LOW 2017 CHIGNIK SOCKEYE RUN FORECASTED 20% BELOW AVERAGE (1978-2015)

2017 Chignik Lakes, Alaska Sockeye Salmon Preseason Forecast

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Table 1: Forecast for the 2017 Chignik River system inshore run of sockeye salmon. The weighed model forecast is in bold, upper and lower forecast range, and historical average run sizes (1978+, 1950+) are in millions of sockeye salmon.

	Weighted Forecast	Lower	Upper	Percent	Avg. 1978+	Avg. 1950+
Chignik Lake	0.866	0.820	0.979	46%	1.13	0.93
Black Lake (early)	1.012	0.900	1.470	54%	1.40	1.05
Total	1.878	1.720	2.449		2.53	1.98

The 2017 forecast for the inshore sockeye salmon run to Black and Chignik lakes (Table 1) was generated using models of relative sibling survival and analysis of spawner-recruit relationships. The number of returning individuals of a specific age-class is predicted by evaluating the statistical relationships between returning numbers of individuals from the focal age-class and returns of younger ages from the same brood year (siblings that returned in earlier years). Lake and age-class specific relationships were evaluated using two competing models, linear and log-linear, with selection based on their ability to describe observed historical returns. To generate the overall forecast for each age-class, estimates from the range of possible models incorporating different predictor age-classes are weighted in proportion to their ability to explain historical variation in runs and the number of parameters estimated (AIC-weighted). The forecast range (upper and lower bounds) represents the range of predictions from linear and log-linear models, from datasets both including and excluding years prior to the broad-scale shift in ocean climate the occurred in the late 1970's.

The total weighted model forecast for the Chignik River system for 2017 is 1.9 million, with a forecast range of between 1.7 and 2.4 million sockeye salmon (Table 1). **This prediction is approximately equal to the historical average run size to the Chignik River system when calculated from 1950 forward (1.98 million), and about 20% smaller than the average observed since 1978 (2.53 million).** The Chignik system run is predicted to be composed of more Black Lake run (early) fish (54%) than the Chignik Lake (late) run fish (46%).

Submitted by Bruce Barrett, United Chignik Salmon Fishermen