

Chignik Intertribal Coalition**Substitute Language for Proposal 105****5 AAC 15.357, Chignik Management Area Salmon Management Plan**

(a) The department shall manage the commercial salmon fishery in the Chignik Area in accordance with the guidelines set out in the management plan under this section. The goal of this management plan is to allow traditional fisheries in the area to be conducted on Chignik Area salmon stocks, and to achieve the [DEPARTMENT] **Board's optimal** escapement goals for both Black Lake (early-run) and Chignik Lake (late-run) sockeye salmon and local stocks of pink, chum, coho, and king salmon.

(1) The optimal escapement goal for Black Lake (early run) sockeye salmon is 300,000 to 400,000 fish.

(2) the optimal escapement goal for Chignik Lake (late run) sockeye salmon is 240,000 to 360,000 fish.

(b) In the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, the commercial salmon fishery shall open concurrently based on escapement objectives for the Chignik Lakes' system sockeye salmon runs, except that

(1) the commissioner may open, by emergency order, the commercial salmon fishery when **at least 40,000 [20,000]–sockeye salmon have escaped into the Chignik River, interim escapement objectives are being met, and when there is high likelihood that the sockeye salmon escapement past the weir by July 10 will be at least 300,000 fish;** [HOWEVER, IF THE DEPARTMENT DETERMINES THAT A STRONG BUILDUP OF SOCKEYE SALMON EXISTS IN CHIGNIK LAGOON AND THAT 20,000 SOCKEYE SALMON WILL ESCAPE INTO THE CHIGNIK RIVER, THE COMMISSIONER MAY OPEN, BY EMERGENCY ORDER, THE COMMERCIAL SALMON FISHERY BEFORE 20,000 SOCKEYE SALMON HAVE ESCAPED INTO THE CHIGNIK RIVER];

(2) **The commissioner may open, by emergency order, the commercial salmon fishery after July 10 when the department projects that the sockeye salmon escapement past the weir between July 10 and August 31 will be at least 240,000 fish;** [DURING THE PERIOD OF TRANSITION FROM THE PREDOMINANCE OF THE EARLY-RUN SOCKEYE SALMON TO THAT OF THE LATE-RUN SOCKEYE SALMON, USUALLY LATE JUNE THROUGH MID-JULY, THE COMMISSIONER SHALL OPEN AND CLOSE, BY EMERGENCY ORDER, THE FISHING PERIODS TO HARVEST SURPLUS EARLY-RUN SOCKEYE SALMON WITHOUT JEOPARDIZING THE LATE-RUN SOCKEYE SALMON ESCAPEMENT OBJECTIVES];

(3) [FROM THE END OF THE TRANSITION PERIOD, DESCRIBED IN (2) OF THIS SUBSECTION UNTIL SEPTEMBER 14,]

[(A)] the commissioner shall open and close, by emergency order, fishing periods in the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, based on the Chignik Lakes' system sockeye salmon escapement **goals[;], and**

[(B) THE DEPARTMENT SHALL MANAGE THE COMMERCIAL FISHERY TO ALLOW FOR THE PASSAGE OF AT LEAST 20,000 SOCKEYE SALMON ABOVE THE CHIGNIK RIVER WEIR, IN ADDITION TO LATE-RUN SOCKEYE SALMON ESCAPEMENT NEEDS, TO PROVIDE AN INRIVER HARVESTABLE SURPLUS ABOVE THE CHIGNIK RIVER WEIR IN AUGUST AND SEPTEMBER OF AT LEAST 10,000 FISH IN AUGUST AND 10,000 FISH FROM SEPTEMBER 1 THROUGH SEPTEMBER 30;]

~~[(C)]~~ the commissioner may take additional emergency order actions to protect or harvest local pink, chum, king, and coho salmon runs; and

(4) from August 1 until September 30 [BEGINNING SEPTEMBER 15], if the Chignik escapement goals are being met, weekly fishing periods in the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, shall run from 6:00 a.m. Monday until 10:00 p.m. Friday [MAY BE NO MORE THAN 48 HOURS PER WEEK, AND SHALL BE BASED ON THE DEPARTMENT'S EVALUATION OF THE SOCKEYE SALMON RUN STRENGTH AND THE SUBSISTENCE NEEDS FOR CHIGNIK LAKE LATE-SEASON SOCKEYE SALMON].

(c) In the Eastern District,

(1) during June, the commercial salmon fishery shall open concurrently with the Chignik Bay and Central Districts, and the Inner Castle Cape Subsection of the Western District, and the openings shall be based on achieving the Black Lake sockeye salmon escapement goals;

(2) [FROM APPROXIMATELY JUNE 26 THROUGH JULY 8,

(A) THE DEPARTMENT SHALL EVALUATE THE STRENGTH OF THE SOCKEYE SALMON LATE RUN; AND

(B) IN ORDER TO CONTINUE MANAGING THE BLACK LAKE SOCKEYE SALMON HARVEST AND ESCAPEMENT, WHILE ASSESSING THE CHIGNIK LAKE SOCKEYE SALMON RUN STRENGTH, COMMERCIAL SALMON FISHING IN THE EASTERN DISTRICT WILL, IN THE DEPARTMENT'S DISCRETION, BE DISALLOWED OR SEVERELY RESTRICTED;]

(3) [FROM THE END OF THE TRANSITION PERIOD, DESCRIBED IN (B)(2) OF THIS SECTION] Until July 31, the department shall manage the commercial salmon fishery based on its evaluation of local pink and chum salmon runs, and the strength of the Chignik Lakes' system sockeye salmon;

~~[(4)-3]~~ after July 31, the department shall manage the commercial salmon fishery based on its evaluation of local pink, chum, and coho salmon runs or the strength of the Chignik Lake sockeye salmon run.

(d) From June 1 through July 5, in the Western District, excluding the Inner Castle Cape Subsection, and in the Perryville District, the department may open the commercial salmon fishery concurrently with the Chignik Bay and Central Districts and the Inner Castle Cape Subsection of the Western District; during this time period the Perryville District may open for no more than three 48 hour fishing periods with a minimum closure of 48 hours between each period; beginning July 6, the department may open the commercial

salmon fishery in the Western District, excluding the Inner Castle Cape Subsection, and in the Perryville District, except that,

(1) [FROM APPROXIMATELY LATE JUNE TO MID-JULY (TRANSITION PERIOD),

(A) THE DEPARTMENT SHALL EVALUATE THE STRENGTH OF THE SOCKEYE SALMON LATE RUN; AND

(B) IN ORDER TO ALLOW THE DEPARTMENT TO ASSESS THE CHIGNIK LAKE RUN STRENGTH, THE DEPARTMENT MAY KEEP CLOSED OR SEVERELY RESTRICT COMMERCIAL SALMON FISHING IN THE WESTERN DISTRICT, EXCEPT THE INNER CASTLE CAPE SUBSECTION, AND IN THE PERRYVILLE DISTRICT;

(2) FROM THE END OF THE TRANSITION PERIOD, DESCRIBED IN (B)(2) OF THIS SECTION] Until July 31, fishing periods shall be based on the department's evaluation of local pink and chum salmon runs, and its evaluation of the Chignik Lake sockeye salmon run; from July 22 through July 31,

(A) repealed 3/29/2008;

(B) the commissioner may, by emergency order, open fishing in the following terminal harvest areas:

(i) those portions of the Western and Perryville Districts north of a line from Cape Ikti at 56° 00.32' N. lat., 158° 32.02' W. long., to Coal Cape at 55° 53.42' N. lat., 159° 00.45' W. long., to Cape Alexander at 55° 47.22' N. lat., 159° 24.57' W. long.;

(ii) waters in the Ivanof Bay Section of the Perryville District that are north of the latitude from Alexander Point at 55° 47.37' W. long., to Kupreanof Peninsula; and

(iii) those portions of the Chignik Bay and Central Districts known locally as Jack's Box, which consists of those waters east of 158° 15.36' W. long., south of 56° 20' N. lat., and west of 158° 10' W. long.;

(~~2~~[3]) after July 31, the fishing periods shall be managed based on the department's evaluation of local pink, chum, and coho salmon runs or the strength of the Chignik Lake sockeye salmon run.

(e) Repealed 5/31/2019.

Appendix 1. Probabilistic yield profiles to estimate escapement goals for OEG on early- and late-runs of sockeye salmon in Chignik, Alaska.

Daniel Schindler, University of Washington; Curry Cunningham, University of Alaska-Fairbanks

The figures below show ‘probabilistic yield profiles’ based on stock-recruit models fit to brood tables for the early-run and late-runs of sockeye salmon at Chignik. Details of the stock-recruit models are provided in Schindler and Cunningham (see PC 150). The probabilistic yield profiles are lines that show the 70%, 80%, and 90% probability lines for obtaining at least 90% of MSY. We used the curve showing the 90% probability of producing at least 90% of MSY to estimate the upper and lower bounds on the escapement goals proposed in this document. For these analyses we used a time-varying (dynamic) Ricker stock-recruit model fit to brood tables from 1923 to 2013 (i.e., the brood tables in use in management up to and including 2021).

Figure 1. Probabilistic yield curve for the early-run of sockeye salmon at Chignik. Dashed vertical red lines show the estimated upper and lower bounds on the range of escapement that has a 90% chance of producing at least 90% of MSY.

Early Run (Black Lake) 2021 Brood Tables

Dynamic Ricker Model: Based on Brood Year Alphas 2009-2013

Escapement Range Expected to Produce >90% of MSY with Probability=0.9

301-376 thousand sockeye salmon

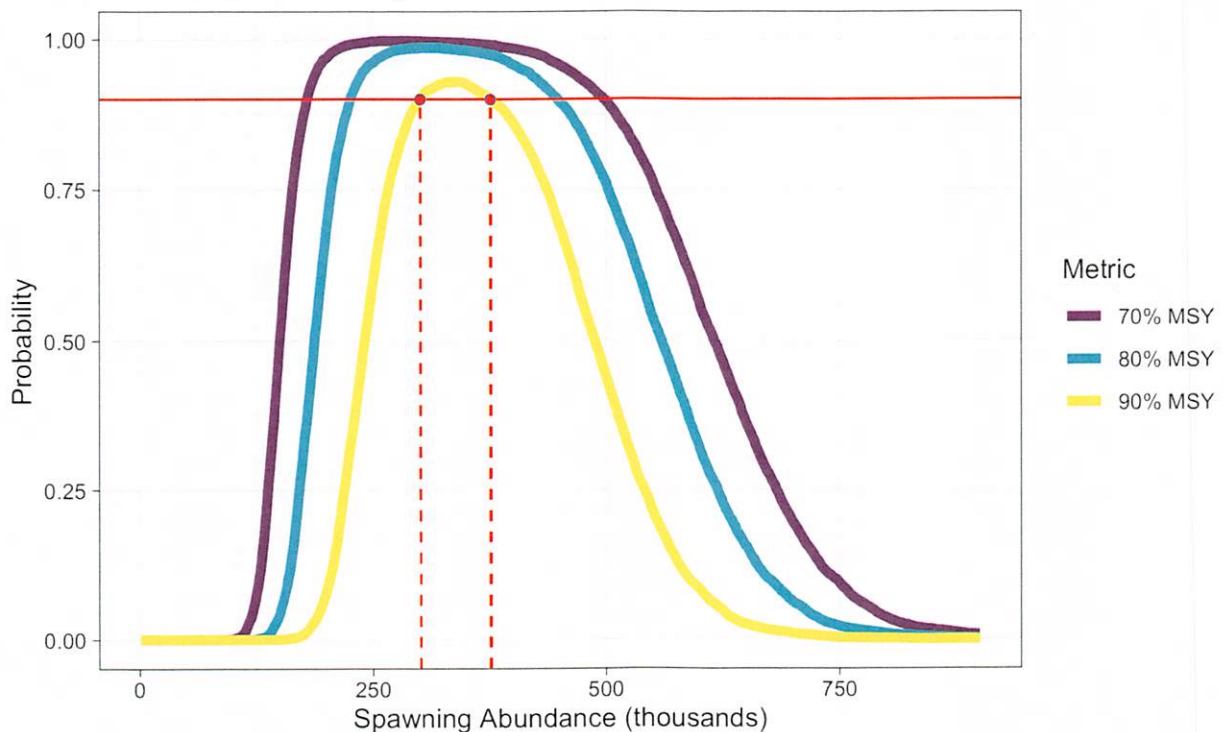


Figure 2. Probabilistic yield curve for the late-run of sockeye salmon at Chignik. Dashed vertical red lines show the estimated upper and lower bounds on the range of escapement that has a 90% chance of producing at least 90% of MSY.

Late Run (Chignik Lake) 2021 Brood Tables

Dynamic Ricker Model: Based on Brood Year Alphas 2009-2013

Escapement Range Expected to Produce >90% of MSY with Probability=0.9

237-358 thousand sockeye salmon

