

Costs vs. Benefits of Reducing Fishing Time in the Shumagin Islands in June

RC 81 would reduce fishing time in the Shumagin Islands in June from 352 hours to 220 hours, a reduction of 37.5%.

All other things being equal, this can be expected to reduce harvests in the Shumagin Islands by 37.5%.

The loss would amount to hundreds of thousands of sockeye each year.

The benefits to Chignik harvests would be a function of the percentage of Chignik-bound stocks in the Shumagin Islands in June and the harvest rate in the Chignik Management Area (harvest divided by harvest plus escapement).

One way to estimate the impacts and benefits is to use low, mid and high stock composition figures for the Shumagin Islands in June from WASSIP and actual harvest rates from the Chignik Management Area for a series of recent years. The benefits to Chignik harvest would be in the thousands or low tens of thousands per year.

Another way to estimate the costs and potential benefits is to use actual WASSIP information for the years that the study was conducted (2006-2008). A reduction in the Shumagin Islands harvest, and thus harvest rate, on the Chignik run can be used to estimate the additional fish that would be available for harvest in the CMA.

Using both methods, the costs vs. benefits of reducing fishing time in the Shumagin Islands in June as proposed in RC 81 would be on the order of hundreds of thousands of lost sockeye harvest in the Shumagin Islands and only thousands or low tens of thousands in harvest gains in Chignik.

**Submitted by Area M Working Group
2/24/2019**

0.026								
YEAR	SHUM JUNE HARVEST	CMA HARVEST	SHUM LOSS	WASSIP LOW	CMA HR*	CMA BENEFIT**	LOSS VS BENEFIT	LOSS BENEFIT RATIO
2009	572,697	1,198,105	214,761	5,584	0.625	3,488	214,716 VS 3,488	62
2010	330,985	1,379,785	124,119	3,227	0.650	2,097	124,119 VS 2,097	59
2011	422,273	2,497,004	158,352	4,117	0.768	3,162	158,352 VS 3,162	50
2012	641,213	1,800,121	240,455	6,252	0.716	4,479	240,455 VS 4,479	54
2013	513,513	2,405,151	192,567	5,007	0.761	3,809	192,567 VS 3,809	51
2014	239,482	620,339	89,806	2,335	0.488	1,139	89,806 VS 1,139	79
2015	497,019	1,552,495	186,382	4,846	0.580	2,811	186,382 VS 2,811	66
2016	415,897	1,394,091	155,961	4,055	0.645	2,617	155,961 VS 2,617	60
2017	884,430	897,489	331,661	8,623	0.531	4,579	331,661 VS 4,579	72

0.042								
YEAR	SHUM JUNE HARVEST	CMA HARVEST	SHUM LOSS	WASSIP MID	CMA HR*	CMA BENEFIT**	LOSS VS BENEFIT	LOSS BENEFIT RATIO
2009	572,697	1,198,105	214,761	9,020	0.625	5,634	214,716 VS 5,634	38
2010	330,985	1,379,785	124,119	5,213	0.650	3,387	124,119 VS 3,387	37
2011	422,273	2,497,004	158,352	6,651	0.768	5,109	158,352 VS 5,109	31
2012	641,213	1,800,121	240,455	10,099	0.716	7,236	240,455 VS 7,236	33
2013	513,513	2,405,151	192,567	8,088	0.761	6,153	192,567 VS 6,153	31
2014	239,482	620,339	89,806	3,772	0.488	1,840	89,806 VS 1,840	49
2015	497,019	1,552,495	186,382	7,828	0.580	4,541	186,382 VS 4,541	41
2016	415,897	1,394,091	155,961	6,550	0.645	4,227	155,961 VS 4,227	37
2017	884,430	897,489	331,661	13,930	0.531	7,397	331,661 VS 7,397	45

0.176								
YEAR	SHUM JUNE HARVEST	CMA HARVEST	SHUM LOSS	WASSIP HIGH	CMA HR*	CMA BENEFIT**	LOSS VS BENEFIT	LOSS BENEFIT RATIO
2009	572,697	1,198,105	214,761	37,798	0.625	23,609	214,716 VS 23,609	9
2010	330,985	1,379,785	124,119	21,845	0.650	14,193	124,119 VS 14,193	9
2011	422,273	2,497,004	158,352	27,870	0.768	21,407	158,352 VS 21,407	7
2012	641,213	1,800,121	240,455	42,320	0.716	30,321	240,455 VS 30,321	8
2013	513,513	2,405,151	192,567	33,892	0.761	25,786	192,567 VS 25,786	7
2014	239,482	620,339	89,806	15,806	0.488	7,709	89,806 VS 7,709	12
2015	497,019	1,552,495	186,382	32,803	0.580	19,028	186,382 VS 19,028	10
2016	415,897	1,394,091	155,961	27,449	0.645	17,713	155,961 VS 17,713	9
2017	884,430	897,489	331,661	58,372	0.531	30,998	331,661 VS 30,998	11

SHUM LOSS = SHUM HARVEST X 0.375

*CMA Harvest Rate = CMA Harvest/(CMA Harvest + CMA Escapement)

**CMA BENEFIT = SHUM LOSS X WASSIP STOCK COMP X CMA HARVEST RATE

SOURCE:WASSIP/ADFG

Effects of Reduced Time in the Shumagin Islands June Fishery Proposed by RC 81

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