

### Alternative 4, Option 3 Possible Product Value Economic Impacts

This information supplements the RIR contained in the public review draft. This

The economic benefits of switching quota from B-season to A-season can be estimated by examining available data on AFA pollock production.

Several caveats should be included about these values:

1. Data are self-reported.
2. The prices are annual values reported by processors so inter-annual variation within a category is not observed if this varies within the year or season.
3. Differences in value between the seasons are a function of 1) product recovery differences, 2) the different values of different products, and 3) seasonal differences in what products are produced (e.g., more roe in the winter).
4. Across years, differences are a function of many factors, including the relative values of different products, roe recovery rates, and what products are produced by different processors.

The following tables shows the value per ton product by sector, with motherships and catcher processors combined to protect confidentiality.

Year	Value Per Product Weight				Value Per Caught Weight			
	CP + MS		CV		CP + MS		CV	
	Season A	Season B	Season A	Season B	Season A	Season B	Season A	Season B
2009	3,888	2,922	3,143	2,636	1,533	1,107	1,323	1,023
2010	3,636	3,230	2,890	2,669	1,488	1,255	1,228	1,078
2011	3,335	2,839	2,641	2,487	1,375	1,098	1,104	1,007
2012	3,554	3,024	2,767	2,526	1,423	1,082	1,187	1,027
2013	2,815	2,534	2,334	2,246	1,145	966	992	907

The following value captures the value premium each year of both product and catch caught in the A-season relative to the B-season.

A-season value premium				
Year	CP + MS		CV	
	Production Weight	Caught Weight	Production Weight	Caught Weight
2009	0.33	0.38	0.19	0.29
2010	0.13	0.19	0.08	0.14
2011	0.17	0.25	0.06	0.10
2012	0.18	0.32	0.10	0.16
2013	0.11	0.19	0.04	0.09

The following table looks at the MT of product that comes from MT of catch by sector and year. This rate differs from values in the Economic SAFE report because of data duplication identified in submitted data.

Product recovery Rate				
Year	CP + MS		CV	
	Season A	Season B	Season A	Season B
2009	0.39	0.38	0.42	0.39
2010	0.41	0.39	0.42	0.40
2011	0.41	0.39	0.42	0.41
2012	0.40	0.36	0.43	0.41
2013	0.41	0.38	0.42	0.40

### Data steps

The following data utilize AFSC observer data catch totals for the offshore sectors and fish ticket data for the inshore sector. Production data come from the NMFS processor data that have been supplemented by AKFIN with the product values from the ADF&G Commercial Operators Annual Report (COAR).

To estimate the seasonal value per metric ton of product, the summed product value for all processors in each sector is divided by the summed product quantity for each year and season. To estimate the value per metric ton of catch, the summed product value for all processors in each sector is divided by the summed catch total for each season.

The A-season value premium represents the relative percentage increase in value of A season to B season product or catch.

The season product recovery rate is calculated as the metric tons of product divided by the metric tons of AFA pollock catch

### Alternative 4 TAC Shift Examples:

The table below shows the results of both a 5 percent and a 10 percent shift of 2014 pollock catch from the B Season to the A season. The catch, rather than initial annual allocations, is valued here because it is inclusive of all in-season allocation changes and includes overages. The prices used to value additional A season catch are the five-year average A-season price premiums calculated from the tables above, by sector, and for caught weight. The CP and M combined prices are used for CP, M, and CDQ in this example, while the AFA inshore sector is evaluated using the CV values. The Average per Caught Weight premium for CP+MS is \$291, and for CVs is \$158.

The table below shows that a 5 percent shift of pollock catch to the A season results in more than \$15 million in increased Value per Caught Weight. The 10 percent shift doubles this estimates to more than \$30 million. This estimate assume that the A-season product value premiums will be fully earned; however, that is not likely to be the case. What this TAC shift is more likely to do is to extend the A season fishing activity into later March and April for different vessels when these premiums are not likely to be as high. Unfortunately, price data used in this analysis is only collected annually. Annual data does not allow estimation of monthly premiums that would better represent a more realistic increase in value from this A season TAC Shift. Further, the price premiums vary depending on changing market conditions. As a result, this example represents a high end of a range of possible premiums and it is not possible to know exactly how much of this premium would be earned from the TAC shift to the A season. It is extremely likely that a premium would be earned for this TAC shift; however, it is not

possible to say precisely where in the range from zero to the values shows below the premium would fall.

Sector	2014 Catch (mt)			5% Shift	10% Shift
	Total	A Season	B season	Total Increase in Value Per Caught Weight	Total Increase in Value Per Caught Weight
CDQ	128,549	51,304	77,245	\$2,070	\$4,140
AFA Inshore	555,518	220,904	334,614	\$4,049	\$8,098
AFA CPs	445,178	177,201	267,977	\$7,182	\$14,364
AFA M	111,000	44,244	66,756	\$1,789	\$3,578
<b>Total</b>	<b>1,240,245</b>	<b>493,653</b>	<b>746,592</b>	<b>\$15,090</b>	<b>\$30,180</b>

Catch data source: [http://www.alaskafisheries.noaa.gov/2014/car111\\_season\\_bsai\\_with\\_cdq.pdf](http://www.alaskafisheries.noaa.gov/2014/car111_season_bsai_with_cdq.pdf)

The values calculated in the table above also suggest that the A-season TAC shift may provide considerable secondary economic benefit to fishery dependent communities. These benefits would accrue through greater earnings for shore-based processing plants due to higher A-season product values. There may also be greater earnings by vessel crew, with associated increases in expenditures when in port. The magnitude of such benefits cannot be quantified; however, we note that they are likely to accrue.