Comparison of standardized SBT CPUE indices between Korea and Japan

Republic of Korea

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ABSTRACT

At the 16th Operating Model and Management Procedure Technical Meeting (OMMP 16), meeting requested that a comparison of the Japanese and Korean indices for areas 8 and 9 be conducted for discussion at the Extended Scientific Committee (ESC).

In this study we analyzed and compared standardized southern bluefin tuna (*Thunnus maccoyii*, SBT) CPUE indices between Korean and Japanese tuna longline fisheries (1996-2025). As the results of comparison analysis, standardized SBT CPUE indices between Korea and Japan show very similar increasing trends in area 9 (Fig. 1).

1. Data for used comparison between Korea and Japan

At the OMMP 16, meeting requested that a comparison of the Japanese and Korean indices for areas 8 and 9 be conducted for discussion at the ESC. We compared standardized southern SBT CPUE indices between Korean and Japanese tuna longline fisheries. For analysis, data were obtained in the CCSBT Data Exchange process and used between Korea and Japan for area 8 and 9 during 1996-2025 (Tables 1 and 2).

As per the meeting (OMMP 16) request, Japan also provided indices using all ages considering the number of release/discarded fish. Note that Korean CPUE is for all ages and Korean SBT longline fishery has no release/discard.

2. Comparison of standardized SBT CPUE indices

The results of comparison analysis are in the Figure 1. In area 9, indices between Korea and Japan show very similar increasing trends. This indicates that the Korean longline CPUE supports the possibility that the abundance index, based on the Japanese longline CPUE, accurately reflects SBT stock trends. Regarding area 8, trends also similar, but there are some missing years due to no operations in Korean indices.

The meeting (OMMP 16) recommended that Korean CPUE be included as a separate index similar to Japanese CPUE in future assessments.

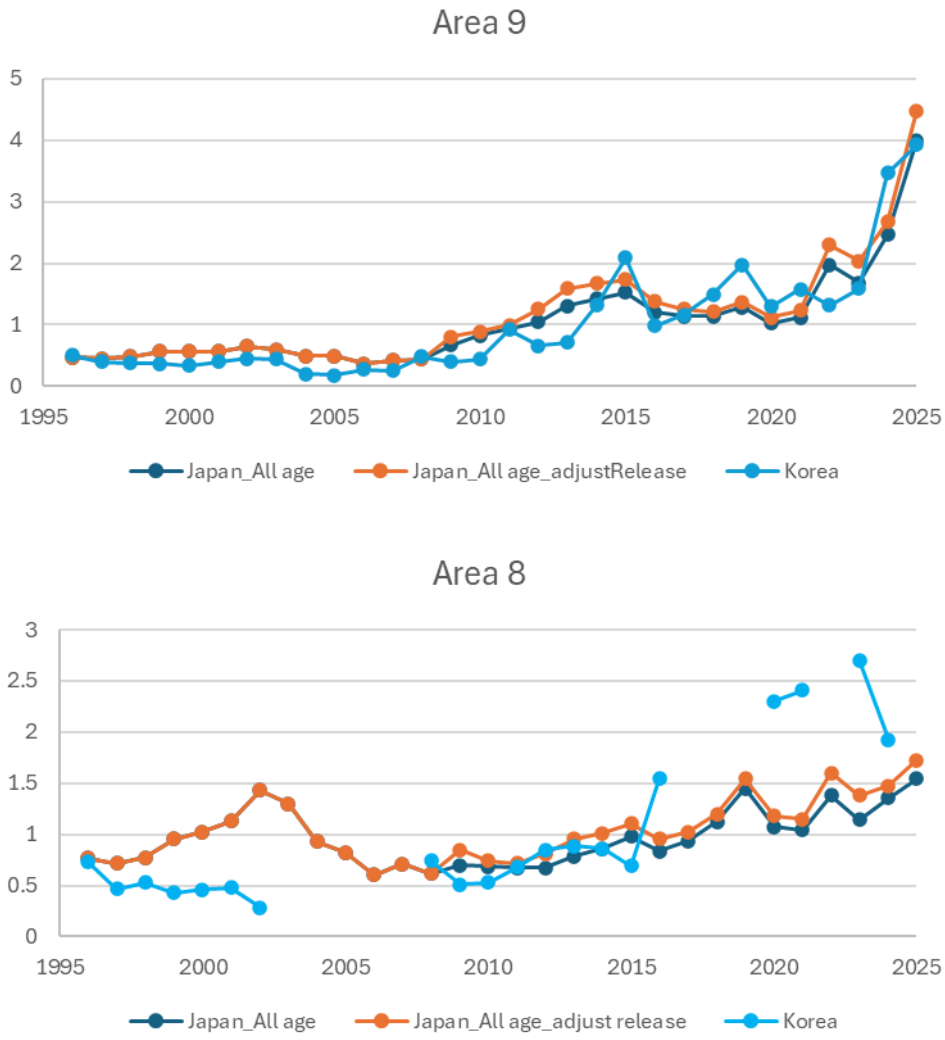


Fig. 1. Comparison of standardized SBT CPUE indices in Area 9 and 8 between Korea and Japan during 1996-2025.

Table 1. Korean data used for comparison between Korean and Japanese SBT CPUE indices by area during 1996-2025 (Korea)

* Delta lognormal indices

Year	Area 9	CV	Area 8	CV
1996	0.50	0.03	0.73	0.04
1997	0.40	0.03	0.47	0.02
1998	0.38	0.03	0.53	0.03
1999	0.37	0.02	0.43	0.03
2000	0.34	0.03	0.46	0.03
2001	0.40	0.03	0.48	0.03
2002	0.45	0.03	0.28	0.03
2003	0.44	0.03	-	-
2004	0.20	0.03	-	-
2005	0.18	0.05	-	-
2006	0.27	0.04	-	-
2007	0.25	0.03	-	-
2008	0.48	0.03	0.74	0.02
2009	0.40	0.03	0.51	0.03
2010	0.44	0.03	0.53	0.03
2011	0.92	0.04	0.68	0.02
2012	0.66	0.03	0.85	0.04
2013	0.71	0.04	0.89	0.04
2014	1.32	0.04	0.86	0.05
2015	2.09	0.05	0.69	0.05
2016	0.99	0.03	1.54	0.06
2017	1.16	0.04	-	-
2018	1.50	0.04	-	-
2019	1.97	0.05	-	-
2020	1.30	0.04	2.30	0.06
2021	1.58	0.05	2.41	0.06
2022	1.31	0.05	-	-
2023	1.59	0.05	2.70	0.06
2024	3.47	0.05	1.93	0.06
2025	3.93	0.06	-	-

Table 2. Japanese data used for comparison between Korean and Japanese SBT CPUE indices by area during 1996-2025

Year	Area 9	Area 9_adjust release	Area 8	Area 8_adjust release
1996	0.47	0.47	0.77	0.77
1997	0.45	0.45	0.71	0.71
1998	0.48	0.48	0.77	0.77
1999	0.57	0.57	0.95	0.95
2000	0.56	0.56	1.02	1.02
2001	0.56	0.56	1.13	1.13
2002	0.65	0.65	1.43	1.43
2003	0.60	0.60	1.30	1.30
2004	0.49	0.49	0.93	0.93
2005	0.49	0.49	0.82	0.82
2006	0.37	0.37	0.61	0.61
2007	0.42	0.42	0.71	0.71
2008	0.44	0.44	0.62	0.62
2009	0.67	0.81	0.70	0.85
2010	0.83	0.89	0.69	0.74
2011	0.94	1.00	0.67	0.72
2012	1.05	1.25	0.68	0.81
2013	1.31	1.59	0.79	0.95
2014	1.42	1.67	0.86	1.01
2015	1.53	1.73	0.98	1.11
2016	1.20	1.38	0.83	0.96
2017	1.14	1.25	0.93	1.03
2018	1.14	1.21	1.13	1.20
2019	1.28	1.37	1.45	1.55
2020	1.02	1.12	1.07	1.18
2021	1.11	1.23	1.04	1.15
2022	1.98	2.29	1.38	1.60
2023	1.69	2.04	1.14	1.38
2024	2.46	2.68	1.36	1.48
2025	4.00	4.48	1.54	1.73