

## Capacity Reduction Alternative 2 Overview

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“**Alternative 2:** Bidders are required to surrender all federal permits upon acceptance of their bid.”

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Potential impacts:

As we discussed in the “Methods” document, Alternative 2 was simulated using the Vessels-for-sale bid estimation model. In addition to total capacity removed, we tracked the following metrics:

- (1) Number of groundfish permits and percent-of-total retired
- (2) Number of allocated A-DAS and percent-of-total retired<sup>1</sup>
- (3) Number of active A-DAS and percent-of-total retired<sup>1</sup>
- (4) Number of latent A-DAS and percent-of-total retired<sup>1</sup>
- (5) Number of leasee A-DAS and percent-of-total retired<sup>1</sup>
- (6) Pounds of groundfish history and percent-of-total retired<sup>2</sup>
- (7) Number of loligo moratorium permits retained (Alt1 and Alt3-BTI) or retired (Alt2 and Alt3-ATI)
- (8) Number of illex moratorium permits retained (Alt1 and Alt3-BTI) or retired (Alt2 and Alt3-ATI)
- (9) Number of monkfish category C moratorium permits retained (Alt1 and Alt3-BTI) or retired (Alt2 and Alt3-ATI)
- (10) Number of monkfish category D moratorium permits retained (Alt1 and Alt3-BTI) or retired (Alt2 and Alt3-ATI)

The results are included in the following tables and figures.

Figure 1 – Results of Alternative 2 simulation with varying numbers of bids submitted and \$100 million dollars allocated

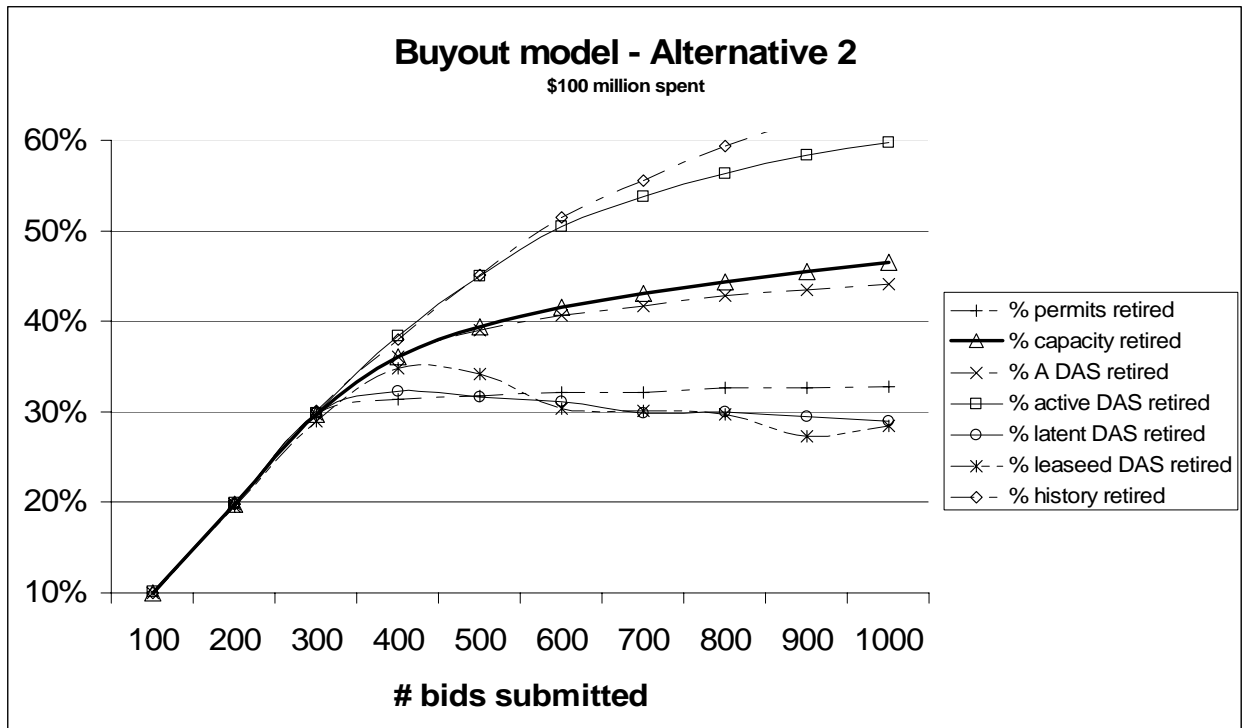


Figure 2 - Results of Alternative 2 simulation with varying numbers of bids submitted and \$80 million dollars allocated

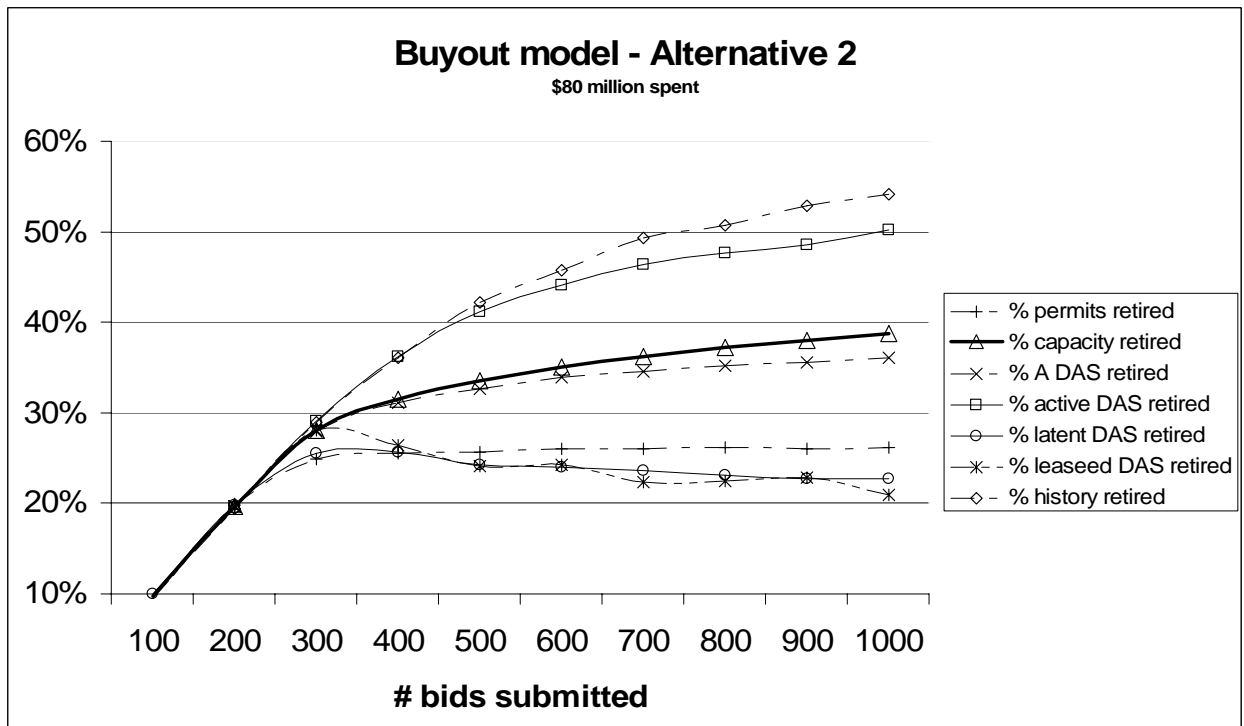


Table 1 - Results of Alternative 2 simulation with varying numbers of bids submitted and \$100 million dollars allocated

# bids placed	# permits retired	# capacity retired (capacity units)	# A DAS retired	# active DAS retired	# latent DAS retired	# leaseed DAS retired	# history retired (lbs groundfish)	# loligo permits retired	# illex permits retired	# monk C permits retired	# monk D permits retired
100	100	13,798,702	4,367	3,238	1,900	-728	22,745,565	27	5	18	30
200	200	27,379,891	8,685	6,362	3,788	-1,460	44,792,994	54	8	37	59
300	300	41,180,481	13,035	9,574	5,704	-2,160	68,306,888	82	12	56	89
400	316	50,074,952	15,836	12,292	6,169	-2,598	86,195,886	82	9	62	105
500	320	54,685,383	17,100	14,414	6,059	-2,546	102,291,346	80	8	73	115
600	324	57,551,051	17,832	16,164	5,943	-2,266	116,689,199	80	8	79	127
700	325	59,789,773	18,266	17,199	5,723	-2,242	126,056,164	79	8	87	136
800	329	61,528,457	18,786	18,039	5,747	-2,217	134,636,586	76	7	91	141
900	329	63,114,617	19,051	18,699	5,629	-2,039	140,599,611	81	7	98	142
1000	331	64,496,623	19,370	19,117	5,537	-2,120	143,145,125	77	7	104	141
<b>FLEET TOTALS:</b>											
	1008	138,633,560	43,864	32,015	19,134	-7,459	226,698,252	274	41	187	298
# bids placed	% permits retired	% capacity retired	% A DAS retired	% active DAS retired	% latent DAS retired	% leaseed DAS retired	% history retired				
100	9.9%	10.0%	10.0%	10.1%	9.9%	9.8%	10.0%				
200	19.8%	19.8%	19.8%	19.9%	19.8%	19.6%	19.8%				
300	29.7%	29.7%	29.7%	29.9%	29.8%	29.0%	30.1%				
400	31.4%	36.1%	36.1%	38.4%	32.2%	34.8%	38.0%				
500	31.8%	39.4%	39.0%	45.0%	31.7%	34.1%	45.1%				
600	32.2%	41.5%	40.7%	50.5%	31.1%	30.4%	51.5%				
700	32.2%	43.1%	41.6%	53.7%	29.9%	30.1%	55.6%				
800	32.7%	44.4%	42.8%	56.3%	30.0%	29.7%	59.4%				
900	32.6%	45.5%	43.4%	58.4%	29.4%	27.3%	62.0%				
1000	32.8%	46.5%	44.2%	59.7%	28.9%	28.4%	63.1%				

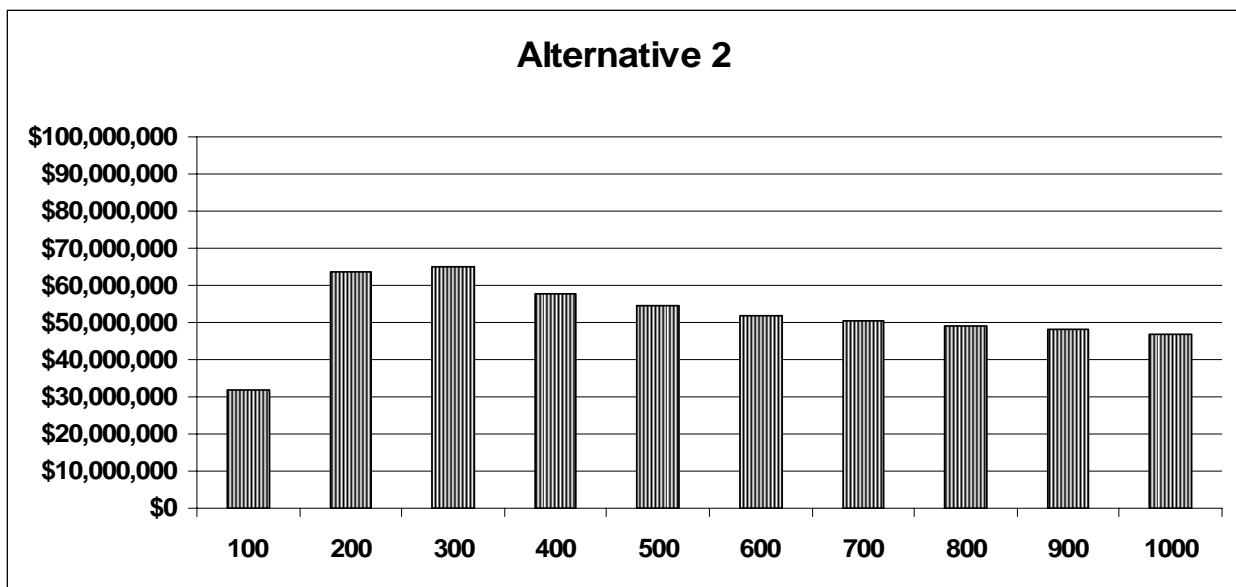
Table 2 - Results of Alternative 2 simulation with varying numbers of bids submitted and \$80 million dollars allocated

# bids placed	# permits retired	# capacity retired (capacity units)	# A DAS retired	# active DAS retired	# latent DAS retired	# leaseed DAS retired	# history retired (lbs groundfish)	# loligo permits retired	# illex permits retired	# monk C permits retired	# monk D permits retired
100	100	13,486,405	4,312	3,120	1,906	-712	21,961,719	27	4	18	30
200	200	27,298,047	8,652	6,255	3,790	-1,471	43,961,064	55	8	37	58
300	251	38,883,311	12,280	9,312	4,893	-2,094	65,747,682	66	8	49	81
400	257	43,608,047	13,652	11,574	4,899	-1,971	81,761,378	64	6	59	91
500	259	46,443,309	14,326	13,177	4,635	-1,796	95,716,477	63	6	64	104
600	262	48,560,764	14,850	14,103	4,587	-1,810	103,695,546	61	6	71	112
700	263	50,213,431	15,166	14,856	4,508	-1,664	111,655,931	64	6	77	114
800	264	51,581,078	15,447	15,252	4,426	-1,678	115,074,829	63	6	83	112
900	262	52,704,269	15,623	15,528	4,337	-1,704	119,811,404	60	5	88	115
1000	264	53,639,621	15,829	16,056	4,348	-1,562	122,882,069	63	5	91	117
<b>FLEET TOTALS:</b>											
	1008	138,633,560	43,864	32,015	19,134	-7,459	226,698,252	274	41	187	298
# bids placed	% permits retired	% capacity retired	% A DAS retired	% active DAS retired	% latent DAS retired	% leaseed DAS retired	% history retired				
100	9.9%	9.7%	9.8%	9.7%	10.0%	9.6%	9.7%				
200	19.8%	19.7%	19.7%	19.5%	19.8%	19.7%	19.4%				
300	24.9%	28.0%	28.0%	29.1%	25.6%	28.1%	29.0%				
400	25.5%	31.5%	31.1%	36.2%	25.6%	26.4%	36.1%				
500	25.7%	33.5%	32.7%	41.2%	24.2%	24.1%	42.2%				
600	26.0%	35.0%	33.9%	44.1%	24.0%	24.3%	45.7%				
700	26.0%	36.2%	34.6%	46.4%	23.6%	22.3%	49.3%				
800	26.1%	37.2%	35.2%	47.6%	23.1%	22.5%	50.8%				
900	26.0%	38.0%	35.6%	48.5%	22.7%	22.8%	52.9%				
1000	26.2%	38.7%	36.1%	50.2%	22.7%	20.9%	54.2%				

As you can see, under an Alternative 2 scenario all bids are predicted to be accepted until about 315 bids are submitted—and, as additional bids become available, the number of permits removed stabilizes at about 325 permits when \$100 million is spent (about 260 permits are predicted to be removed when \$80 million is spent).

The salient feature of the Alternative 2 simulations is that there is an adequate, and in some cases extraordinary, capture of attributes highlighted as important at the public information sessions—attributes such as active DAS and permit history. The 25% minimum capacity removal threshold seems likely to be reached (Figure 3) when either \$100 million or \$80 million are spent.

Figure 3 - Estimated cost of removing 25% of total capacity, Alternative 2 at \$100 million spent, with various numbers of bids submitted



Analysis:

Alternative 2 is the most expensive when measured in per-unit-capacity terms. Its primary benefit comes from its status as the Alternative that will remove the most vessels from the fisheries of the northwest Atlantic (that is, groundfish and otherwise), and it may be perceived as being the least likely to shift effort into other fisheries. This point is debatable, however, as capacity in other fisheries is frequently not adequately constrained, and this Alternative may result in more permit holders with accepted bids taking their proceeds and moving in to other fisheries—fisheries for which they may be entirely new entrants. For example, after the 1996 groundfish vessel buyback the Government Accounting Office issued a report in June of 2000 showing that fully 60% of those permit holders that had permits and vessels retired had re-entered the fishery. 41% of those re-entered the groundfish fishery, while 19% entered other fisheries. Because the ability to (re)obtain groundfish permits is much different in 2006 than it was in 1997, it is impossible to estimate what might happen now based on what did happen then. However, it is likely that some portion of those who are bought out under an Alternative 2 scenario will re-enter a U.S. commercial fishery. It should be noted that, unlike in previous buybacks, re-entry of bought out permit holders into the groundfish fishery should not be considered an adverse consequence. Anticipated reductions in

DAS used (based on active DAS bought back) may not be realized if previously latent DAS are activated, but the total number of DAS allocated would still be substantially reduced post-buyout.

To test these simulations for sensitivity to the estimated bid (which is the engine powering these simulations), we ran simulations with inflated and deflated bids. To determine the magnitude of these changes, we examined the difference between the actual listing price and the price predicted by our bid estimator. As should be expected from a linear model, these differences (called residuals) had an even number of positive and negative values and an even distribution among them (i.e. they were evenly distributed about a mean of zero). We took the percentage standard deviation of these values (29%) and used that to inflate or deflate the bids. The results predictably, show that if bids come in 29% lower than the base model estimates, the buyout will capture substantially more capacity. In fact, if this were to be the case, the model predicts that the 50% maximum capacity removal threshold could be reached with as few as 580 bids submitted. Conversely, if the bids are 29% higher than predicted, substantially less capacity may be bought. In this case the buyout would need at least 280 bids to be submitted in order to achieve a predicted 25% minimum amount of capacity removed.

Note that the inflation/deflation of bids analysis was only performed for the Vessels for Sale model under an Alternative 2 scenario.

**Figure 4 - Results of Alternative 2 simulation with varying numbers of bids submitted, \$100 million dollars allocated, and bids deflated by 29%.**

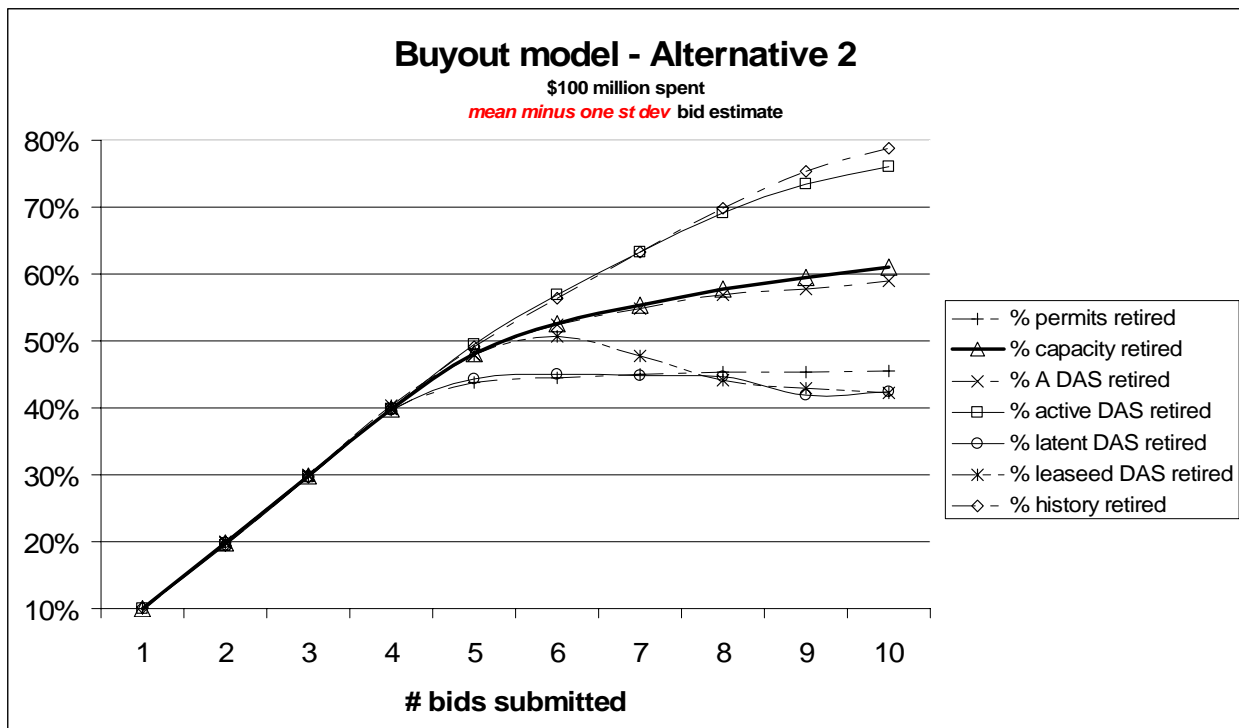


Figure 5 - Results of Alternative 2 simulation with varying numbers of bids submitted, \$100 million dollars allocated, and bids inflated by 29%.

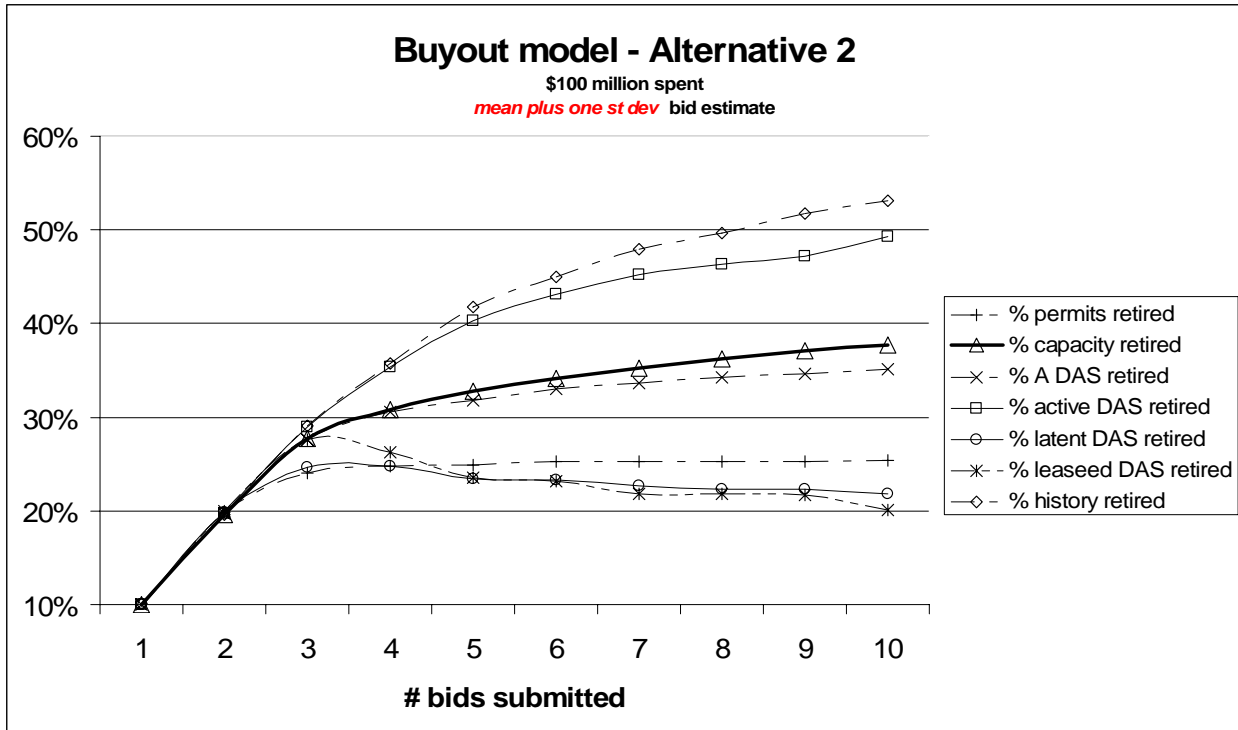


Table 3 - Results of Alternative 2 simulation with varying numbers of bids submitted, \$100 million dollars allocated, and bids deflated by 29%

# bids placed	# permits retired	# capacity retired (capacity units)	# A DAS retired	# active DAS retired	# latent DAS retired	# leaseed DAS retired	# history retired (lbs groundfish)	# loligo permits retired	# illex permits retired	# monk C permits retired	# monk D permits retired
100	100	13,745,717	4,336	3,182	1,893	-721	23,048,241	28	4	19	30
200	200	27,392,455	8,677	6,263	3,808	-1,488	44,171,001	55	8	36	59
300	300	41,290,444	13,065	9,519	5,676	-2,243	67,100,212	82	12	55	89
400	400	55,278,875	17,442	12,758	7,580	-3,003	90,630,205	110	16	75	117
500	441	66,699,496	21,024	15,845	8,488	-3,571	111,557,442	115	14	86	139
600	449	72,806,603	22,991	18,212	8,597	-3,782	127,861,699	116	11	90	156
700	453	76,804,283	24,064	20,273	8,593	-3,566	143,612,226	113	12	103	162
800	458	80,027,226	24,971	22,119	8,551	-3,298	158,152,906	111	10	109	174
900	457	82,368,263	25,328	23,515	8,028	-3,199	170,944,903	114	12	116	187
1000	458	84,561,019	25,868	24,328	8,130	-3,156	178,712,904	109	11	124	194
<b>FLEET TOTALS:</b>											
	<b>1008</b>	<b>138,633,560</b>	<b>43,864</b>	<b>32,015</b>	<b>19,134</b>	<b>-7,459</b>	<b>226,698,252</b>	<b>274</b>	<b>41</b>	<b>187</b>	<b>298</b>
# bids placed	% permits retired	% capacity retired	% A DAS retired	% active DAS retired	% latent DAS retired	% leaseed DAS retired	% history retired				
100	9.9%	9.9%	9.9%	9.9%	9.9%	9.7%	10.2%				
200	19.8%	19.8%	19.8%	19.6%	19.9%	19.9%	19.5%				
300	29.8%	29.8%	29.8%	29.7%	29.7%	30.1%	29.6%				
400	39.7%	39.9%	39.8%	39.9%	39.6%	40.3%	40.0%				
500	43.7%	48.1%	47.9%	49.5%	44.4%	47.9%	49.2%				
600	44.5%	52.5%	52.4%	56.9%	44.9%	50.7%	56.4%				
700	44.9%	55.4%	54.9%	63.3%	44.9%	47.8%	63.3%				
800	45.4%	57.7%	56.9%	69.1%	44.7%	44.2%	69.8%				
900	45.3%	59.4%	57.7%	73.4%	42.0%	42.9%	75.4%				
1000	45.5%	61.0%	59.0%	76.0%	42.5%	42.3%	78.8%				

Table 4 - Results of Alternative 2 simulation with varying numbers of bids submitted, \$100 million dollars allocated, and bids inflated by 29%

# bids placed	# permits retired	# capacity retired (capacity units)	# A DAS retired	# active DAS retired	# latent DAS retired	# leasee DAS retired	# history retired (lbs groundfish)	# loligo permits retired	# illex permits retired	# monk C permits retired	# monk D permits retired
100	100	13,828,084	4,370	3,198	1,909	-729	22,997,598	28	4	18	30
200	200	27,223,663	8,642	6,306	3,787	-1,490	44,445,564	54	8	36	59
300	243	38,422,652	12,104	9,257	4,707	-2,058	65,860,075	63	7	48	81
400	249	42,755,251	13,382	11,334	4,743	-1,956	81,040,723	61	6	57	91
500	251	45,410,092	13,974	12,910	4,472	-1,756	94,572,066	61	6	65	102
600	255	47,315,366	14,463	13,801	4,453	-1,727	102,031,135	59	6	70	110
700	254	48,875,635	14,753	14,463	4,337	-1,624	108,655,025	62	5	76	110
800	255	50,260,807	15,003	14,846	4,259	-1,632	112,519,039	60	6	82	110
900	255	51,387,004	15,214	15,121	4,281	-1,616	117,222,101	60	5	87	112
1000	256	52,224,476	15,398	15,795	4,167	-1,495	120,509,830	60	4	90	114
<b>FLEET TOTALS:</b>											
	<b>1008</b>	<b>138,633,560</b>	<b>43,864</b>	<b>32,015</b>	<b>19,134</b>	<b>-7,459</b>	<b>226,698,252</b>	<b>274</b>	<b>41</b>	<b>187</b>	<b>298</b>
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600	25.3%	34.1%	33.0%	43.1%	23.3%	23.1%	45.0%				
700	25.2%	35.3%	33.6%	45.2%	22.7%	21.8%	47.9%				
800	25.3%	36.3%	34.2%	46.4%	22.3%	21.9%	49.6%				
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