CCSBT-ESC/2608/SBT Fisheries - Indonesia
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Indonesia's tuna longline fishery interacted with Southern Bluefin Tuna in 2025

Fayakun Satria[1], Lilis Sadiyah[1], Bram Setyadji[1], Anung Widodo[1]
Syahril Abd. Raup[2], Satya Mardi[2], Putuh Suadela[2], Dodiet Rachmdi Slamet[2], Ade Januar, Edwison Setya Firmana[2] and Jimmy[2]

[1] Research Center for Fishery, National Research and Innovation Agency (BRIN)
[2] Directorate General for Capture Fisheries, Ministry of Marine Affairs and Fisheries

SUMMARY

Southern bluefin tuna (*Thunnus maccoyii*) are seasonally caught as bycatch by Indonesian tuna longline fleets operating in the Indian Ocean. This report summarizes scientific information on the Indonesian tuna longline fishery related to SBT for the 2025 calendar year (1 January – 31 December 2025). The total reported SBT catch was 1,172 tons, equivalent to 11,482 individuals. A total of 214 longline vessels, 9 handline vessels, and 1 troll line vessel interacted with SBT, with sizes ranging from 95–209 cm FL (mean = 167.6 cmFL) in area 1 and 53–218 cm FL (mean = 167.8 cmFL) in area 2. thirty-two observer trips were conducted, covering at least 4.14% of hooks in areas 1 and 2.

1. INTRODUCTION

1.1. Background

This review report updates the scientific information on the Indonesia tuna longline fishery related to southern bluefin tuna (SBT) for the 2025 calendar year, which spanning from 1 January to 31 December 2025.

1.2. Summary of Historical Development in the Fishery

Tuna longliner was introduced to Indonesia by Japan in the 1930s (Ishida et al., 1994), but the first commercial fishing commenced in the early 1960s, almost three decades later (Proctor et al., 2003). Southern Bluefin Tuna (*Thunnus maccoyii*, SBT) has been historically caught as a by-catch from longline fisheries targeting yellowfin since the late-1970s (Farley et al., 2014) and bigeye since the early 1980s after deep-longlining was introduced (Sadiyah et al., 2011). Among the tuna fishing ports, SBT mainly landed in Benoa. Landing activities are regularly monitored by Research Institute for Tuna Fisheries (RITF) through scientific port sampling and scientific observer programs. The first program was initiated in mid-2002 but had a long history as a collaboration project, traced back to 1993 (Farley *et al.*, 2014). On the other hand, the scientific observer program has been introduced since mid-2005 as an Indonesia-Australia collaboration (Project FIS/2002/074 of Australian Centre for International Agricultural Research). After 2010 the activities were conducted by RITF with support from the state budget. The scientific port sampling program has been on hold since 2022 due to the shifting research policy from the Ministry of Marine Affairs and Fisheries (MMAF) to the National Research and Innovation Agency (BRIN), while the observer program has continued under the Directorate General of Capture Fisheries (DGCF). SBT port sampling in Benoa is continuing under collaboration BRIN and CSIRO which start from December 2024 to date.

1.3. Overview of the Most Recent Fishing Season

Indonesia officially became a full member of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) in 2008. Therefore, Indonesia reserved the right to have a total allowable catch (TAC) of around 1,336 tons[1] for 2024-2026. To ensure the reliability of catch data, the Directorate General of Capture Fisheries (DGCF) has fully completed the catch documentation scheme (CDS), which was initially deployed in 2010 under the CCSBT framework. Since 2015, it has served as the foundation for official catch data. In 2025 the total catch was reported at 1,172 tons.

[1] Does not include 91.3 t to be repaid by Indonesia every year until 2026 as part of an agreed Payback Plan for a previous overcatch.

2. CATCH AND EFFORT

2.1. Trends by Gear Type

Historically, only tuna longline gear was used to catch SBT in Indonesia. However, in recent years, handline and troll line vessels have also been interacting with this species. In total, 182 longline, 9 handline, and 1 troll line vessels were interacted with the species.

2.2. Trends by Area and Season

Port sampling, observer program, Catch Documentation Scheme (CDS), and fisheries logbook were the tools used for monitoring the catch and effort of SBT. In terms of the latter, significant progress has been made since the implementation of the electronic logbook program in November 2018. The usual fishing season for SBT is from September to April with January, February and November being the most abundant months, while May and June being the least abundant (Table 1).

Since 2015, no SBT have been recorded outside CCSBT statistical areas 1 and 2. It appears that the fishing operations of tuna longline vessels have changed with more concentration in area 2 compared to area 1, as indicated by the decrease in activity in area 1 and the corresponding increase in area 2 since 2021 (Table 6). In 2025, the total catch was 310 tons in area 1 and 862 tons in area 2 (Table 2). The largest markets for SBT were the USA (fillets, loins, etc.) and Japan (fresh). Most exports to Japan were in GGO (gilled and gutted, tail on) form, requiring a conversion factor of 1.15 to estimate live weight. Consequently, the total estimated live weight in 2025 was 1,172 tons (Table 3), equivalent to 11,482 individuals. On the other hand, the total estimated effort in 2025 was around 19,4 million hooks (Table 4).

3. Nominal CPUE

3.1. Trends by Fleet

All recorded SBT catch was obtained from domestic fleets.

3.2. Trends by Area and Season

Catch-per-unit-of-effort (CPUE) from 2005 to 2016 was consistently low and stable. A large increase in catch per unit effort (CPUE) was recorded in 2017, reaching 2.14, likely resulting from high catch in Area 2, since 2021 the catch has shifted higher in area 2 (Table 2 and 5). This was followed by fluctuating trends, with CPUE values generally remaining below 1 fish per 1,000 hooks.

4. SIZE COMPOSITION

4.1. Trends by Fleet

The size of SBT has regularly monitored through port sampling, observer program, and Catch Documentation Scheme (CDS). This report presented size data from CDS. All the data recorded and reported came from the domestic fleets, consisted of small-scale fleet (up to 60 GT) and/or industrial fleet (60-200 GT) that operated in areas 1 and 2. Those fleets caught SBT with the size ranging between 53 and 218 cm FL in 2025 from areas 1 and 2 (Figures 1 and 2).

4.2. Trends by Area and Season

During the 2025 calendar year, a total of 12,754 individuals were measured and weighted to the nearest centimeter and kilogram. The individuals were mostly measured from area 2 (n=8,816), while the rest (n=2,666) were from area 1. The length-frequency distribution showed a consistent pattern in the last five years. In 2025, size from area 1 distributed between 95–209 cm FL (mean = 167.6 cm) (Figure 1), whereas from area 2 ranged from 53–218 cm FL (mean = 167.8 cm) (Figure 2).

5. FLEET SIZE AND DISTRIBUTION

5.1. Trends by Area and Season

In 2025, SBT catches were reported from 214 authorized longline vessels, 9 handline vessels, and 1 troll line vessel, out of a total of 319 registered longline and 18 artisanal vessels. The total number of active vessels in 2025 was 214 and it was increase compared to the previous year (211 vessels). 82 vessels were operated in area 1, and the rest (132) were in area 2 (Table 6).

6. RESEARCH AND MONITORING TO IMPROVE ESTIMATES OF ATTRIBUTABLE CATCH

6.1. RELEASE AND/OR DISCARDS

6.1.1. Current status

There is no regulation in place related to release and discards for southern bluefin tuna. The national regulation only applies to specific species of sharks and rays. Since all SBT were retained, there is no need for estimation on non-retained catches.

6.1.2. Research

There is currently no research in this area.

6.1.3. Monitoring

Monitoring compliance (for sharks and rays) with these requirements is conducted by self-reporting, scientific sampling at port and observer coverage.

6.2. RECREATIONAL FISHING

6.2.1. Current status

Since the traditional fishing ground of SBT is at least below 10^{o}S and reside on a deep layer water column, there is no reported catch or permission issuance on recreational fisheries for this species by the association (FORMASI) nor the government.

6.2.2. Research

There is currently no research in this area.

6.2.3. Monitoring

Monitoring of compliance (for other species) with these requirements is conducted by self-reporting.

6.3. OTHER SOURCES (EG CUSTOMARY, TRADITIONAL AND/OR ARTISANAL FISHING)

6.3.1. Current status

Other sources of SBT mortality may occur from the incidental catch by traditional handline fishers and artisanal longliners, which need further investigation. However, SBT catch from the traditional handline and troll line vessels has been reported in CDS of 2025.

6.3.2. Research

There is currently no research in this area.

6.3.3. Monitoring

Monitoring is conducted by self-reporting and scientific sampling at port.

7. DEVELOPMENT AND IMPLEMENTATION OF SCIENTIFIC OBSERVER PROGRAM

7.1. Observer training

Indonesia developed a scientific observer program in mid-2005, which was initially a collaboration program between Indonesia's Ministry of Marine Affairs through the Research Center for Capture Fisheries (RCCF) and CSIRO Marine and Atmospheric Research Australia (Sadiyah et al., 2012). The program was continued by Research Institute for Tuna Fisheries (RITF) in 2011 funded through the government state budget. Directorate General of Capture Fisheries (DGCF) is the governing body responsible for the recruitment and training of Fisheries Observers. 15 scientific observers were recruited and trained in 2014 through a week-long program. After new institutional arrangement for National Research and Innovation Agency in 2022, there are temporary no activities for scientific observer program under this agency. A National observer program that was established in 2013 following the Ministerial Regulation No. 01/PERMEN-KP/2013 and the Ministerial Regulation No. 33/PERMEN-KP/2021 is still running under DGCF.

7.2. Scientific observer program design and coverage

Summary of scientific observer activities for Longliner of a period 2005-2025 can be seen in Table 7. A total of 32 trips were observed in 2025, continuously increase compared to previous years. Every trip lasted between 7 and 93 days at sea, with 40 days/trip on average. In 2025, the total effort observed in areas 1 and 2 was 805,307 hooks, with observation slightly higher in area 2 (Table 8).

7.3. Observer data collected

Catch data: Amount of catch observed of SBT and other species (if collected), area and season, and % observed out of total estimated SBT catch by area and calendar year.
See **Tables 4** and **5**.
Effort data: Amount of effort observed (hooks), by area and calendar year and % observed out of total by area and seasons
See **Tables 4** and **5**.

Length frequency data: Number of fish measured per species, by area and calendar year.
It is not presented in this report.

Biological data: Type and quantity of other biological data or samples (otoliths, sex, maturity, gonadosomatic index, etc.) collected per species.
It is not presented in this report.

7.4. Tag return monitoring

One dart tag was reported during the observer trips in 2018 and 2022, but none in 2019 or 2020. Two dart tags were reported in 2023. There is no tag returned in 2024 and 2025.

7.5. Problems experienced

Retention from some fishing companies is no longer an issue in deploying scientific observers due to the assistance from FIP (Fisheries Improvement Project) Transition of research institutes under MMAF to BRIN has been completed, the continuation of scientific and port sampling programs was put on hold indefinitely due to budget constraint. In addition, since mid-2025, the observer deployment program has no longer been funded by the government. It is now funded primarily by fisheries participating in Fishery Improvement Programs (FIPs), with the program managed by the Directorate General of Capture Fisheries, Ministry of Marine Affairs and Fisheries (DGCF-MMAF).

8. OTHER RELEVANT INFORMATION

There is no information at the moment.

9. ACKNOWLEDGEMENTS

We acknowledge the past contribution of all active enumerators and observers in the Research Institute for Tuna Fisheries, Bali, for their significant research works and data. We also thanks ACIAR, CSIRO that shared a substantial role and contribution to strengthening research activities by improving port sampling and scientific observation. A significant contribution of the Directorate of Fish Resources, Directorate General for Capture Fisheries regarding CDS data, logbook and observer data, supports this national report.

10. REFERENCES

Farley, J.H., Eveson, J.P., Davis, T.L., Andamari, R., Proctor, C.H., Nugraha, B., Davies, C.R., 2014. Demographic structure, sex ratio and growth rates of southern bluefin tuna (Thunnus maccoyii) on the spawning ground. PloS one 9, e96392.

Ishida, K., Yamamoto, T., Gafa, B., 1994. Development of fisheries for tuna and tuna-like fish in Indonesia with particular reference to the Jakarta-based tuna longline fishery. IPTP/94/WP/26, FAO.

Proctor, C.H., Merta, G.S., Sondita, M.F.A., Wahju, R.I., Davis, T.L., Gunn, J.S., Andamari, R., 2003. A review of Indonesia's Indian Ocean tuna fisheries. CSIRO Marine Research, Australia.

Sadiyah, L., Dowling, N., Prisantoso, B.I., 2012. Developing Recommendations for Undertaking CPUE Standardisation Using Observer Program Data. Indonesian Fisheries Research Journal 18, 19–33. https://doi.org/10.15578/ifrj.18.1.2012.19-33

Sadiyah, L., Dowling, N., Prisantoso, B.I., 2011. Changes in fishing pattern from surface to deep longline fishing by the Indonesian vessels operating in the Indian Ocean. Ind. Fis. Res. J. 17, 87–99. http://dx.doi.org/10.15578/ifrj.17.2.2011.87-99

Satria,F., Sadiyah,L., Setyadji,B, ,Raup, S.A., Mardi, S., Suadela P., Slamet D, Budiarto. A, and Patmiarsih.S, 2025. Indonesia’s tuna longline fishery interacted with Southern Bluefin Tuna in 2024. CCSBT-ESC/2508/SBT Fisheries – Indonesia (Rev.1)

Table 1. Nominal catch by month (in tons).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	All
2011	69	61	97	78	62	17	67	70	79	117	48	77	842
2012	68	75	53	44	12	20	49	110	147	128	99	105	910
2013	156	245	232	114	18	21	28	93	126	105	134	110	1,383
2014	86	119	102	54	26	35	30	84	86	127	148	167	1,063
2015	83	92	129	59	5	1	3	6	37	64	39	74	593
2016	75	131	95	56	33	24	30	28	49	39	12	29	601
2017	82	98	104	68	14	0	3	46	98	119	134	68	835
2018	241	243	191	95	12	3	4	28	60	82	79	48	1,087
2019	139	123	81	29	19	22	46	79	169	173	203	123	1,206
2020	384	360	181	89	57	11	7	35	63	72	33	5	1,298
2021	340	269	186	78	17	13	4	13	80	36	20	67	1,123
2022	172	175	105	28	15	17	34	47	93	93	156	97	1,031
2023	323	105	87	32	14	10	29	60	81	105	126	61	1,031
2024	354	236	138	114	34	37	36	24	85	67	49	49	1,224
2025	150	77	64	25	10	20	79	122	89	190	170	177	1,172

Table 2. Nominal catch by statistical area (in tons).

Year	Area1	Area2	Area8	Area9	Area14	All
2011	616	30	175	17	4	842
2012	676	218	10	6	0	910
2013	1,061	241	74	6	0	1,383
2014	802	121	140	0	0	1,063
2015	593	0	0	0	0	593
2016	601	0	0	0	0	601
2017	700	135	0	0	0	835
2018	773	313	0	0	0	1,087
2019	1,015	191	0	0	0	1,206
2020	1,067	231	0	0	0	1,298
2021	482	641	0	0	0	1,123
2022	139	892	0	0	0	1,031
2023	202	829	0	0	0	1,031
2024	214	1,010	0	0	0	1,224
2025	310	862	0	0	0	1,172

Table 3. Annual catches of SBT (in tons).

Year	Reported to CCSBT	National Fisheries Statistics	CDS
2015	593	593	593
2016	601	601	601
2017	835	835	835
2018	1,087	1,087	1,087
2019	1,206	1,206	1,206
2020	1,298	1,298	1,298
2021	1,123	1,123	1,123
2022	1,031	1,031	1,031
2023	1,031	1,031	1,031
2024	1,224	1,224	1,224
2025	1,172	1,172	1,153

Note: Since 2025, Southern Bluefin Tuna (SBT) catches from artisanal fisheries and those not intended for export have no longer been recorded in the Catch Documentation Scheme (CDS), but they continue to be reported through national reporting mechanisms. In 2025, 19 tonnes of Southern Bluefin Tuna (SBT) were caught by the artisanal fishery and were not recorded in the *Catch Documentation Scheme* (CDS).

Table 4. The total estimated effort by statistical area (source: scientific observer program RITF 2010-2021, **observer Program** DGCF 2022-2025).

Country / Fishing Entity	Calendar Year	Fishery		CCSBT Statistical Area	Total & Observed Effort		
		Gear Code	Fleet Code		Total Effort[2]	Total Observed Effort	Observer Coverage (percentage)
ID	2010	LL	IDD	1	NA	189,086	NA
ID	2011	LL	IDD	1	NA	110,384	NA
ID	2012	LL	IDD	1	NA	98,916	NA
ID	2012	LL	IDD	2	NA	154,074	NA
ID	2013	LL	IDD	1	NA	244,383	NA
ID	2014	LL	IDD	1	NA	141,428	NA
ID	2015	LL	IDD	1	NA	147,526	NA
ID	2016	LL	IDD	1	NA	95,167	NA
ID	2017	LL	IDD	1	17,312,208	32,212	0.19
ID	2017	LL	IDD	2	3,660,367	63,960	1.75
ID	2018	LL	IDD	1	22,198,042	160,686	0.72
ID	2018	LL	IDD	2	7,043,942	19,890	0.28
ID	2019	LL	IDD	1	18,510,529	84,947	0.46
ID	2019	LL	IDD	2	8,063,024	63,850	0.79
ID	2020	LL	IDD	1	17,898,400	65,914	0.37
ID	2020	LL	IDD	2	10,656,100	20,930	0.20
ID	2021	LL	IDD	1	14,574,260	84,516	0.58
ID	2021	LL	IDD	2	8,256,944	94,445	1.14
ID	2022	LL	IDD	1	9,792,081	177,700	1.81
ID	2022	LL	IDD	2	12,336,846	144,736	1.17
ID	2023	LL	IDD	1	20,554,300	73,653	0.36
ID	2023	LL	IDD	2	10,857,600	235,072	2.16
ID	2024	LL	IDD	1	12,730,814	253,313	1.99
ID	2024	LL	IDD	2	16,467,931	377,127	2.29
ID	2025	LL	IDD	1	11,899,307	316,121	2.65
ID	2025	LL	IDD	2	7,537,458	489,186	6.49

Data 2025 was validated by DGCF prior to ESC 31th of the CCSBT

[2] Estimated based on CDS active vessel list

Table 5. Nominal CPUE by statistical area. Source: scientific observer program RITF 2005-2021, logbook program of DGCF 2017-2025 and observer Program of DGCF 2022-2025.

Year	CPUE from Scientific Observer (No/1000 hooks)			CPUE from Logbook (kg/1000 hooks)		
	Area 1	Area 2	Combined	Area 1	Area 2	Combined
2005	0.04	NA	0.04	NA	NA	NA
2006	0.07	0.66	0.25	NA	NA	NA
2007	0.03	0.30	0.10	NA	NA	NA
2008	0.02	0.00	0.02	NA	NA	NA
2009	0.09	NA	0.09	NA	NA	NA
2010	0.02	NA	0.02	NA	NA	NA
2011	0.05	NA	0.05	NA	NA	NA
2012	0.22	0.03	0.11	NA	NA	NA
2013	0.12	NA	0.12	NA	NA	NA
2014	0.09	NA	0.09	NA	NA	NA
2015	0.08	NA	0.08	NA	NA	NA
2016	0.04	NA	0.04	NA	NA	NA
2017	0.00	3.22	2.14	13.21	28.79	21.00
2018	0.57	3.42	0.89	56.87	152.34	104.60
2019	0.24	1.06	0.65	24.73	225.07	124.90
2020	0.10	0.09	0.10	11.93	49.57	26.00
2021	0.28	1.16	0.66	21.19	86.89	39.05
2022	0.00	0.31	0.14	43.86	284.76	45.49
2023	0.00	0.84	0.53	7.19	18.40	11.30
2024	0.09	1.80	0.79	6.16	28.73	10.56
2025	0.34	2.23	1.49	26.05	114.36	60.29

Table 6. Number of active vessels recorded by statistical area.

Year	Area 1	Area 2	Area 8	Area 9	Area 14	Total
2010	180	5	0	1	0	186
2011	166	15	4	1	1	187
2012	135	3	6	1	0	145
2013	153	2	2	1	0	158
2014	188	1	2	0	0	191
2015	112	0	0	0	0	112
2016	107	0	0	0	0	107
2017	108	1	0	0	0	109
2018	119	20	0	0	0	139
2019	120	30	0	0	0	150
2020	118	37	0	0	0	155
2021	64	85	0	0	0	149
2022	43	127	0	0	0	170
2023	86	149	0	0	0	235
2024	92	119	0	0	0	211
2025	82	132	0	0	0	214

Table 7. Summary of scientific observer activities for Longliner of a period 2005-2021 (RITF) and observer program 2022-2025 (DGCF).

Year	No. Of Obs	No. Of Trips	No. Of Company	Number of Hooks	Total Day at Sea (DAS)	Range DAS	Mean DAS
2005	6	6	1	140,406	251	19-22	20
2006	6	19	5	667,479	758	7-99	39
2007	6	14	5	396,952	648	21-108	34
2008	5	15	7	523,627	481	23-66	30
2009	5	14	8	321,591	535	15-59	38
2010	5	8	4	220,302	240	40-50	50
2011	5	6	3	131,644	210	30-50	40
2012	6	7	5	282,147	496	11-93	83
2013	5	3	3	251,774	170	52-60	57
2014	8	6	4	216,641	371	29-90	62
2015	4	5	5	172,463	241	31-61	48
2016	3	3	3	175,868	170	32-86	57
2017	5	5	5	192,188	241	31-61	48
2018	6	6	6	262,856	321	26-83	53
2019	5	9	4	216,836	328	15-104	36
2020	2	2	2	86,845	108	26-81	54
2021	4	5	5	197,424	248	21-90	48
2022	9	10	7	396,700	453	24-84	45
2023	5	7	4	308,725	358	17-116	51
2024	21	25	15	751,963	1,102	18-69	44
2025	26	32	21	926,238	1276	7-93	40

Note: information for 2022-2025 includes observer trips occurred in the CCSBT Statistical Areas 0,1 and 2.

Table 8. Summary of observer activities for tuna longliners in 2025 (source: DGCF).

Trip ID	Day at sea	No. of Setting	No. of Hooks	No. of SBT	HR (x1000)	CCSBT Statistical Area
LL202501	40	27	41216	0	0	0
LL202502	26	5	9100	0	0	1
LL202503	24	12	17100	0	0	1
LL202504	61	22	45190	0	0	1
LL202505	50	14	31850	3	0,094	1
LL202506	43	14	26642	0	0	1
LL202507	33	16	27783	0	0	0
LL202508	33	16	26975	4	0,148	1
LL202509	25	15	25545	8	0,313	1
LL202510	93	18	50934	42	0,825	2
LL202511	39	11	25950	17	0,655	2
LL202512	75	34	91819	243	2,647	2
LL202513	30	21	22880	0	0	0
LL202514	7	1	1625	0	0	1
LL202515	39	9	25116	12	0,478	2
LL202516	33	10	26754	12	0,449	2
LL202517	41	10	18072	56	3,099	2
LL202520	33	10	21515	31	1,441	2
LL202521	60	1	1740	2	1,149	1
LL202521	60	19	28620	71	2,481	2

LL202522	60	25	53460	23	0,43	2
LL202523	60	23	45080	29	0,643	2
LL202524	28	15	18900	27	1,429	1
LL202525	29	18	27690	9	0,325	1
LL202526	40	14	21692	15	0,691	1
LL202526	40	6	9384	6	0,639	2
LL202527	34	18	20880	8	0,383	1
LL202527	34	1	1160	1	0,862	2
LL202528	31	16	22712	29	1,277	1
LL202529	24	8	12600	0	0	0
LL202530	19	11	18480	3	0,162	1
LL202531	23	9	13332	0	0	0

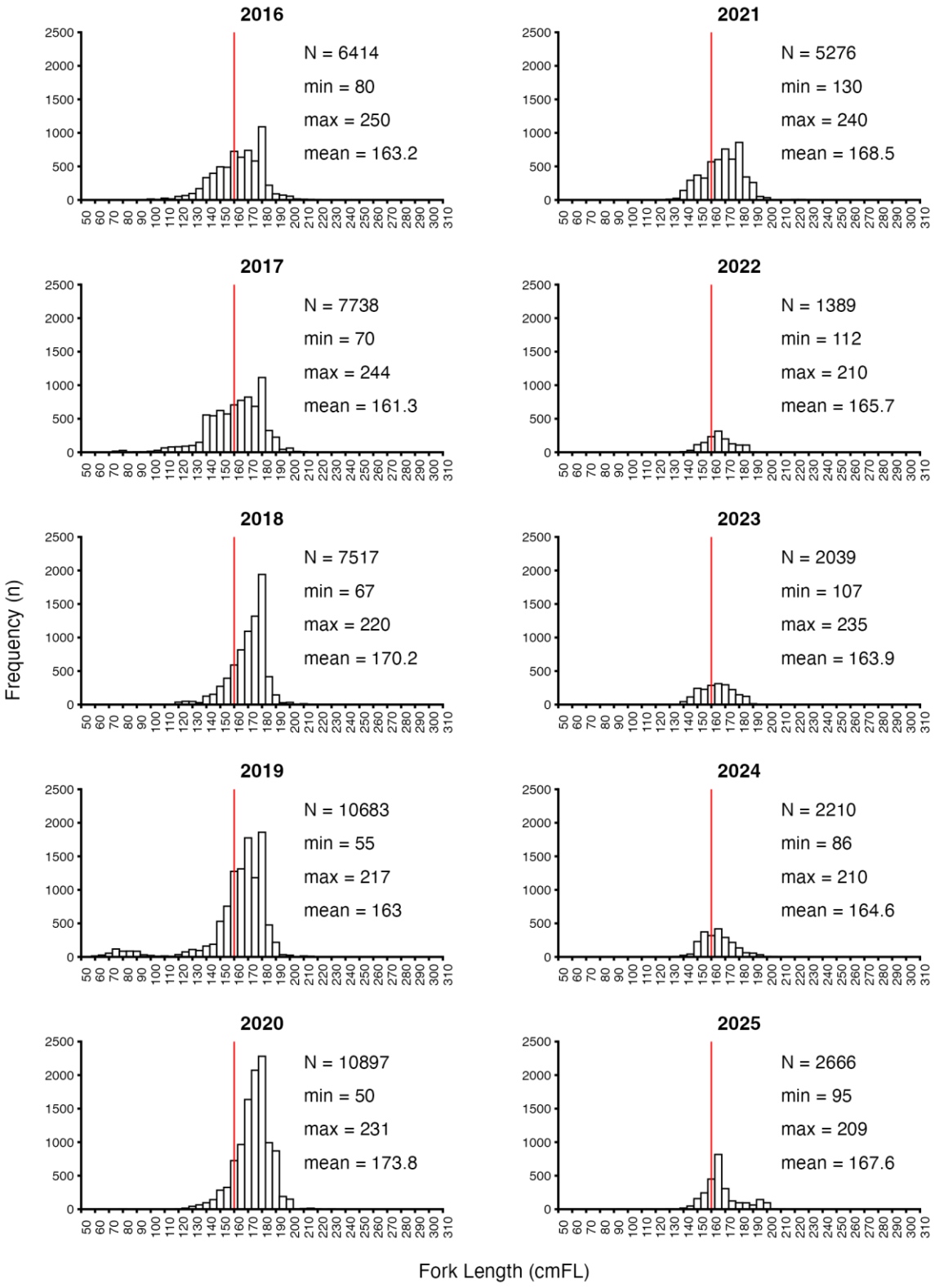


Figure 1. Length frequency distribution of all individual SBT from area 1 based on CDS data 2015-2025 (remarks= red line is a threshold for small SBT). Area 1 N=2666 min 95 max 209 mean 167.6

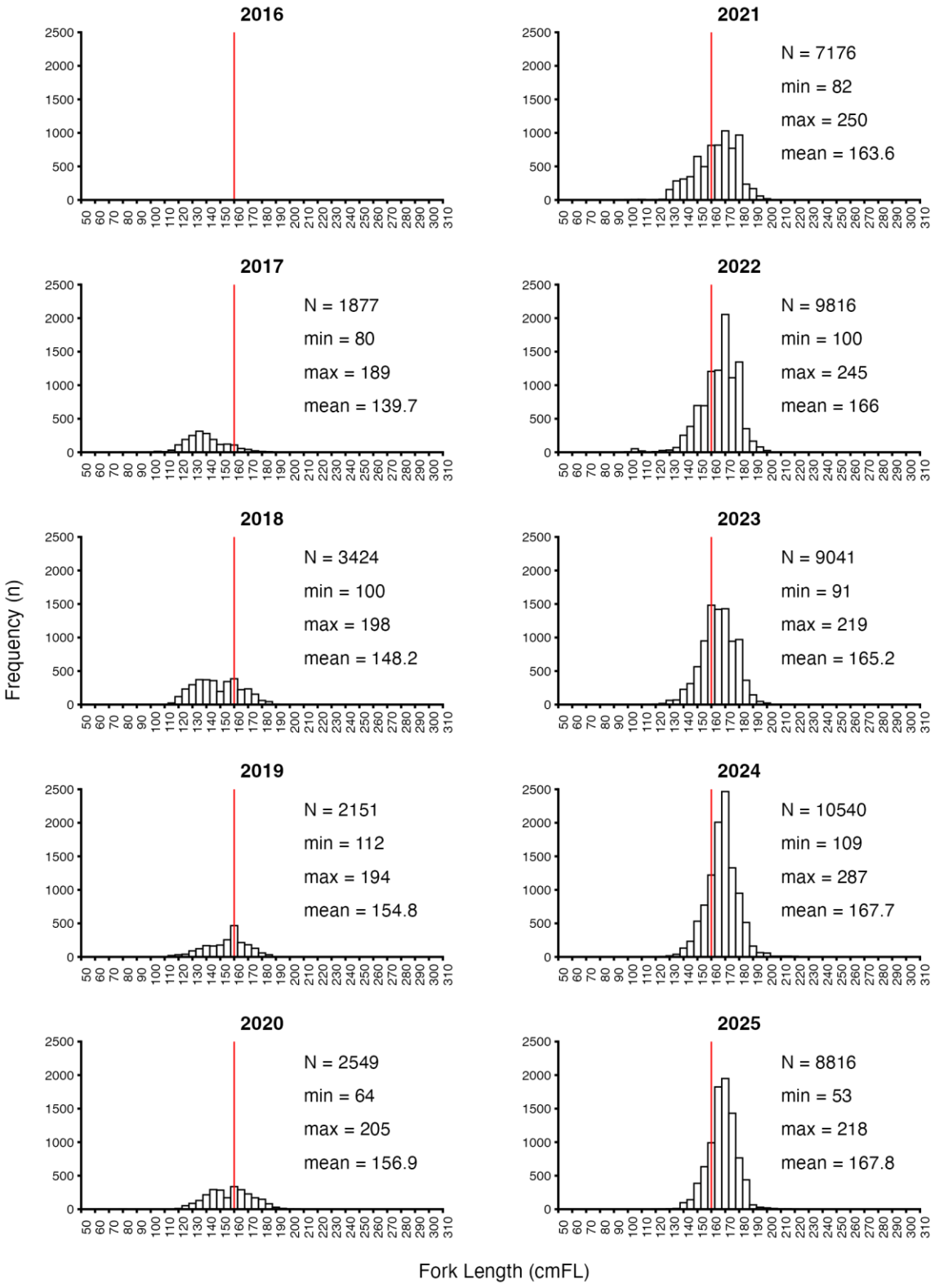


Figure 2. Length frequency distribution of all individual SBT from area 2 based on CDS data 2015-2025 (remarks= red line is a threshold for small SBT). Area 2 n=8816 min 53 max 218 mean 167.8