



**TO:** Pacific Salmon Commission  
**FROM:** John Carlile, Antonio Velez-Espino, and Jon Carey  
**DATE:** April 1, 2021  
**SUBJECT:** AABM Fisheries Preseason Abundance Indices for 2021 and Post-Season Abundance Indices for 2020

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The Chinook Technical Committee (CTC) has completed and is providing to the Commission the results of calibration CLB2104 of the PSC Chinook Model for 2021. The calibration provides the 2021 preseason Abundance Indices (AIs) for determining the allowable catches (ACs) for the Northern British Columbia troll and Haida Gwaii sport (NBC) and West Coast Vancouver Island troll and outside sport (WCVI) Aggregate Abundance Based Management (AABM) fisheries. The calibration also provides the AIs required for determining the 2020 post-season ACs for all three AABM fisheries: SEAK, NBC, and WCVI, however, please see item (4) below.

Please note the following:

1. The preseason AC for the SEAK fishery was determined from Table 2 in Chapter 3 of the 2019 Agreement based on the SEAK Early Winter CPUE from the early winter power troll fishery in district 113.
2. The preseason ACs for the NBC and WCVI fisheries were determined from Table 1 in Chapter 3 of the 2019 Agreement.
3. Through the course of the 2021 Calibration process, the Analytical Working Group (AWG) of the CTC found an error in the program used to generate maturation rate inputs used in the approved 2020 Calibration (CLB2002). This produced discrepancies between the 2021 Calibration (CLB2104) and CLB2002. The AWG re-ran CLB2002 with the corrected maturation rates to produce CLB2003. To facilitate comparisons, both the official (CLB2002) and the revised (CLB2003) 2020 preseason AIs are presented below in Table B.
4. There are concerns amongst some of the CTC members over the accuracy of the 2020 post-season AIs and associated ACs produced by CLB2104, potentially due to changes in methods

used to generate maturation rates or the ability of the model to handle significantly reduced catches due to access limitations resulting from COVID-19 regulations.<sup>1</sup>

In conjunction with recommending CLB2104 as the official 2021 calibration, the CTC recommends investigating the concerns mentioned in item (4) above and potentially revising the corresponding numbers, should there be agreement within the CTC.

The 2021 preseason SEAK CPUE, the AIs and the associated ACs for each of the AABM fisheries are shown in Table A. The 2020 post-season AIs and associated ACs along with observed catches, preseason AIs and associated ACs for each of the AABM fisheries are shown in Table B.

Table A. Preseason CPUE and AIs and associated ACs for the 2021 AABM Fisheries.

	SEAK	NBC	WCVI
Abundance Index	3.85 (CPUE) <sup>1</sup>	1.27	0.76
Allowable Catch	205,165 (Tier 4)	153,800	88,000

<sup>1</sup> The CLB2104 2021 preseason AI for SEAK is 1.28 which would yield a non-tiered AC of 190,000 if the PSC Chinook Model was being used.

Table B. 2020 preseason AIs, observed catches, post-season AIs, associated ACs and for the 2020 AABM fisheries.

Preseason			
	SEAK	NBC	WCVI
Abundance Index (Official; CLB 2002)	4.83 (CPUE) <sup>1</sup>	1.08	0.75
Allowable Catch (Official; CLB 2002)	205,165 (Tier 4)	133,000	87,000
Abundance Index (Revised; CLB 2003)	4.83 (CPUE) <sup>2</sup>	1.00	0.69
Allowable Catch (Revised; CLB 2003)	205,165 (Tier 4)	124,300	80,600
Actual			
Observed Catch	204,624	36,103	43,581
Post-Season			
Abundance Index	1.11 (AI)	1.16	0.67
Allowable Catch	140,323 (Tier 3)	141,700	78,500

<sup>1</sup> The CLB2002 official 2020 preseason AI for SEAK is 1.13 which would yield a non-tiered AC of 140,000 if the PSC Chinook Model was being used.

<sup>2</sup> The CLB2003 revised 2020 preseason AI for SEAK is 1.02 which would yield a non-tiered AC of 117,300 if the PSC Chinook Model was being used.

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<sup>1</sup> Similar to the discrepancy in Tiers determined by the Early Winter CPUE and the Model post-season AI, two other empirical estimators (Early/Late Winter and Summer Power Troll Indices) used internally by Alaska Department of Fish and Game indicated the SEAK abundance in 2020 was in Tier 4; however, the CLB2104 post-season AI indicated the abundance was in Tier 3 resulting in a discrepancy between preseason and post-season catch limits.