SALMON TECHINCAL TEAM REPORT ON UPDATING THE SOUTHERN RESIDENT KILLER WHALE CHINOOK PREY ABUNDANCE THRESHOLD

As part of their statement under agenda item D.3.e, Supplemental STT Report 1, the Salmon Technical Team (STT) indicated their intent to use 'Round 7.1.1' of the Chinook FRAM base period calibration for all 2022 preseason modeling tasks. The STT also noted the potential for a disconnect between resulting preseason estimates of pre-fishing Chinook abundance in the North of Falcon area and the existing abundance threshold of 966,000, which was derived using cohort sizes from 'Round 6.2' of the Chinook FRAM base period calibration. During discussion of this agenda item, the Council asked the STT to recalculate the pre-fishing Chinook abundance threshold for the North of Falcon area using postseason abundances derived with FRAM 'Round 7.1.1' and based on the same years identified in Amendment 21 of the FMP (1994 – 1996, 1998 – 2000, and 2007).

To complete this request, the STT first recalculated the pre-fishing (October 1) adult Chinook abundances for each of the five regions defined by the Ad-hoc Southern Resident Killer Whale (SRKW) Workgroup (Table 1). Regional abundance estimates were calculated employing identical methods to those used by the Ad-hoc SRKW Workgroup within their Risk Assessment. Specifically, the stock-specific ocean distribution parameters (from Shelton et al. 2019) and 'FRAM-stock' to 'Shelton-stock' associations were identical to those used by the Ad-hoc Workgroup. The only updates in this STT analysis were to pre-fishing stock abundances, where FRAM 'Round 7.1.1' was used to derive the ocean cohort sizes for FRAM stocks in place of 'Round 6.2'. Other abundance updates were provided as necessary for those stocks processed externally to FRAM, including: Sacramento River fall Chinook, Klamath River fall Chinook, Rogue River fall Chinook, and Upper Columbia River spring Chinook.

Using the estimates provided for the North of Falcon area in Table 1, the updated numerical value of the North of Falcon pre-fishing abundance threshold would increase to 1,001,000. This is calculated as the arithmetic mean of the seven years specified above, rounded to the nearest thousand. Use of this threshold would be in alignment with preseason abundance estimates produced using FRAM 'Round 7.1.1.'

PFMC
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Table 1. Pre-fishing (October 1) adult Chinook abundances by region derived using Chinook FRAM 'Round 7.1.1'

Year	North of Falcon	Oregon Coast	California Coast	Salish Sea	SW Vancouver Island
1992	1,045,154	778,228	362,101	633,590	555,515
1993	1,113,993	1,117,191	609,599	647,969	554,435
1994	864,802	897,746	566,216	513,898	447,243
1995	1,061,620	1,757,827	1,223,290	561,193	512,079
1996	1,072,843	1,357,557	837,160	586,013	541,008
1997	1,133,318	1,208,703	909,716	677,160	521,807
1998	879,596	961,773	629,119	548,821	440,145
1999	1,069,361	917,513	675,172	679,555	528,217
2000	1,097,210	1,424,209	953,386	553,716	446,880
2001	1,981,902	1,803,060	1,005,099	857,554	805,225
2002	2,179,640	2,356,914	1,378,185	790,124	942,278
2003	2,041,672	2,354,731	1,282,282	873,542	927,380
2004	2,037,024	1,938,502	1,066,304	816,272	965,245
2005	1,497,312	1,436,256	876,844	672,807	742,378
2006	1,300,767	886,011	491,807	757,233	664,734
2007	964,276	780,945	365,387	577,642	496,751
2008	1,327,574	766,061	242,036	696,518	653,813
2009	1,096,557	911,258	272,961	508,728	531,132
2010	1,916,653	1,501,595	457,213	784,549	882,166
2011	1,552,971	1,295,453	462,485	639,791	753,491
2012	1,590,635	1,901,282	903,147	593,712	751,147
2013	2,482,455	2,436,367	1,130,834	772,163	1,314,761
2014	2,046,114	1,916,600	804,317	730,850	995,203
2015	2,413,744	2,070,391	613,320	700,547	1,211,901
2016	1,481,619	977,061	358,650	624,408	755,783
2017	1,339,194	863,106	304,863	719,082	721,292
2018	1,163,928	984,335	410,733	680,102	614,167