% reduction for this important stock. Jointness of production (the catch of several stocks simultaneously) ensures that increases and/or restrictions on the catch of one stock will have impacts on the catchability of all others, though technologies such as modified gears and improved electronics may help to overcome these limitations.

**Table 64 – FY 2010 ACE allocations and catch for sector vessels**

SPECIES	STOCK	ACE	2010	
			Catch	Utilization
American plaice		5,836,518	3,336,272	57%
Cod	GB	7008304	6,000,952	86%
	GOM	9,355,985	7,911,669	85%
Haddock	GB	83,914,795	18,266,338	22%
	GOM	1,683,057	818,239	49%
Halibut				
Ocean pout				
Pollock		34,156,917	11,483,386	34%
Redfish		14,109,702	4,702,621	33%
White hake		5,292,674	4,951,889	94%
Windowpane	North			
	South			
Winter flounder	GB	3,980,218	3,048,553	77%
	GOM	288,899	176,784	61%
Witch flounder	SNEMA			
		1,745,117	1,540,038	88%
Wolffish				
Yellowtail flounder	CCGOM	1,581,720	1,233,481	78%
	GB	1,738,477	1,632,512	94%
	SNE	504,685	351,362	70%
<b>GRAND TOTAL</b>		<b>171,197,068</b>	<b>65,454,096</b>	<b>38%</b>

The model draws from actual (FY 2010) fishing trips in an effort to predict future catch and gross revenues conditioned on the proposed changes in ACE allocations. VTR data is adjusted by average sector-specific discard rates and landed/live pound conversions to compute stock-specific catch for every VTR trip, along with the corresponding gross revenues. Trip characteristics such as gear type, vessel size and hailing port/state are maintained. These records are prorated to match official dealer reporting on a species and stock level. The model simulates one year of fishing by randomly selecting and arraying FY 2010 trips and summing the catches until simulated catch from one of the allocated stocks exceeds the allocated ACE. At this point the total landings for all stocks are recorded. 250 simulations are run and results are reported at the 95<sup>th</sup> percentile. Gross groundfish revenues are in constant 2010 dollars.

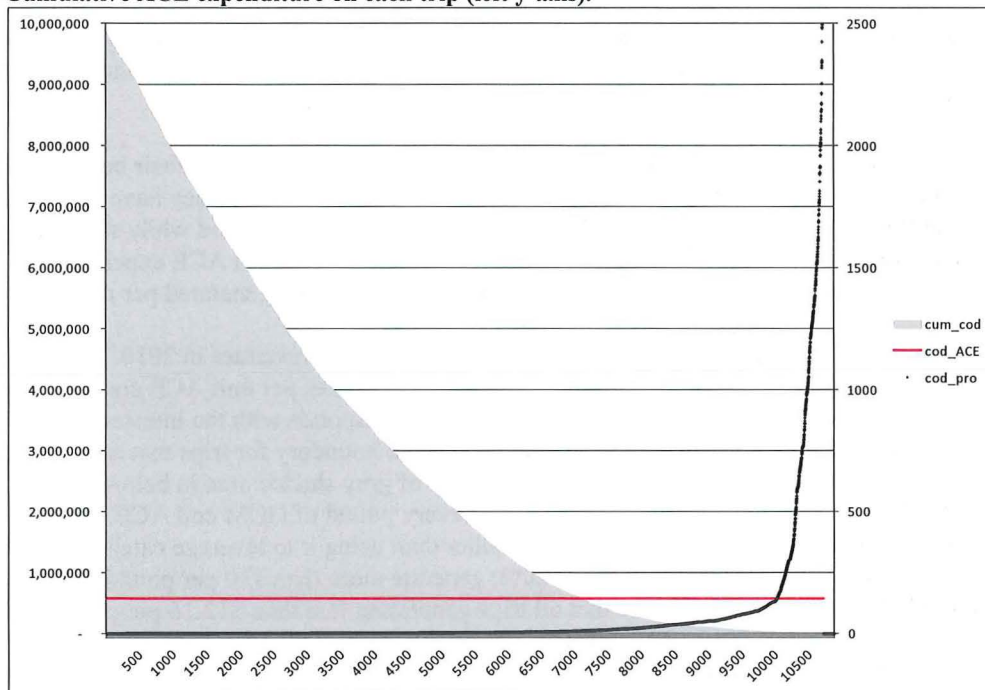
Marginal changes in quota allocations on the order of 15% or less are relatively straightforward to model as they are not likely to induce significant changes in fishing behavior or fishermen's use of technology.

In fact, continuous improvements in how fishermen use their quota and improve their fishing practices under the quota-based management system would be expected. However, two non-marginal changes in the proposed options stand out. The first is the GB yellowtail flounder allocation, which is reduced by 40% from FY 2011 under Option 1 and 81% under Option 2. The second is the 95% reduction in GOM cod allocations under Option 2-Low.

Both changes are drastic. However, it can be assumed that fishermen will change their behavior to whatever degree they may in order to redirect their efforts on stocks for which they have ample quota. Data show that it is possible to avoid both GB yellowtail flounder and GOM cod while still fishing in their respective stock areas. The critical change is in the relationship between ACE expended and total revenues generated. Essentially the question is “how much money can be generated per pound of ACE?”

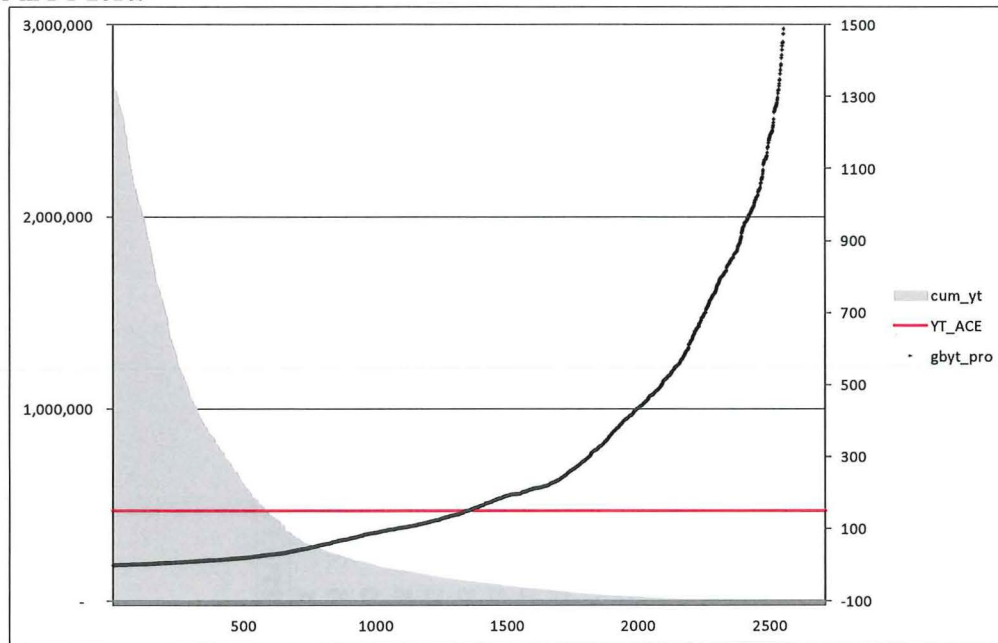
Figure 36 shows how fisherman used their cod ACE to generate gross revenues in 2010. Under a drastically reduced GOM cod quota, trips that maximize their revenues per unit ACE are most likely to occur in the future. The cod ACE to total revenue ratio that corresponds with the intersection of the cumulative ACE expenditure and the new ACE amount sets the boundary for trips that are likely to occur going forward (the intersection of the red line and boundary of grey shaded area in below figure). More than 70% of GOM cod trips generate less than \$7.50 for every pound of GOM cod ACE. This indicates that most vessels catching GOM cod are targeting it rather than using it to leverage catches of other stocks. A small minority of trips, on the order of 20%, generate more than \$10 per pound of GOM cod ACE. To model Option 2-Low we assume that all trips generating less than \$12.16 per pound of GOM cod ACE will not occur in FY 2012. This level optimizes the catch of all other stocks conditioned on the new ACE constraints—to maximize total revenues from the groundfish resource, fishermen will need to generate on the order of \$12 per pound of GOM cod ACE or more in 2012, which means targeting stocks other than cod. Note that this model does not explicitly consider changes in prices that may occur due to low ABCs for GOM cod and GB yellowtail flounder when determining which trips will take place. Large changes in prices could result in a change in the trips that are taken.

**Figure 36 – Dollars generated per pound of GOM cod ACE for all trips catching GOM cod in FY 2010 (right y-axis). Cumulative ACE expenditure on each trip (left y-axis).**



A similar problem is posed by GB yellowtail flounder. However, Figure 37 shows that fishermen on Georges Bank use their yellowtail flounder ACE much differently than GOM fishermen use their cod ACE. Only about 15% of trips on Georges Bank generated \$10 or less in gross revenue per pound of yellowtail ACE exhausted. The equivalent percentage for GOM cod was 70%. This indicates that far more fishing trips are able to leverage their GB yellowtail flounder quota in the service of catching other stocks. In fact, on over half the trips reported as taking place on Georges Bank, fishermen were able to generate in excess of \$100 per pound of yellowtail ACE. GB yellowtail is, then, much easier to avoid than GOM cod. To optimize the catch of other stocks, \$29.10 in revenues need to be generated per pound of ACE, and this is the assumed threshold used when excluding trips from the model under Option 2. Note that when trips are omitted from the model, other trips will be selected with a higher probability and frequency, changing not only the distribution of the catch but the distribution of the vessels catching it.

**Figure 37 – Dollars generated per pound of GB yellowtail flounder ACE for all trips catching GB yellowtail flounder in FY 2010.**



**Option 1: No Action**

Option 1 is predicted to generate the highest gross groundfish revenue at \$114 million, assuming prices remain constant at 2010 levels. This option will likely have positive net benefits relative to FY 2010 across all hailing ports and states with the exception of Rhode Island, which is may see losses of roughly 30% of gross revenues.

**Table 65 – Predicted catch and gross revenue, Option 1**

# runs = 250

<b>SPECIES</b>	<b>STOCK</b>	<b>Catch</b>	<b>ACE</b>	<b>pct</b>	<b>Gross revenue</b>	<b>Percent revenue change from FY10</b>
American plaice	all	4,555,823	6,761,576	67%	\$ 5,861,764	27.5%
Cod	GB	8,598,489	10,244,878	84%	\$ 22,466,502	36.3%
	GOM	10,286,800	10,414,634	99%	\$ 14,854,483	23.8%
Haddock	GB	24,984,267	56,458,165	44%	\$ 27,430,522	28.3%
	GOM	1,146,057	1,388,912	83%	\$ 1,057,557	72.9%
Halibut	all	81,735	-	0%	\$ 318,590	10.5%
		-	-	0%	\$ -	
Ocean pout	all	192,103	-	0%	\$ 939	-17.5%
Pollock	all	16,009,575	27,826,739	58%	\$ 14,024,913	32.4%
Redfish	all	7,340,072	17,727,366	41%	\$ 3,766,582	42.0%
White hake	all	6,152,143	6,896,058	89%	\$ 6,077,986	20.5%
Windowpane	North	467,271	-	0%	\$ 49,183	82.5%
	South	337,903	-	0%	\$ 590	0.0%
Winter flounder	GB	4,419,436	4,909,693	90%	\$ 8,414,458	46.9%
	GOM	248,828	291,010	86%	\$ 438,316	32.1%
	SNEMA	176,573	-	0%	\$ 823,166	10.2%
Witch flounder	all	2,132,350	3,099,699	69%	\$ 5,015,256	22.0%
Wolffish	all	53,415	-	0%	\$ 233	96.1%
Yellowtail flounder	CCGOM	1,710,901	2,151,711	80%	\$ 912,610	16.0%
	GB	1,467,353	1,467,617	100%	\$ 2,498,444	-14.5%
	SNE	443,806	1,216,973	36%	\$ 104,786	34.5%
<b>GRAND TOTAL</b>		<b>90,804,899</b>	<b>150,855,030</b>	<b>60%</b>	<b>\$114,116,878</b>	<b>29.1%</b>



**Table 66 - Predicted gross groundfish revenues by hail State, major Port and size class, Option 1**

# runs = 250	Option 1	Percent revenue change from FY10
<b>CONNECTICUT</b>	<b>\$3,250</b>	<b>323%</b>
<b>MASSACHUSETTS</b>	<b>\$104,459,748</b>	<b>30%</b>
>30	\$0	-100%
30-50	\$21,277,379	33%
50-75	\$36,156,504	36%
>75	\$57,158,797	26%
<i>Boston</i>	\$19,060,538	32%
<i>Chatham</i>	\$3,341,851	35%
<i>Gloucester</i>	\$32,711,906	30%
<i>New Bedford</i>	\$45,815,972	30%
<b>MAINE</b>	<b>\$5,402,536</b>	<b>29%</b>
>30		
30-50	\$3,214,570	52%
50-75	\$1,729,277	19%
>75	\$458,689	-25%
<i>Portland</i>	\$4,426,964	30%
<b>NEW HAMPSHIRE</b>	<b>\$2,308,174</b>	<b>28%</b>
>30		
30-50	\$2,206,646	26%
50-75	\$101,528	72%
>75		
<b>NEW JERSEY</b>	<b>\$3,598</b>	<b>0%</b>
<b>NEW YORK</b>	<b>\$80,287</b>	<b>29%</b>
<b>RHODE ISLAND</b>	<b>\$1,857,251</b>	<b>8%</b>
>30		
30-50	\$19,731	70%
50-75	\$1,264,239	23%
>75	\$572,241	-16%
<i>Point Judith</i>	\$1,852,455	8%
<b>OTHER</b>	<b>\$27</b>	<b>100%</b>
<b>GRAND TOTAL</b>	<b>\$114,114,870</b>	<b>29%</b>

**Option 2: Revised Annual Catch Limit Specifications (Preferred Alternative)**

***Option 2-Low***

Option 2-Low is estimated to have a negative economic aggregate impact, reducing gross groundfish revenues by approximately 25% relative to FY2010 and 50% relative to Option 1. GOM cod is the constraining stock.

This option does allow sustained catches for other GOM species such as plaice and witch flounder and produces only 25% less gross revenue from groundfish than observed in FY 2010. This is due to a pronounced shift in fishery location in the GOM as vessels attempt to avoid cod while maximizing revenues from other stocks (Figure 38). The conditions that allowed those high-revenue-per-cod trips to happen (environmental, abundance, etc.) are assumed to persist or be replicable, which may not be the case. Alternatively, catch rates could increase as stocks rebuild, making the model assumptions conservative. Further, there is every reason to believe that given the strong incentive to avoid GOM cod under this option, fishermen will become more adept at using their cod ACE to maximize total revenues by using improved technology and/or skill, allowing higher catches of non-binding stocks.

This option will have a negative economic impact across all size classes, gear types and nearly all hailing ports. The lone exception is Chatham, MA, which is predicted to maintain its revenue from groundfish. Behind Chatham, Boston is the only other port that is predicted to see a decline in gross groundfish revenues of less than 25%. New Hampshire is predicted to be the hardest hit by the GOM cod quotas, losing over 90% of its gross revenues. In all likelihood these nominal losses represent a shift in fishing from smaller inshore vessels. While Massachusetts as a whole is predicted to suffer only a 33% loss in gross revenues, Gloucester in particular is predicted to see over a 40% gross groundfish revenue loss. In particular it appears to be the 30-50 foot vessel size class that is likely to be most adversely affected as fishing in the GOM shifts from the nearshore areas west of the Western GOM closed area to the deeper waters further east (Figure 38). Gillnetters appear to be most negatively affected gear type (Table 72).

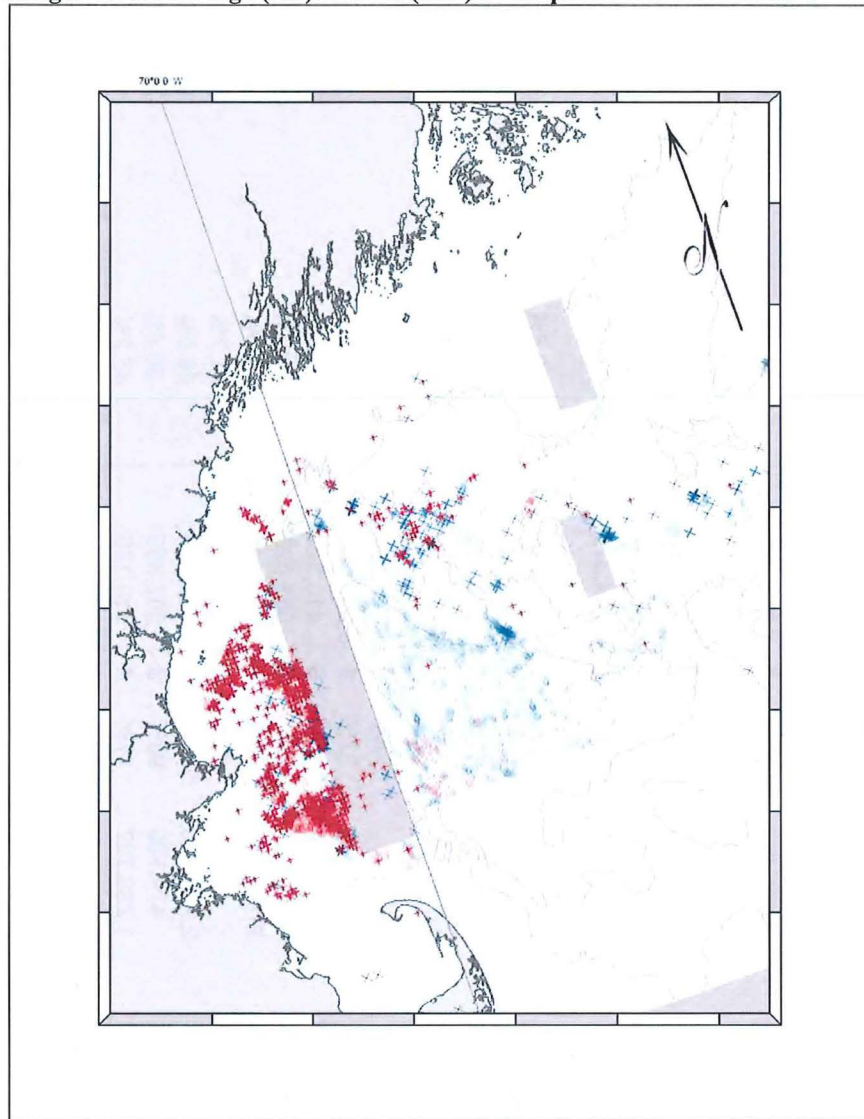
**Table 67 - Predicted catch and gross revenue, Option 2 - Low**  
# runs = 250

SPECIES	STOCK	Catch	ACE	pct	Gross revenue	Percent revenue change from FY10	Percent revenue change from Option 1
American plaice	all	3,224,950	7,063,609	30%	\$ 4,240,364	-7.8%	-28%
Cod	GB	5,629,079	9,934,027	39%	\$ 14,551,700	-11.7%	-35%
	GOM	577,291	577,611	100%	\$ 811,609	-93.2%	-95%
Haddock	GB	15,742,097	60,120,042	18%	\$ 17,216,690	-19.5%	-37%
	GOM	678,543	1,426,390	39%	\$ 554,481	-9.4%	-48%
Halibut	all	50,913	-	0%	\$ 207,816	-27.9%	-35%
		-	-	0%	\$ -		
Ocean pout	all	132,556	-	0%	\$ 338	-70.3%	-64%
Pollock	all	9,470,989	27,597,458	23%	\$ 8,045,332	-24.1%	-43%
Redfish	all	4,549,371	18,265,293	17%	\$ 2,341,542	-11.7%	-38%
White hake	all	4,365,190	7,169,431	43%	\$ 4,253,578	-15.7%	-30%
	North	276,778	-	0%	\$ 31,671	17.5%	-36%
Windowpane	South	254,766	-	0%	\$ 1,128	91.2%	91%
	GB	2,073,581	7,416,348	16%	\$ 3,928,710	-31.4%	-53%
Winter flounder	GOM	71,961	1,496,938	5%	\$ 123,453	-62.8%	-72%
	SNEMA	151,147	-	0%	\$ 866,648	16.1%	5%
Witch flounder	all	1,262,195	3,128,359	29%	\$ 2,897,564	-29.5%	-42%
Wolffish	all	32,589	-	0%	\$ 2	-98.7%	-99%
Yellowtail flounder	CCGOM	861,911	2,239,896	33%	\$ 471,702	-40.0%	-48%
	GB	397,078	471,789	57%	\$ 514,586	-82.4%	-79%
	SNE	327,159	1,289,727	20%	\$ 71,660	-8.0%	-32%
<b>GRAND TOTAL</b>		<b>50,130,142</b>	<b>148,196,919</b>	<b>34%</b>	<b>\$ 61,130,575</b>	<b>-30.8%</b>	<b>-46%</b>

**Table 68 - Predicted gross groundfish revenues by hail state, major port and size class, Option 2-Low**

<i># runs = 250</i>	<b>Option 2 - Low</b>	<b>Percent revenue change from FY10</b>	<b>Percent revenue change from Option 1</b>
<b>CONNECTICUT</b>	<b>\$8,921</b>	<b>1062%</b>	<b>175%</b>
<b>MASSACHUSETTS</b>	<b>\$57,950,657</b>	<b>-28%</b>	<b>-45%</b>
>30	\$0	-100%	
30-50	\$8,021,622	-50%	-62%
50-75	\$17,331,292	-35%	-52%
>75	\$36,828,697	-19%	-36%
<i>Boston</i>	\$11,530,125	-20%	-40%
<i>Chatham</i>	\$2,393,955	-4%	-28%
<i>Gloucester</i>	\$17,521,848	-31%	-46%
<i>New Bedford</i>	\$25,305,476	-28%	-45%
<b>MAINE</b>	<b>\$1,930,104</b>	<b>-54%</b>	<b>-64%</b>
>30			
30-50	\$787,337	-63%	-76%
50-75	\$838,413	-42%	-52%
>75	\$304,355	-50%	-34%
<i>Portland</i>	\$1,649,427	-52%	-63%
<b>NEW HAMPSHIRE</b>	<b>\$158,950</b>	<b>-91%</b>	<b>-93%</b>
>30			
30-50	\$158,950	-91%	-93%
50-75	\$0	-100%	-100%
>75			
<b>NEW JERSEY</b>	<b>\$7,196</b>	<b>100%</b>	<b>100%</b>
<b>NEW YORK</b>	<b>\$61,314</b>	<b>-1%</b>	<b>-24%</b>
<b>RHODE ISLAND</b>	<b>\$1,008,394</b>	<b>-42%</b>	<b>-46%</b>
>30			
30-50	\$2,084	-82%	-89%
50-75	\$677,100	-34%	-46%
>75	\$328,380	-52%	-43%
<i>Point Judith</i>	\$1,004,293	-42%	-46%
<b>OTHER</b>	<b>\$13</b>	<b>0%</b>	<b>-50%</b>
<b>GRAND TOTAL</b>	<b>\$61,125,550</b>	<b>-31%</b>	<b>-46%</b>

**Figure 38 – Fishing locations for high (red) and low (blue) cod trips. VTR is + and Observer is <>**



***Option 2-High***

Option 2-High is estimated to generate about 16% less gross revenue from groundfish than Option 1, at \$95.6 million, but is estimated to generate positive economic impacts relative to the FY2010 fishing year, as higher quotas for binding stocks like white hake and GOM cod translate into 20-30% higher gross groundfish revenues. GB yellowtail and GOM cod are predicted to be the binding quota stocks under this option.

Table 69 – Predicted catch and gross revenue, Option 2 - High

# runs = 250

SPECIES	STOCK	Catch	ACE	pct	Gross revenue	Percent revenue change from FY10	Percent revenue change from Option 1
American plaice	all	4,414,191	7,063,609	62%	\$ 5,797,353	26.1%	-1%
Cod	GB	6,945,753	9,934,027	70%	\$ 18,096,727	9.8%	-19%
	GOM	10,071,773	23,097,825	44%	\$ 14,522,636	21.0%	-2%
Haddock	GB	19,290,494	60,120,042	32%	\$ 20,967,428	-1.9%	-24%
	GOM	1,418,209	1,426,390	99%	\$ 1,221,174	99.6%	15%
Halibut	all	73,322	-	0%	\$ 344,376	19.5%	8%
		-	-	0%	\$ -		
Ocean pout	all	163,837	-	0%	\$ 1,261	10.8%	34%
Pollock	all	14,784,328	27,597,458	54%	\$ 12,916,807	21.9%	-8%
Redfish	all	6,092,781	18,265,293	33%	\$ 3,219,909	21.4%	-15%
White hake	all	6,080,081	7,169,431	85%	\$ 5,782,972	14.7%	-5%
Windowpane	North	413,660	-	0%	\$ 61,438	128.0%	25%
	South	316,674	-	0%	\$ 519	-12.0%	-12%
	GB	2,754,011	7,416,348	37%	\$ 5,295,500	-7.6%	-37%
Winter flounder	GOM	228,797	1,496,938	15%	\$ 410,320	23.6%	-6%
	SNEMA	151,814	-	0%	\$ 563,025	-24.6%	-32%
Witch flounder	all	2,049,469	3,128,359	66%	\$ 4,729,652	15.0%	-6%
Wolffish	all	47,853	-	0%	\$ 236	98.7%	1%
Yellowtail flounder	CCGOM	1,812,185	2,239,896	81%	\$ 995,570	26.5%	9%
	GB	450,828	471,789	96%	\$ 567,359	-80.6%	-77%
	SNE	477,359	1,289,727	37%	\$ 113,136	45.2%	8%
<b>GRAND TOTAL</b>		<b>78,037,421</b>	<b>170,717,133</b>	<b>46%</b>	<b>\$ 95,607,397</b>	<b>8.2%</b>	<b>-16%</b>

Table 70 - Predicted gross groundfish revenues by hail State, major Port and size class, Option 2-High

<i># runs = 250</i>	Option 2 - High	Percent revenue change from FY10	Percent revenue change from Option 1
<b>CONNECTICUT</b>	<b>\$6,440</b>	739%	98%
<b>MASSACHUSETTS</b>	<b>\$86,822,351</b>	8%	-17%
>30	\$14,892	-25%	
30-50	\$16,070,200	0%	-24%
50-75	\$30,276,528	14%	-16%
>75	\$45,948,418	1%	-20%
<i>Boston</i>	\$17,229,686	19%	-10%
<i>Chatham</i>	\$2,996,411	21%	-10%
<i>Gloucester</i>	\$30,209,424	20%	-8%
<i>New Bedford</i>	\$32,757,610	-7%	-29%
<b>MAINE</b>	<b>\$5,138,086</b>	23%	-5%
>30			
30-50	\$3,035,355	43%	-6%
50-75	\$1,651,764	14%	-4%
>75	\$450,967	-26%	-2%
<i>Portland</i>	\$4,204,255	23%	-5%
<b>NEW HAMPSHIRE</b>	<b>\$2,163,324</b>	20%	-6%
>30			
30-50	\$2,095,679	20%	-5%
50-75	\$67,645	15%	-33%
>75			
<b>NEW JERSEY</b>	<b>\$3,598</b>	0%	0%
<b>NEW YORK</b>	<b>\$100,553</b>	62%	25%
<b>RHODE ISLAND</b>	<b>\$1,372,767</b>	-20%	-26%
>30			
30-50	\$9,294	-20%	-53%
50-75	\$1,041,045	1%	-18%
>75	\$321,584	-53%	-44%
<i>Point Judith</i>	\$1,368,671	-20%	-26%
<b>OTHER</b>	<b>\$27</b>	100%	0%
<b>GRAND TOTAL</b>	<b>\$95,607,147</b>	8%	-16%

***Summary of ACL impacts***

Relative to FY 2010, Option 1 and Option 2-High are predicted to have net positive economic impacts for vessels landing groundfish from all states with the exception of Rhode Island, which may see declines in gross revenues from groundfish under Option 2-High. This is due to the reduced Georges Bank yellowtail flounder ACE. The quota change model excluded a number of directed yellowtail trips on Georges Bank made by vessels from Point Judith. As the model makes no assumptions about vessel-level behavior changes, these trips were assumed to be lost and the unused ACE is assumed to be available for leasing. Option 2-High also will decrease gross revenues from fishing for the port of New Bedford, though these reductions are offset by increases in gross revenues elsewhere in Massachusetts, particularly in Gloucester.

Option 2-Low will have negative economic impacts across all ports, size classes and gear types. Small vessels and gillnetters in the inshore Gulf of Maine are predicted to be most adversely affected. Under this Option, New Hampshire is predicted to lose over 90% of its gross revenues relative to FY 2010.

These estimates are for changes in gross revenues from fishing, and they do not account for corresponding changes in owner-level income resulting from ACE leasing.

**Table 71 – Summary of impacts by hail State, relative to FY2010**

	<b>Option 1</b>	<b>Option 2-Low</b>	<b>Option 2-High</b>
<b>CONNECTICUT</b>	-	-	-
<b>MASSACHUSETTS</b>	30%	-28%	8%
<b>MAINE</b>	29%	-54%	23%
<b>NEW HAMPSHIRE</b>	28%	-91%	20%
<b>NEW JERSEY</b>	-	-	-
<b>NEW YORK</b>	29%	-1%	62%
<b>RHODE ISLAND</b>	8%	-42%	-20%



Table 72 – Summary of impacts by gear type

	Option 1		Option 2 - Low		Option 2 - High	
Otter trawl	\$100,626,172	88.2%	\$56,897,259	93.1%	\$82,770,109	86.6%
Gillnet	\$11,009,495	9.6%	\$2,688,302	4.4%	\$10,470,839	11.0%
Longline	\$2,479,204	2.2%	\$1,539,989	2.5%	\$2,366,200	2.5%
<b>GRAND TOTAL</b>	<b>\$114,114,870</b>		<b>\$61,125,550</b>		<b>\$95,607,147</b>	

Table 73 – Summary of impacts by vessel size class

	Option 1		Option 2 - Low		Option 2 - High	
>30	\$69,185	0.1%	\$0	0.0%	\$60,698	0.1%
30-50	\$16,574,192	14.5%	\$4,788,396	7.8%	\$15,757,884	16.5%
50-75	\$39,278,610	34.4%	\$18,867,096	30.9%	\$33,061,249	34.6%
>75	\$58,192,884	51.0%	\$37,470,058	61.3%	\$46,727,317	48.9%
<b>GRAND TOTAL</b>	<b>\$114,114,870</b>		<b>\$61,125,550</b>		<b>\$95,607,147</b>	

Table 74 – Summary of impacts by hailing port state

	Option 1		Option 2 - Low		Option 2 - High	
CONNECTICUT	\$3,250	0.0%	\$8,921	0.0%	\$6,440	0.0%
MASSACHUSETTS	\$104,459,748	91.5%	\$57,950,657	94.8%	\$86,822,351	90.8%
MAINE	\$5,402,536	4.7%	\$1,930,104	3.2%	\$5,138,086	5.4%
NEW HAMPSHIRE	\$2,308,174	2.0%	\$158,950	0.3%	\$2,163,324	2.3%
NEW JERSEY	\$3,598	0.0%	\$7,196	0.0%	\$3,598	0.0%
NEW YORK	\$80,287	0.1%	\$61,314	0.1%	\$100,553	0.1%
RHODE ISLAND	\$1,857,251	1.6%	\$1,008,394	1.6%	\$1,372,767	1.4%
<b>GRAND TOTAL</b>	<b>\$114,114,843</b>		<b>\$61,125,537</b>		<b>\$95,607,120</b>	

