Review of Taiwan SBT Fishery of 2023/2024

1. Introduction

In the 1970s, the main target species of the Taiwanese conventional tuna longline fishery was albacore. Since 1980s, some operators began to build new vessels equipped with super freezer for fishing tropical tuna and started fishing SBT seasonally in early 1990s. Generally, the authorized SBT fishing fleet comes from tropical tuna fishing vessels, which shift southward and mainly operate in the central south Indian Ocean (Area 2 and 14) for SBT from March to September with some operating in the high seas area off South Africa (Area 14 and 9) for SBT from October to February of following year. In 2024, besides the Indian Ocean SBT longline fishing fleet, there were three tuna longline fishing vessels authorized to target SBT in the south Pacific Ocean (Area 4, 5 and 12) seasonally.

The annual catches of SBT were less than 250 tons in early 1980s, and the catches of SBT increased to a range of about 900 tons to 1,600 tons from 1990 to 2002 with the increase of fleet size and the expansion of fishing grounds. Since 2002, Taiwan has become a member of the Extend Commission of CCSBT, and its national allocation has been set at 1,140 tons. The annual catches of SBT fluctuated between 500 tons and 1,300 tons from 2002 to 2023. In 2024, 57 fishing vessels were authorized to fish for SBT and the catch was 1,353 tons on a calendar year basis and 1,264 tons on a quota year basis.

2. Catch and Effort

Taiwanese SBT longline fishery mainly operates in Area 2, Area 14, Area 8 and Area 9 (here after: major Areas) seasonally. The catch and efforts by calendar year are provided in Table 1 and Figure 1.

The annual catches of SBT ranged from 494 to 1,353 tons between 2002 and 2024 (Table 1) with the highest catch in 2024. The catch declined significantly to 533 tons in 2011 was that the majority of shared quota of 2010 and 2011 had been used in 2010 and less fishing vessels engaged in SBT fishery in 2011. The low catch in 2012 was

due to a high catch rate of bigeye tuna in tropical areas and most of fishing vessels remained in tropical areas to target bigeye tuna. The annual catches of SBT resumed in 2013 for the returning of fishing vessels targeting SBT and kept at a stable level afterward.

Figure 1 shows the variation of annual catches in number between 2002 and 2024. Most of the catches were made in Area 2 and 14, and the SBT catch in number were caught in major Areas fluctuated between 28,000 and 41,000 during 2002-2010. After that, the number of SBT catch decreased rapidly in the following two years (2011-2012) and resumed to the level of 26,000-37,000 from 2013 to 2024.

The fishing efforts of 2002 and 2003 shown in Table 1 were aggregated all fishing efforts made by SBT fishing vessels, including the fishing efforts deployed in the tropical areas for bigeye tuna. Since 2004, only the fishing efforts of SBT vessels operated in the area south 20°S were included as fishing efforts for SBT.

The area-specific and monthly catches and fishing efforts of Taiwanese SBT longline fishing vessels in recent 5 years (2020-2024) are provided in Tables 2 and 3. It is observed that most of fishing efforts and catch were made in major Areas, and it should be noted that the fishing efforts made in Area 9 were mainly from the fishing vessels targeting oilfish or escolar in the Indian Ocean, and the fishing efforts made in Area 15 were mainly from fishing vessels targeting albacore with by-catch of SBT. In 2024, the authorized SBT fishing fleet including seasonal targeting SBT fishing vessels and by-catch vessels, which mainly operated in the south Indian Ocean (Area2,14, 8 and 9).

3. Nominal CPUE

The annual nominal CPUE of calendar years is shown in Table 1 and Figure 1. The nominal CPUE aggregated by the data from all areas reached the highest level in 2005, while the nominal CPUE aggregated by the data from major Areas reached the highest level in 2012.

It was noted that catches were mainly made in Areas 2 and 14 (Table 2), but it was noted there were significant fishing efforts deployed in Area 9 for oilfish or escolar (Table 3). The area-specific and monthly nominal CPUE in recent 5 years are provided in Table 4 and Figure 2. It was observed that the nominal CPUEs in Area 2 were

generally higher than those in other areas.

4. Size composition

Before 2002, SBT fishing vessels were required to report their operation position, weights of SBT catches on weekly basis, afterwards they were requested to report the length of individual SBT catch between 2002 to 2009. With the implementation of catch documentation scheme (CDS) in 2010, the length and weight of all individual SBT catch are collected through CDS scheme.

The annual area-specific size compositions are shown in Figure 3 and Figure 4. It was observed that the size composition mainly concentrated at the range of 110 cm to 125 cm among all areas of 2010s. However, the mode at 150 cm was observed in other areas with fewer number of catches compared with that of the major Areas (Figure 3).

In the recent 5 years (2020-2024), the size composition generally concentrated at the range of 116 cm to 126 cm among all areas (Figure 4) with a mode at 120 cm in 2024.

5. Fleet size and fishing efforts distributions

According to the weekly reports and trading documents, there were more than 100 fishing vessels engaging in SBT fishery during 1998 to 2001. Since Taiwan became a member of the Extend Commission of CCSBT in 2002, all SBT fishing vessels have to be authorized to access this fishery, and the authorizations are reviewed and renewed by Fishery Agency (FA) of Taiwan annually.

The numbers of fishing vessels engaging in SBT fishery ranged from 30 to 100 from 2002 to 2024 (Table 5). From 2005 to 2008, the number of fishing vessels decreased significantly for some fishing vessels shifted to the waters off South Africa to target oilfish or escolar. In 2009 and 2010, the number of fishing vessels increased for some tropical tuna fishing vessels shifted operations southward due to piracy. The number of fishing vessels decreased to 56 in 2011 as national SBT allocation was set at 578 tons and decreased further to 36 in 2012 for most fishing vessels remained in tropical area fishing for bigeye tuna. Owing to a poor catch of tropical tuna in 2013, the fishing vessels returned to SBT fishing ground and the number of SBT longline fishing vessels increased substantially to 76 with a slight decrease to 71 and 72 in 2014 and

2015. In 2016, some fishing vessels remained in tropical areas to target yellowfin tuna, so the number of SBT fishing vessels decreased to 60. On the contrary, the number of fishing vessels increased to 75 and 77 respectively in 2017 and 2018, due to the poor catch of tropical tuna. The number of SBT fishing vessels of 2019 and 2020 were 72 and 70 respectively. The number of SBT fishing vessels decreased to 58 in 2021 mainly because there were fewer by-catch fishing vessels in 2021 than in 2020 by 11vessels. The difference of the number of SBT fishing vessels between 2021 and 2022 was caused by a decrease of 9 by-catch fishing vessels plus an increase of 6 seasonal target vessels. And the number of fishing vessels increased to 64 in 2023, driven by the rise in both by-catch fishing vessels and seasonal target vessels. Regarding the difference of the SBT fishing fleet structure between 2023 and 2024, there were 12 by-catch fishing vessels less and 5 seasonal targeting vessels more in 2024.

Taiwanese SBT fishing vessels seasonally targeting SBT mainly operate in the waters of 20°S - 40°S in the Indian Ocean and the areas adjacent to the Atlantic Ocean. The distributions of fishing efforts and SBT catch in number are shown in Figure 5 to Figure 8. There are two major fishing grounds in general with one in the southern central Indian Ocean around 50°E-105°E, 20°S-40°S, and the other one in the high seas area off South Africa around 20°E-50°E, 25°S-45°S. The fishing season for Taiwanese SBT fishery in the southern central Indian Ocean is from March to September, and the fishing season in the southwest Indian Ocean is from October to February of following year. It was observed that the fishing efforts and SBT catches were mainly made in Areas 2, 8,14 and 9 in the second and the third quarters. The fishing efforts deployed in Area 9 are mainly from the fishing vessels targeting oilfish or escolar with SBT bycatch in the fourth quarter and the first quarter of the following year. In both the Pacific and Atlantic Oceans, fishing effort and catches primarily come from bycatch fishing vessels.

6. Research and monitoring to improve estimates of attributable catch

The number of SBT discarded by fishing vessels were 931 and 588 in 2023 and 2024, respectively. And these figures had been provided to the Commission as non-retained catches of Taiwanese SBT fishery.

Based on the discard information recorded by Taiwanese scientific observer program and e-logbook collected from Taiwanese longline vessels, we processed a

procedure similar to the bootstrap approach to estimate total amount of estimated discards of Taiwanese fleet were less than 10 tons (per year). The details of the methodology please refer to CCSBT-ESC/2008/31.

7. Development and implementation of scientific observer programs

Appendix 1 provides the summary report on the implementation of scientific observer program.

8. Other relevant information

The collaboration between Taiwan and Australia on SBT archival tagging program had been conducted during 2004 to 2007. The observers were dispatched to Taiwanese SBT fishing vessels and carried out tagging. There were 37, 48, 25 and 50 archival tags successfully settled during 2004 to 2007. The results were incorporated into the documents of CCSBT-ESC/0709/20 and CCSBT-ESC/0809/23.

To test the effectiveness of fishers' hand-made tori line, the Royal Society of the Protection of Birds (RSPB), Taiwan Wild Bird Federation (TWBF) and the FA jointly conducted an at-sea paired comparison of different tori lines trails on both small- and large-scale longline vessels in 2021

The International Seafood Sustainability Foundation (ISSF), the CCSBT and the FA of Taiwan co-organized a Longline Skipper Workshop for Sustainable Fishing Best Practice in 2024. The participants of this workshop included port inspectors, inspector trainees, fishing masters, managers of fishing companies, observers and observer program managers.

Table 1 Annual catches of SBT in weight and in number, fishing efforts and nominal CPUE of Taiwanese SBT longline fishery

Unit: Hooks_N: thousand hooks;
SBT_W: round weight in ton;
CPUE: SBT catch in number / number of hooks;

Calendar year	Hooks_N		SBT_N		SBT_W		CPUE	
	All Area	Area 2、14、8、9	All Area	Area 2、14、8、9	All Area	Area 2、14、8、9	All Area	Area 2、14、8、9
2002*	102,908	39,188	34,841	34,754	1,137	1,132	0.34	0.89
2003*	144,620	44,570	31,606	28,768	1,129	1,045	0.22	0.65
2004	36,055	34,993	42,151	41,733	1,298	1,279	1.17	1.19
2005	20,471	19,375	33,319	33,266	941	937	1.63	1.72
2006	20,444	18,919	30,667	30,660	846	845	1.50	1.62
2007	26,185	25,532	33,776	33,772	841	841	1.29	1.32
2008	28,724	26,656	35,144	35,082	913	911	1.22	1.32
2009	37,236	32,380	31,801	31,639	921	913	0.85	0.98
2010	40,916	33,897	33,407	33,263	1,208	1,201	0.82	0.98
2011	27,062	20,327	15,156	14,884	533	520	0.56	0.73
2012	18,414	9,702	17,578	17,198	494	472	0.95	1.77
2013	34,817	25,188	33,583	33,186	1,004	980	0.96	1.33
2014	30,823	21,067	26,659	26,300	944	922	0.86	1.27
2015	31,753	22,875	33,004	32,663	1,162	1,143	1.04	1.44
2016	32,071	27,865	30,392	30,204	1,023	1,013	0.95	1.09
2017	40,858	38,197	32,864	32,809	1,171	1,168	0.8	0.86
2018	36,206	33,251	35,784	35,671	1,218	1,211	0.99	1.08
2019	37,274	35,212	34,615	34,560	1,229	1,226	0.93	0.98
2020	37,239	33,785	29,514	29,456	1,116	1,113	0.79	0.87
2021	24,857	23,979	37,878	37,837	1,274	1,272	1.52	1.58
2022	23,673	22,414	36,183	36,117	1,318	1,315	1.53	1.61
2023	30,507	28,892	28,023	27,939	1,135	1,130	0.92	0.97
2024	26,092	22,917	37,443	36,938	1,353	1,326	1.44	1.63

* Including efforts deployed in the tropical areas for tropical tuna.

Table 2 SBT catch in number by area, by month and by year of Taiwanese SBT longline fishery

Year	Month	Area1	Area2	Area3	Area4	Area5	Area6	Area7	Area8	Area9	Area10	Area11	Area12	Area13	Area14	Area15
2020	**Total**	**0**	**12107**	**0**	**0**	**13**	**0**	**0**	**4507**	**841**	**0**	**0**	**0**	**0**	**12001**	**45**
	1	-	-	-	-	-	-	-	-	-	-	0	-	-	0	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	15	-	-	-	-	-	1357	0	-	-	-	-	0	0
	4	-	42	-	-	0	-	-	2681	11	-	-	-	-	0	1
	5	-	1329	-	-	8	-	-	320	28	-	-	-	-	587	1
	6	-	4424	-	-	5	-	-	149	57	-	-	0	-	2911	11
	7	-	4335	-	-	-	-	-	-	70	-	-	0	-	4282	13
	8	-	1955	-	-	0	-	-	-	143	-	-	0	-	3602	5
	9	-	7	-	-	-	-	-	-	385	-	-	-	-	619	13
	10	-	-	-	-	-	-	-	-	147	-	0	-	-	0	1
	11	-	-	-	-	-	-	-	-	0	-	0	-	-	0	0
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
2021	**Total**	**0**	**14986**	**0**	**0**	**0**	**0**	**0**	**4115**	**604**	**0**	**0**	**0**	**0**	**18132**	**41**
	1	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	0	-	-	-	-	-	1168	0	-	-	-	-	0	-
	4	-	-	-	-	-	-	-	1136	47	-	-	-	-	0	0
	5	-	1316	-	-	-	-	-	1657	164	-	-	-	-	82	0
	6	-	4538	-	-	-	-	-	154	75	-	-	-	-	2373	8
	7	-	5988	-	-	-	-	-	-	122	-	-	-	-	9064	12
	8	-	2968	-	-	-	-	-	-	9	-	-	-	-	6479	21
	9	-	176	-	-	-	-	-	-	54	-	-	-	-	134	-
	10	-	-	-	-	-	-	-	-	133	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	**Total**	**0**	**8052**	**0**	**0**	**0**	**0**	**0**	**9192**	**491**	**0**	**0**	**0**	**0**	**18382**	**66**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	64	-	-	-	-	-	632	0	-	0	-	-	-	0
	4	-	83	-	-	-	-	-	3281	0	-	-	-	-	0	-
	5	-	1157	-	-	-	-	-	4015	0	-	-	-	-	24	1
	6	-	3065	-	-	-	-	-	1180	207	-	-	-	-	3806	12
	7	-	2863	-	-	-	-	-	84	16	-	-	-	-	10138	7
	8	-	692	-	-	-	-	-	-	74	-	-	-	-	4384	34
	9	-	128	-	-	-	-	-	-	44	-	-	-	-	30	12
	10	-	-	-	-	-	-	-	-	150	-	-	-	-	0	-
	11	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	**Total**	**0**	**6387**	**0**	**43**	**0**	**0**	**0**	**8632**	**637**	**0**	**0**	**1**	**0**	**12283**	**40**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	23	-	-	-	-	-	438	0	-	-	-	-	0	-
	4	-	6	-	0	-	-	-	2148	100	-	-	-	-	0	-
	5	-	79	-	3	-	-	-	4939	121	-	-	-	-	2	0
	6	-	2716	-	40	-	-	-	901	59	-	-	-	-	870	0
	7	-	2542	-	0	0	-	-	-	123	-	-	1	-	5211	40
	8	-	902	-	0	-	-	-	206	40	-	-	0	-	6200	0
	9	-	119	-	-	0	-	-	-	38	-	-	0	-	0	-
	10	-	-	-	-	-	-	-	-	70	-	-	-	-	0	-
	11	-	-	-	-	-	-	-	-	32	-	-	-	-	0	-
	12	-	-	-	-	-	-	-	-	54	-	-	-	-	0	-
2024	**Total**	**0**	**13752**	**0**	**102**	**198**	**0**	**86**	**3893**	**476**	**0**	**0**	**61**	**0**	**18817**	**58**
	1	-	-	-	-	-	-	-	-	0	-	-	-	-	2793	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	64	0	-	-	-	-	3	-
	4	-	0	-	-	-	-	-	1326	0	-	-	0	-	0	-
	5	-	368	-	59	0	-	86	1871	0	-	-	0	-	97	21
	6	-	4099	-	43	0	-	-	257	15	-	-	3	-	4533	0
	7	-	4912	-	0	-	-	-	-	15	-	-	38	-	6261	2
	8	-	4220	-	0	198	-	-	82	8	-	-	16	-	3875	35
	9	-	153	-	-	-	-	-	293	305	-	-	4	-	625	0
	10	-	-	-	-	-	-	-	-	129	-	-	0	-	0	0
	11	-	-	-	-	-	-	-	-	4	-	-	0	-	-	0
	12	-	-	-	-	-	-	-	-	0	-	-	0	-	630	0

Table 3 Number of hooks (thousand hooks) deployed by area, by month and by year of Taiwanese SBT longline fishery

Year	Month	Area1	Area2	Area3	Area4	Area5	Area6	Area7	Area8	Area9	Area10	Area11	Area12	Area13	Area14	Area15
2020	**Total**	**0**	**3892**	**0**	**0**	**253**	**0**	**0**	**3600**	**13467**	**0**	**23**	**181**	**0**	**12828**	**2997**
	1	-	-	-	-	-	-	-	-	-	-	4	-	-	150	-
	2	-	-	-	-	-	-	-	-	4	-	-	-	-	16	-
	3	-	7	-	-	-	-	-	1303	903	-	-	-	-	14	158
	4	-	169	-	-	42	-	-	1902	2195	-	-	-	-	294	284
	5	-	739	-	-	111	-	-	383	2415	-	-	-	-	1789	469
	6	-	1290	-	-	92	-	-	12	2244	-	-	12	-	1622	573
	7	-	1197	-	-	-	-	-	-	1440	-	-	100	-	3431	473
	8	-	465	-	-	8	-	-	-	1010	-	-	69	-	3374	364
	9	-	25	-	-	-	-	-	-	2001	-	-	-	-	1400	269
	10	-	-	-	-	-	-	-	-	1112	-	4	-	-	717	287
	11	-	-	-	-	-	-	-	-	143	-	15	-	-	21	116
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
2021	**Total**	**0**	**3723**	**0**	**0**	**0**	**0**	**0**	**2458**	**8102**	**0**	**0**	**0**	**0**	**9694**	**880**
	1	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	107	-	-	-	-	4	-
	3	-	18	-	-	-	-	-	460	868	-	-	-	-	15	-
	4	-	-	-	-	-	-	-	1089	2009	-	-	-	-	45	50
	5	-	492	-	-	-	-	-	793	2212	-	-	-	-	697	268
	6	-	1406	-	-	-	-	-	116	1251	-	-	-	-	1963	293
	7	-	1138	-	-	-	-	-	-	885	-	-	-	-	3344	209
	8	-	581	-	-	-	-	-	-	181	-	-	-	-	3433	60
	9	-	88	-	-	-	-	-	-	269	-	-	-	-	193	-
	10	-	-	-	-	-	-	-	-	173	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	56	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	**Total**	**0**	**3245**	**0**	**0**	**0**	**0**	**0**	**6337**	**5701**	**0**	**20**	**0**	**0**	**7134**	**1239**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	30	-	-	-	-	-	-	73	-	-	-	-	10	-
	3	-	144	-	-	-	-	-	1058	283	-	20	-	-	-	37
	4	-	71	-	-	-	-	-	2586	1050	-	-	-	-	7	-
	5	-	845	-	-	-	-	-	2105	1151	-	-	-	-	165	247
	6	-	1116	-	-	-	-	-	541	1028	-	-	-	-	1570	284
	7	-	742	-	-	-	-	-	47	935	-	-	-	-	2919	207
	8	-	243	-	-	-	-	-	-	814	-	-	-	-	1500	311
	9	-	54	-	-	-	-	-	-	232	-	-	-	-	873	153
	10	-	-	-	-	-	-	-	-	131	-	-	-	-	90	-
	11	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	**Total**	**0**	**2792**	**0**	**950**	**54**	**0**	**0**	**6977**	**10592**	**0**	**0**	**279**	**0**	**8532**	**333**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	108	-	-	-	-	-	-	60	-	-	-	-	75	-
	3	-	75	-	-	-	-	-	1234	667	-	-	-	-	15	-
	4	-	40	-	112	-	-	-	2477	1242	-	-	-	-	38	-
	5	-	108	-	240	-	-	-	2791	1568	-	-	-	-	246	26
	6	-	1395	-	331	-	-	-	399	874	-	-	-	-	1663	136
	7	-	643	-	205	14	-	-	-	887	-	-	69	-	3468	129
	8	-	331	-	62	-	-	-	76	1176	-	-	163	-	2587	42
	9	-	92	-	-	40	-	-	-	908	-	-	47	-	421	-
	10	-	-	-	-	-	-	-	-	1141	-	-	-	-	4	-
	11	-	-	-	-	-	-	-	-	1051	-	-	-	-	3	-
	12	-	-	-	-	-	-	-	-	1018	-	-	-	-	12	-
2024	**Total**	**0**	**4129**	**0**	**522**	**152**	**0**	**27**	**3378**	**8315**	**0**	**0**	**1417**	**0**	**7094**	**1059**
	1	-	-	-	-	-	-	-	-	68	-	-	-	-	135	-
	2	-	-	-	-	-	-	-	-	58	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	195	529	-	-	-	-	40	-
	4	-	10	-	-	-	-	-	1538	980	-	-	26	-	191	-
	5	-	327	-	180	49	-	27	1427	1270	-	-	149	-	429	171
	6	-	1002	-	223	54	-	-	121	984	-	-	254	-	1460	287
	7	-	1456	-	103	-	-	-	-	749	-	-	337	-	2137	138
	8	-	1246	-	16	49	-	-	29	350	-	-	298	-	1748	288
	9	-	88	-	-	-	-	-	68	910	-	-	105	-	310	88
	10	-	-	-	-	-	-	-	-	1103	-	-	46	-	69	53
	11	-	-	-	-	-	-	-	-	1101	-	-	84	-	-	23
	12	-	-	-	-	-	-	-	-	213	-	-	118	-	575	11

Table 4 Nominal CPUE by area, by month and by year of Taiwanese SBT longline fishery

Unit: CPUE=Numbers/Thousand hooks

Year	Month	Area1	Area2	Area3	Area4	Area5	Area6	Area7	Area8	Area9	Area10	Area11	Area12	Area13	Area14	Area15
2020	**Total**	**-**	**3.11**	**-**	**-**	**0.05**	**-**	**-**	**1.25**	**0.06**	**-**	**0**	**0**	**-**	**0.94**	**0.02**
	1	-	-	-	-	-	-	-	-	-	-	0	-	-	0	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	2.14	-	-	-	-	-	1.04	0	-	-	-	-	0	0
	4	-	0.25	-	-	0	-	-	1.41	0.01	-	-	-	-	0	0
	5	-	1.8	-	-	0.07	-	-	0.84	0.01	-	-	-	-	0.33	0
	6	-	3.43	-	-	0.05	-	-	12.42	0.03	-	-	0	-	1.79	0.02
	7	-	3.62	-	-	-	-	-	-	0.05	-	-	0	-	1.25	0.03
	8	-	4.2	-	-	0	-	-	-	0.14	-	-	0	-	1.07	0.01
	9	-	0.28	-	-	-	-	-	-	0.19	-	-	-	-	0.44	0.05
	10	-	-	-	-	-	-	-	-	0.13	-	0	-	-	0	0
	11	-	-	-	-	-	-	-	-	0	-	0	-	-	0	0
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
2021	**Total**	**-**	**4.03**	**-**	**-**	**-**	**-**	**-**	**1.67**	**0.07**	**-**	**-**	**-**	**-**	**1.87**	**0.05**
	1	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	0	-	-	-	-	-	2.54	0	-	-	-	-	0	-
	4	-	-	-	-	-	-	-	1.04	0.02	-	-	-	-	0	0
	5	-	2.67	-	-	-	-	-	2.09	0.07	-	-	-	-	0.12	0
	6	-	3.23	-	-	-	-	-	1.33	0.06	-	-	-	-	1.21	0.03
	7	-	5.26	-	-	-	-	-	-	0.14	-	-	-	-	2.71	0.06
	8	-	5.11	-	-	-	-	-	-	0.05	-	-	-	-	1.89	0.35
	9	-	2	-	-	-	-	-	-	0.2	-	-	-	-	0.69	-
	10	-	-	-	-	-	-	-	-	0.77	-	-	-	-	-	-
	11	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2022	**Total**	**-**	**2.48**	**-**	**-**	**-**	**-**	**-**	**1.45**	**0.09**	**-**	**0**	**-**	**-**	**2.58**	**0.05**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	0.44	-	-	-	-	-	0.6	0	-	0	-	-	-	0
	4	-	1.17	-	-	-	-	-	1.27	0	-	-	-	-	0	-
	5	-	1.37	-	-	-	-	-	1.91	0	-	-	-	-	0.15	0
	6	-	2.75	-	-	-	-	-	2.18	0.2	-	-	-	-	2.42	0.04
	7	-	3.86	-	-	-	-	-	1.79	0.02	-	-	-	-	3.47	0.03
	8	-	2.85	-	-	-	-	-	-	0.09	-	-	-	-	2.92	0.11
	9	-	2.37	-	-	-	-	-	-	0.19	-	-	-	-	0.03	0.08
	10	-	-	-	-	-	-	-	-	1.15	-	-	-	-	0	-
	11	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2023	**Total**	**-**	**2.29**	**-**	**0.05**	**0**	**-**	**-**	**1.24**	**0.06**	**-**	**-**	**0**	**-**	**1.44**	**0.12**
	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	0	-	-	-	-	-	-	0	-	-	-	-	0	-
	3	-	0.31	-	-	-	-	-	0.35	0	-	-	-	-	0	-
	4	-	0.15	-	0	-	-	-	0.87	0.08	-	-	-	-	0	-
	5	-	0.73	-	0.01	-	-	-	1.77	0.08	-	-	-	-	0.01	0
	6	-	1.95	-	0.12	-	-	-	2.26	0.07	-	-	-	-	0.52	0
	7	-	3.95	-	0	0	-	-	-	0.14	-	-	0.01	-	1.5	0.31
	8	-	2.73	-	0	-	-	-	2.71	0.03	-	-	0	-	2.4	0
	9	-	1.29	-	-	0	-	-	-	0.04	-	-	0	-	0	-
	10	-	-	-	-	-	-	-	-	0.06	-	-	-	-	0	-
	11	-	-	-	-	-	-	-	-	0.03	-	-	-	-	0	-
	12	-	-	-	-	-	-	-	-	0.05	-	-	-	-	0	-
2024	**Total**	**-**	**3.33**	**-**	**0.2**	**1.3**	**-**	**3.19**	**1.15**	**0.06**	**-**	**-**	**0.04**	**-**	**2.65**	**0.05**
	1	-	-	-	-	-	-	-	-	0	-	-	-	-	20.69	-
	2	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	0.33	0	-	-	-	-	0.07	-
	4	-	0	-	-	-	-	-	0.86	0	-	-	0	-	0	-
	5	-	1.13	-	0.33	0	-	3.19	1.31	0	-	-	0	-	0.23	0.12
	6	-	4.09	-	0.19	0	-	-	2.12	0.02	-	-	0.01	-	3.1	0
	7	-	3.37	-	0	-	-	-	-	0.02	-	-	0.11	-	2.93	0.01
	8	-	3.39	-	0	4.04	-	-	2.83	0.02	-	-	0.05	-	2.22	0.12
	9	-	1.74	-	-	-	-	-	4.31	0.34	-	-	0.04	-	2.02	0
	10	-	-	-	-	-	-	-	-	0.12	-	-	0	-	0	0
	11	-	-	-	-	-	-	-	-	0	-	-	0	-	-	0
	12	-	-	-	-	-	-	-	-	0	-	-	0	-	1.1	0

Table 5 Number of fishing vessel engaged in SBT fishery during 2002-2024

Year	No. of seasonal target vessels	No. of by-catch vessels	Total vessels
2002	21	50	71
2003	76	24	100
2004	79	18	97
2005	49	8	57
2006	33	3	36
2007	27	3	30
2008	35	6	41
2009	34	33	67
2010	65	17	82
2011	28	28	56
2012	12	24	36
2013	39	37	76*
2014	37	34	71
2015	45	27	72
2016	34	26	60
2017	43	32	75
2018	46	31	77
2019	44	28	72
2020	38	32	70
2021	37	21	58
2022	43	12	55
2023	47	17	64
2024	52	5	57

* There was one vessel shipwrecked.

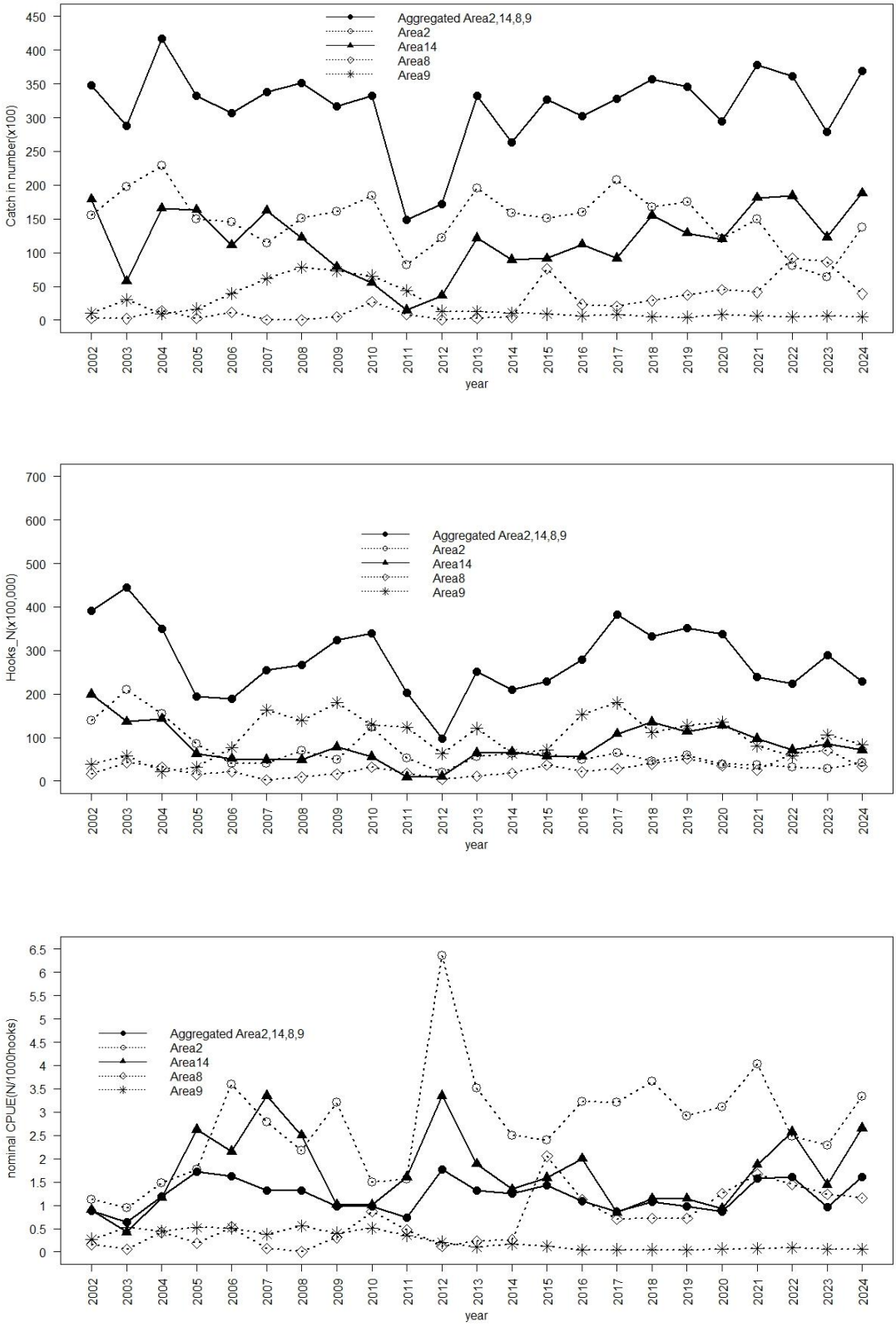

Fig. 1 Annual SBT catches in number, fishing effort and nominal CPUE of Taiwanese SBT longline fishery in main fishing grounds.

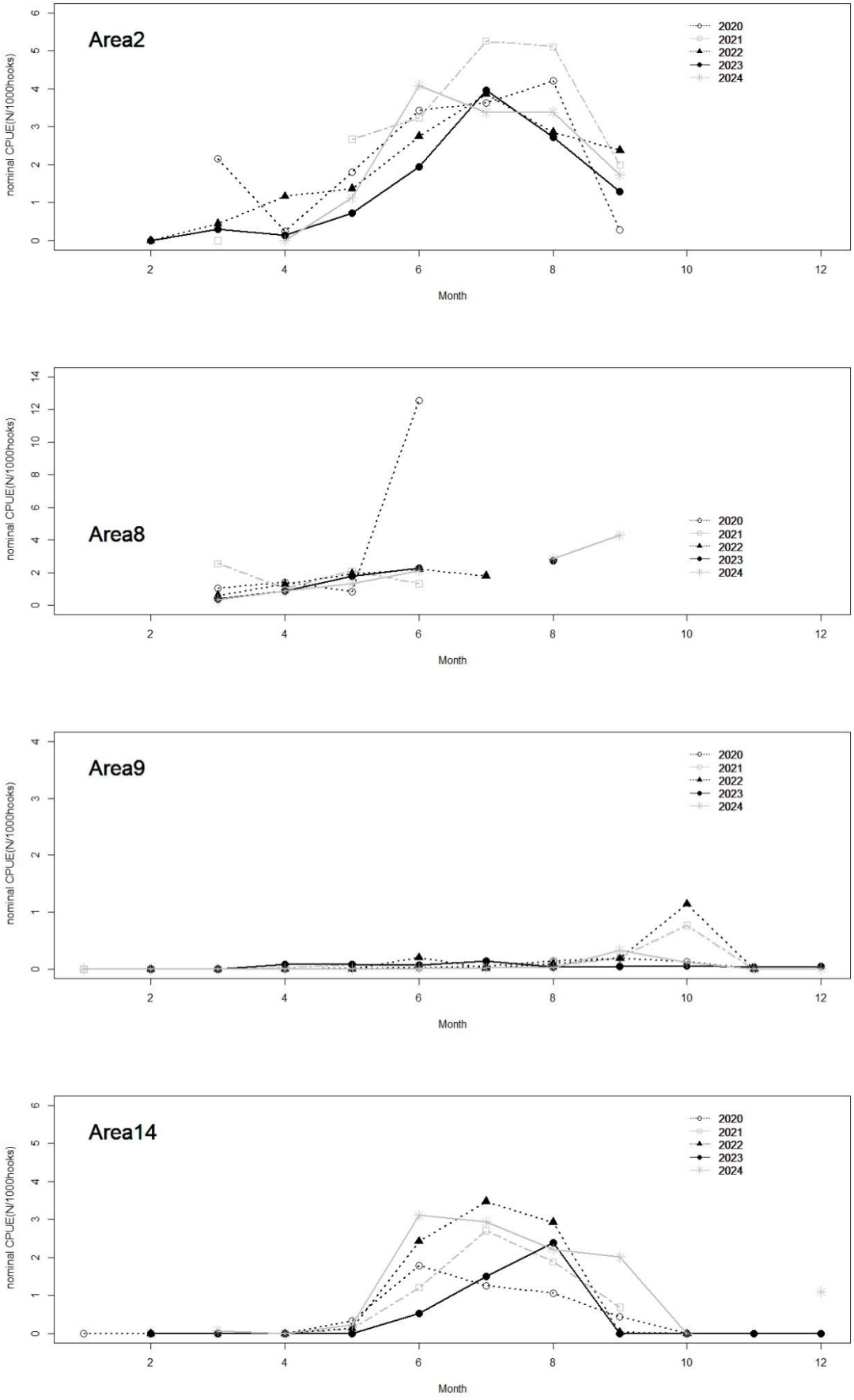

Fig. 2 Annual nominal CPUE by area, by month and by year of Taiwanese SBT

longline fishery in main fishing grounds

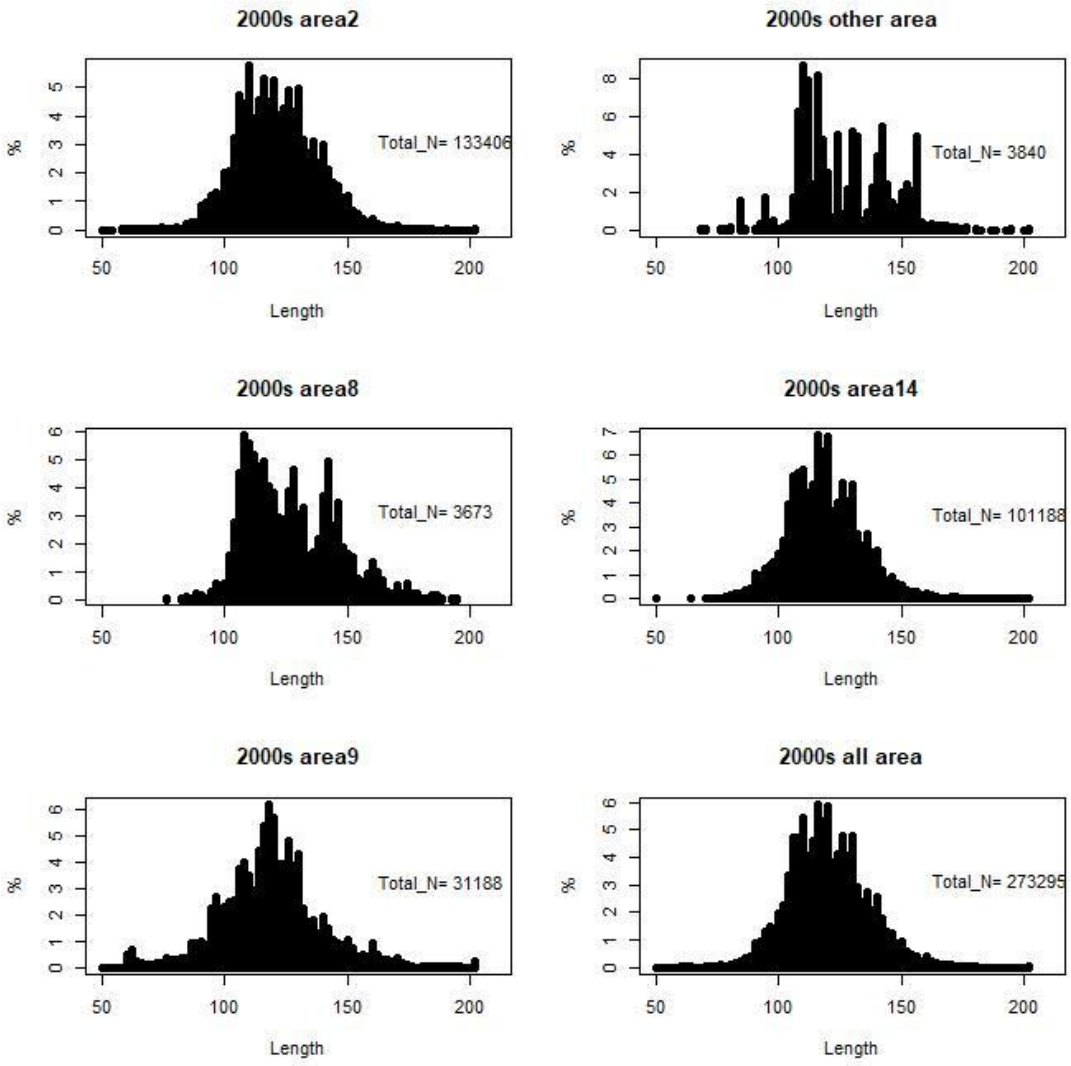

Fig.3 (1) SBT size frequency by area of Taiwanese SBT longline fishery in 2000s

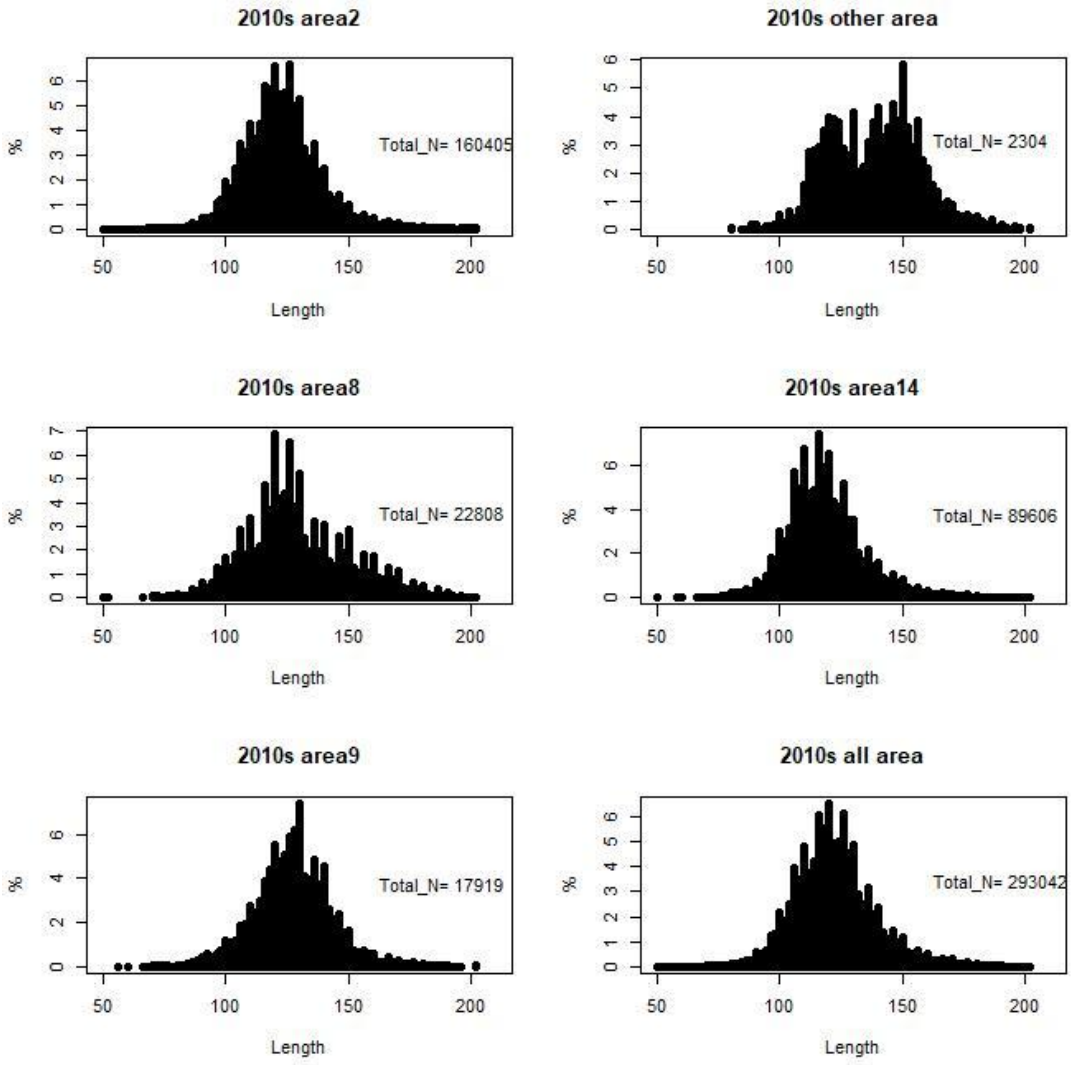

Fig.3 (2) SBT size frequency by area of Taiwanese SBT longline fishery during in 2010s

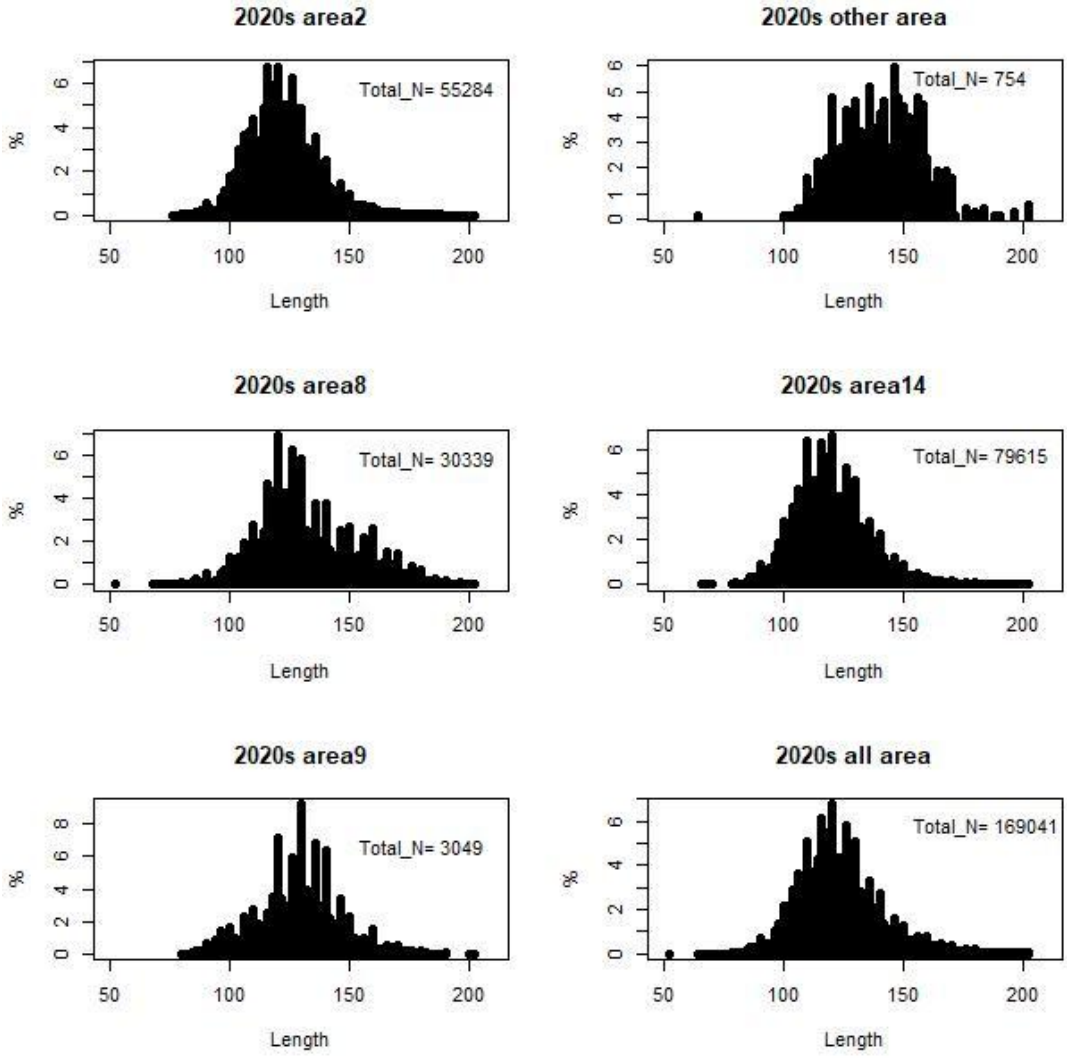

Fig.3 (3) SBT size frequency by area of Taiwanese SBT longline fishery during in 2020s

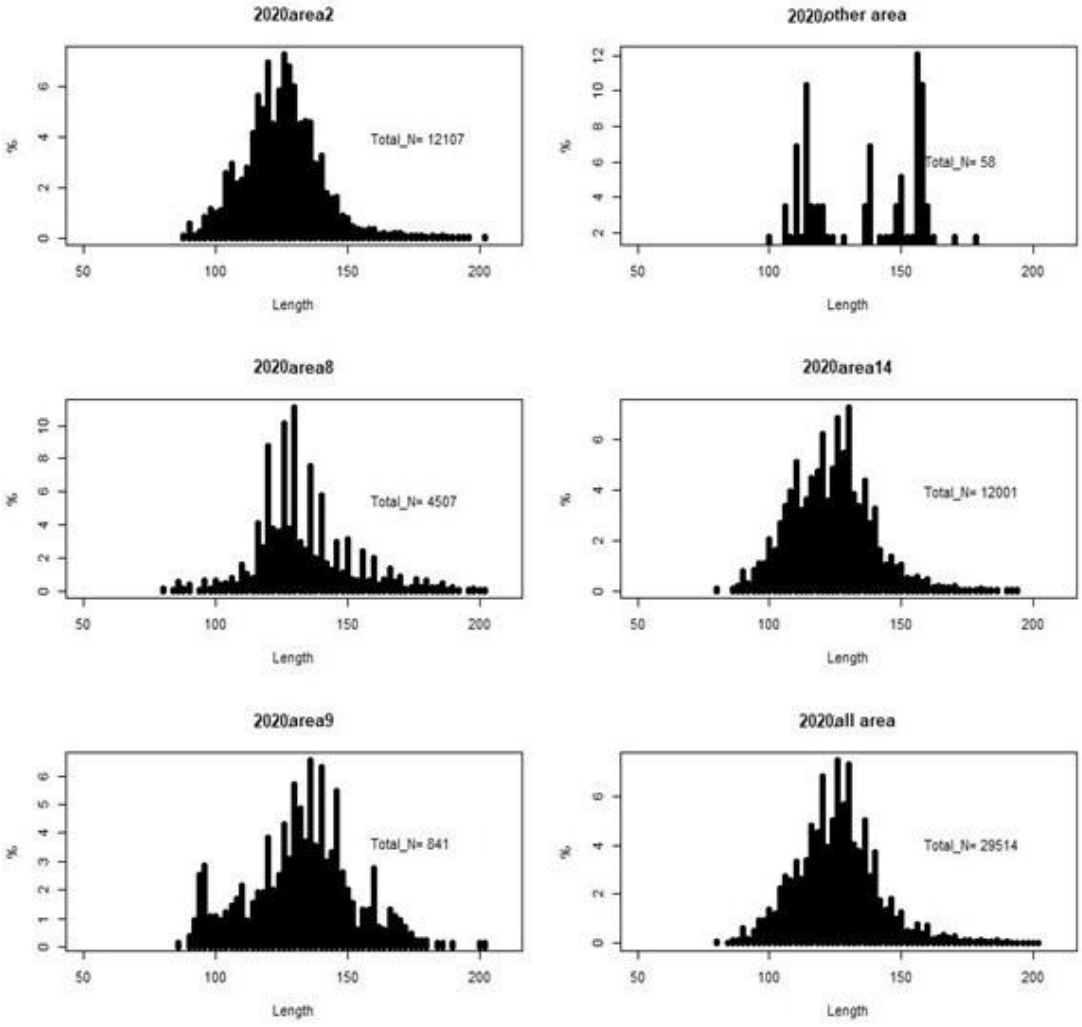

Fig.4 (1) SBT size frequency by area of Taiwanese SBT longline fishery in 2020

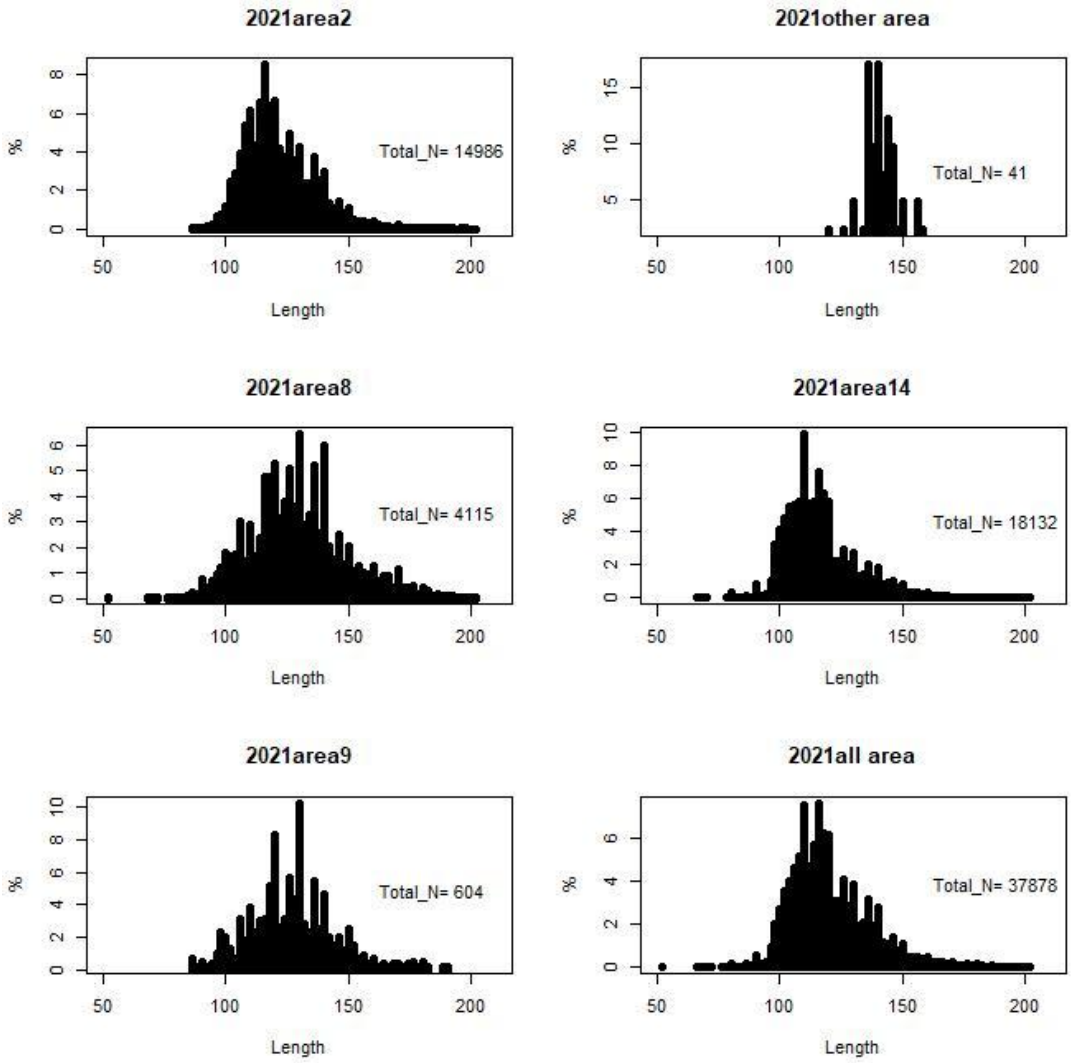

Fig.4 (2) SBT size frequency by area of Taiwanese SBT longline fishery in 2021

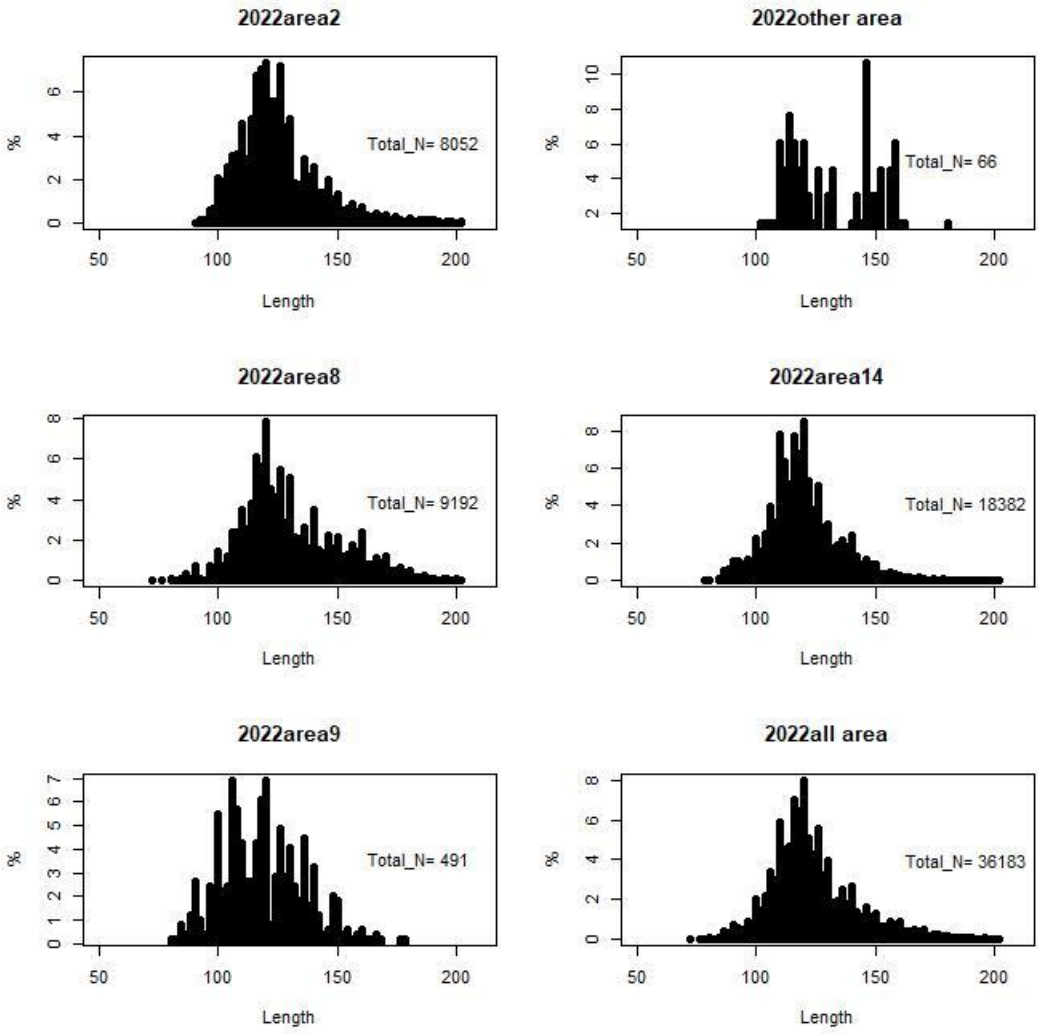

Fig.4 (3) SBT size frequency by area of Taiwanese SBT longline fishery in 2022

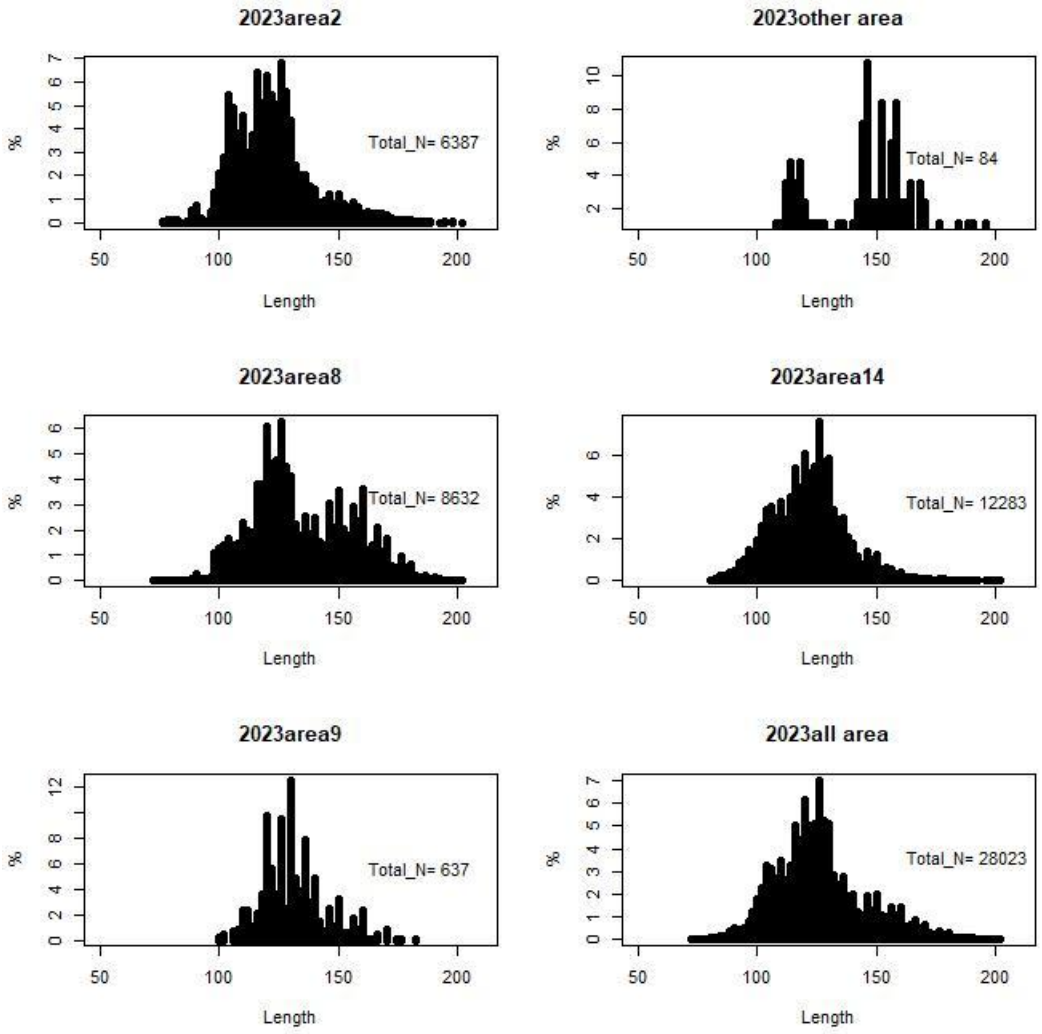

Fig.4 (4) SBT size frequency by area of Taiwanese SBT longline fishery in 2023

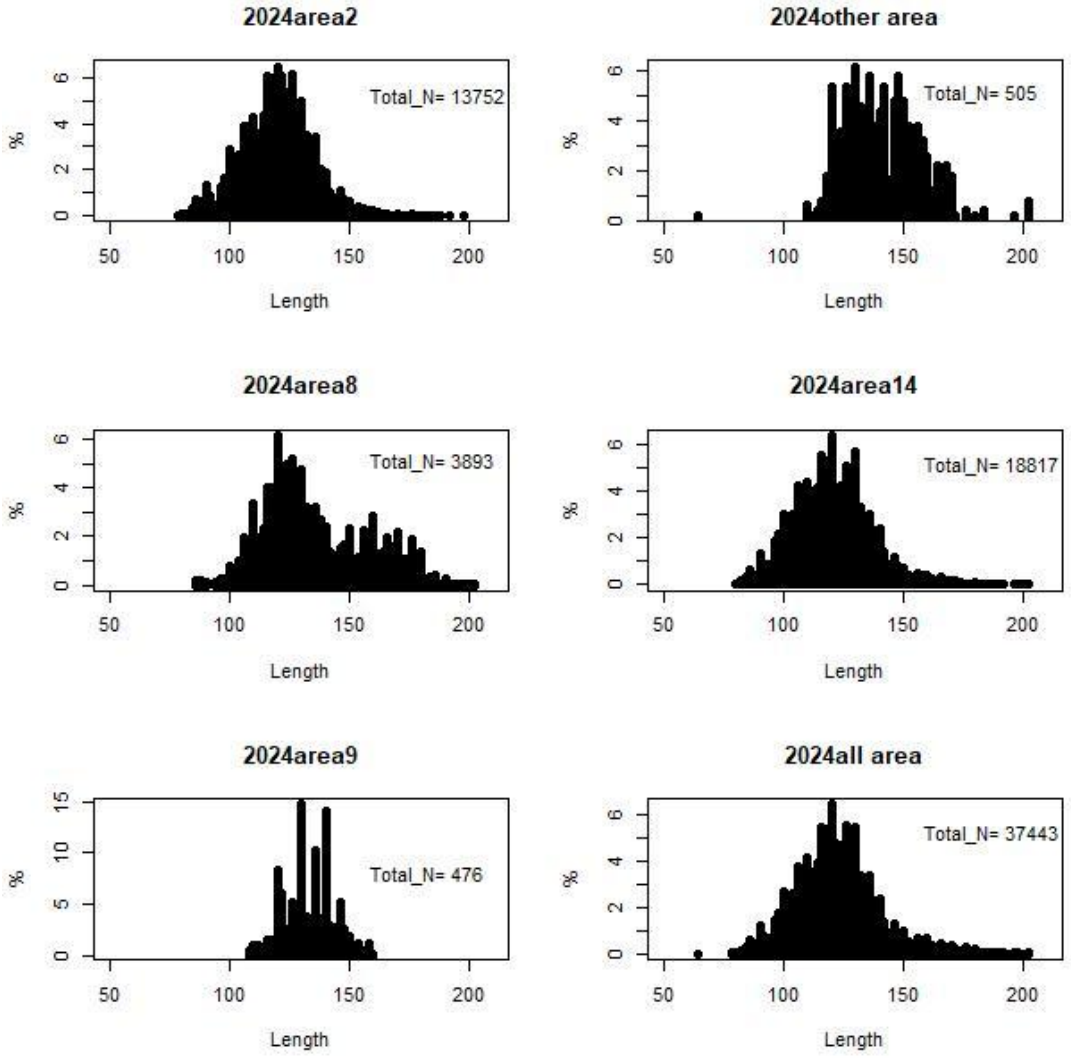

Fig.4 (5) SBT size frequency by area of Taiwanese SBT longline fishery in 2024

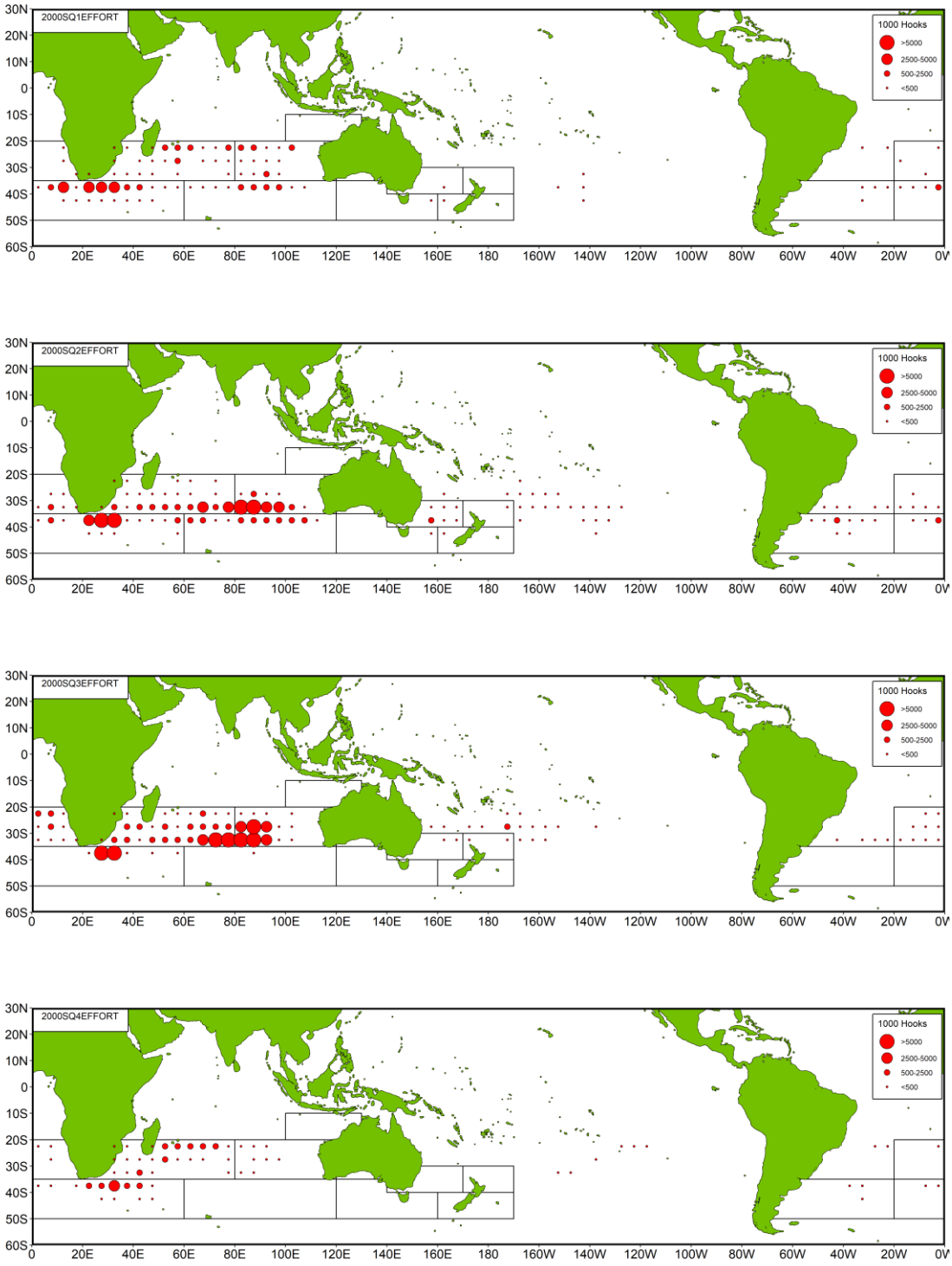

Fig.5 (1) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2000s

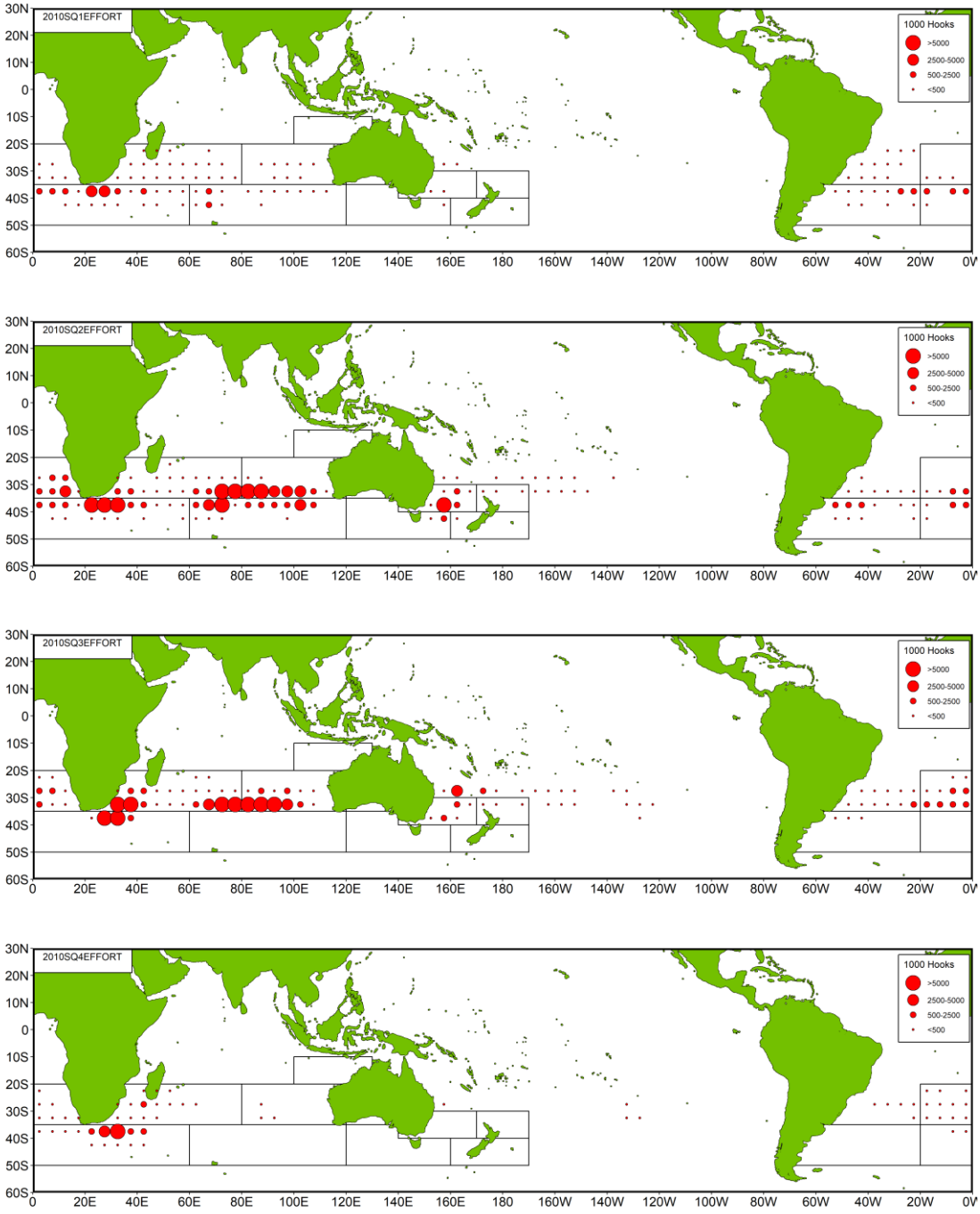

Fig.5 (2) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2010s

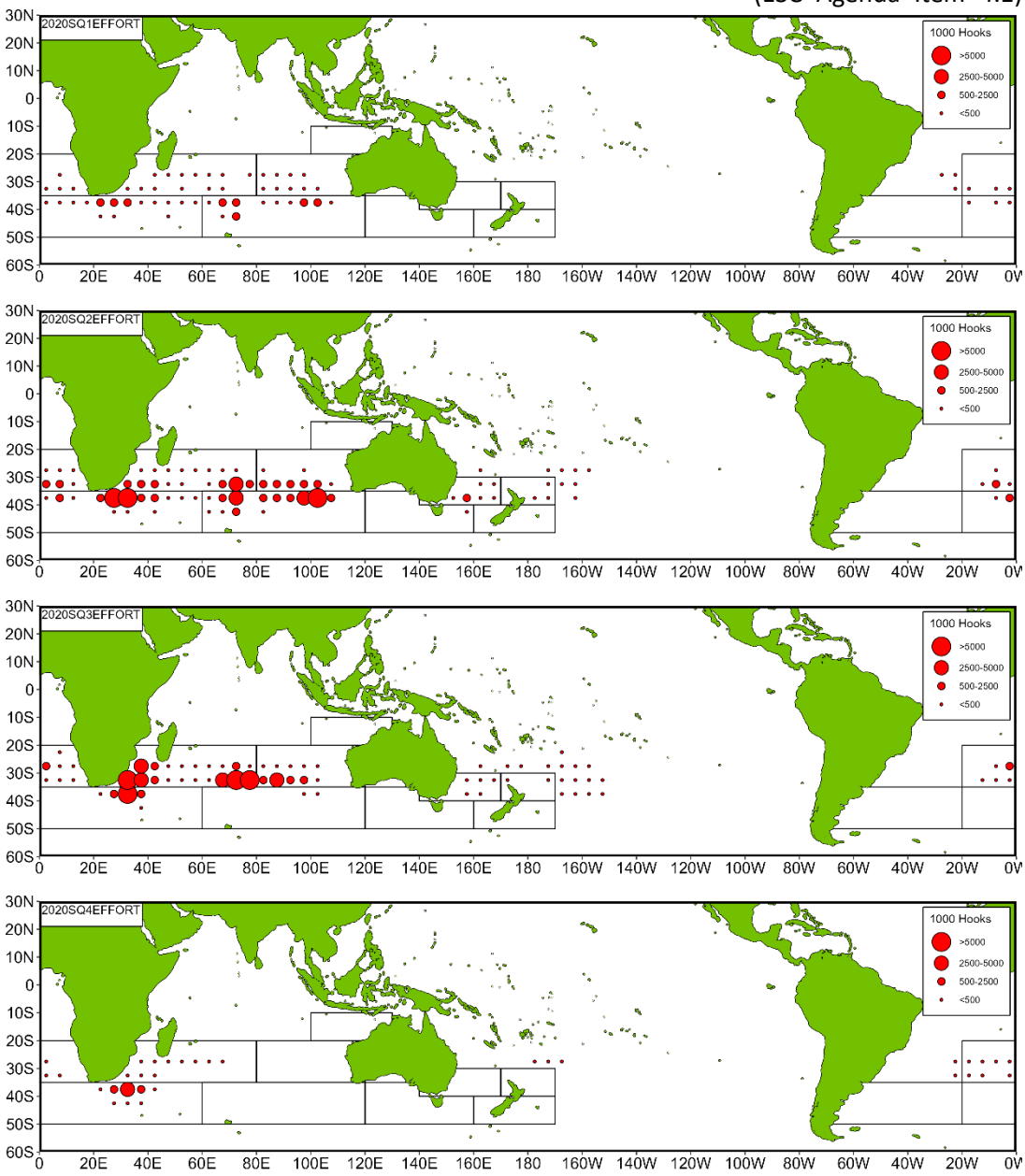

Fig.5 (3) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2020s

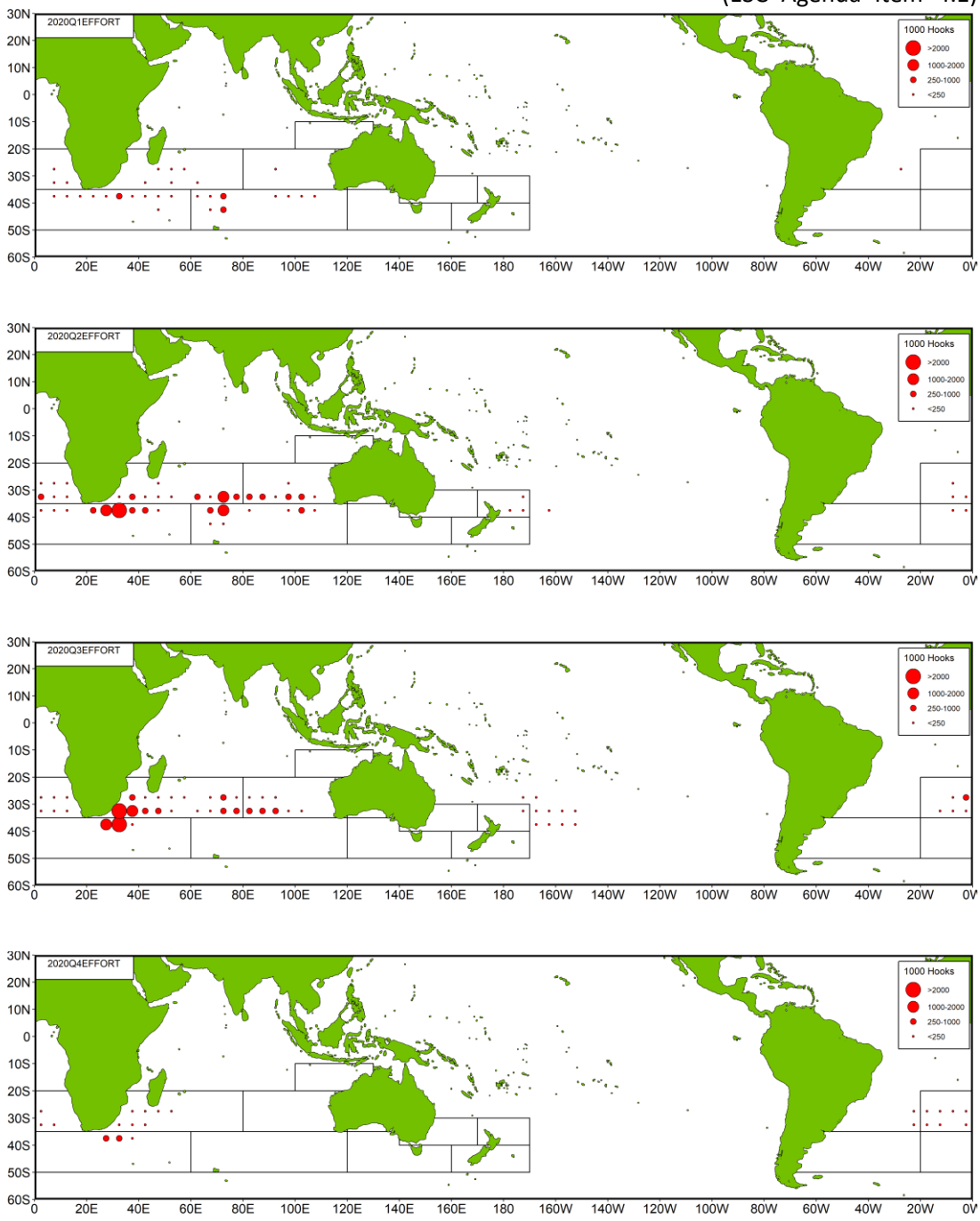

Fig.6 (1) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2020

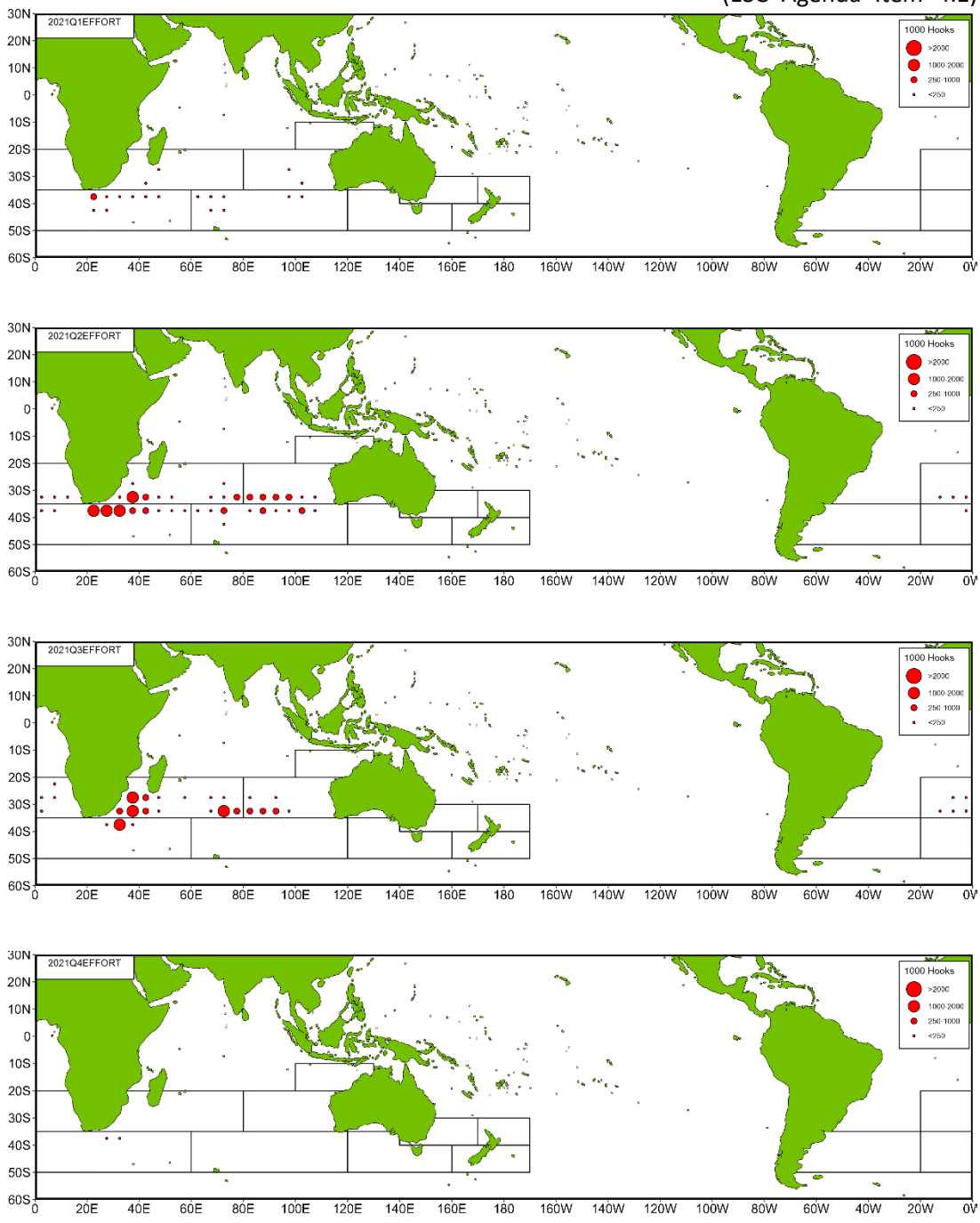

Fig.6 (2) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2021

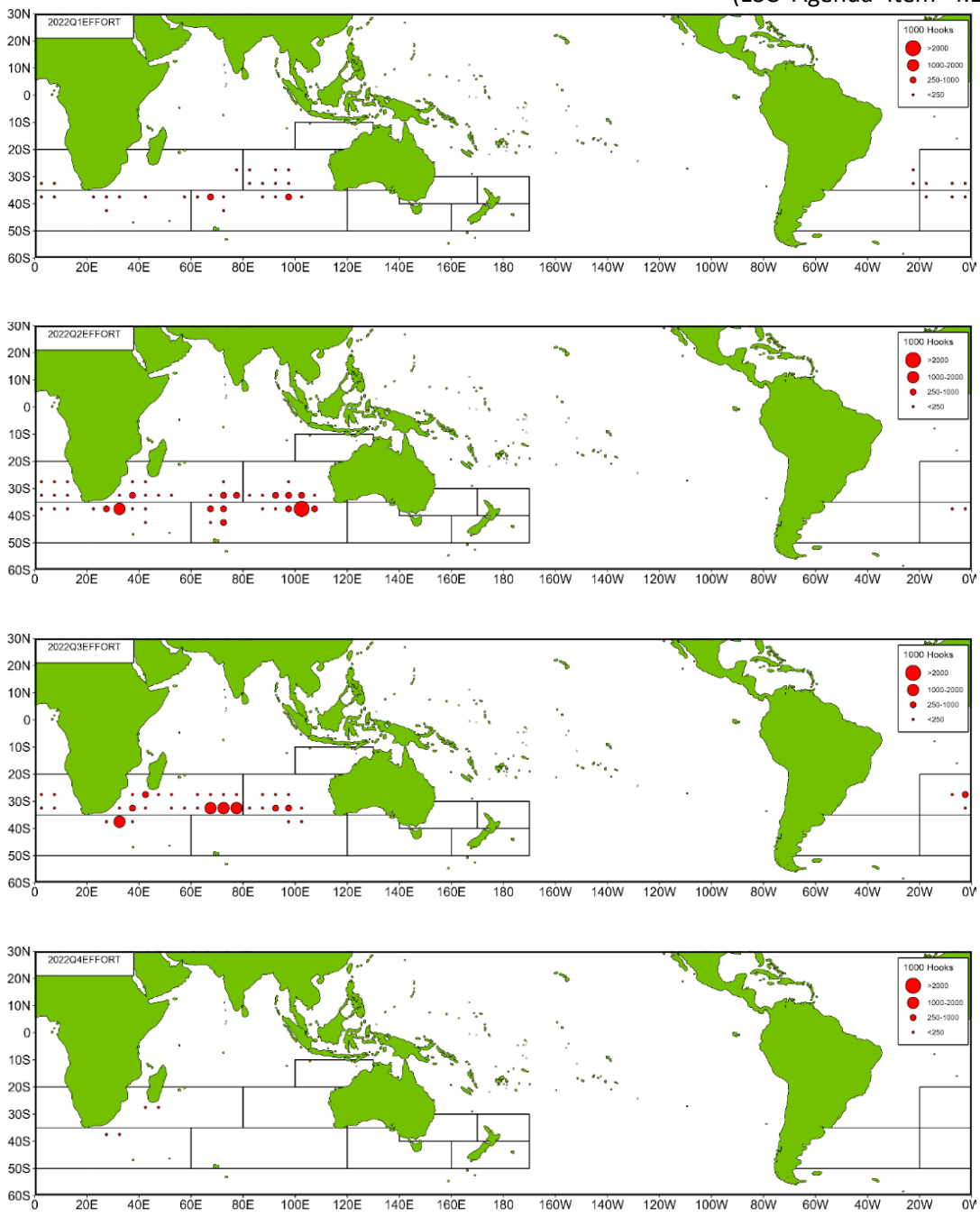

Fig.6 (3) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2022

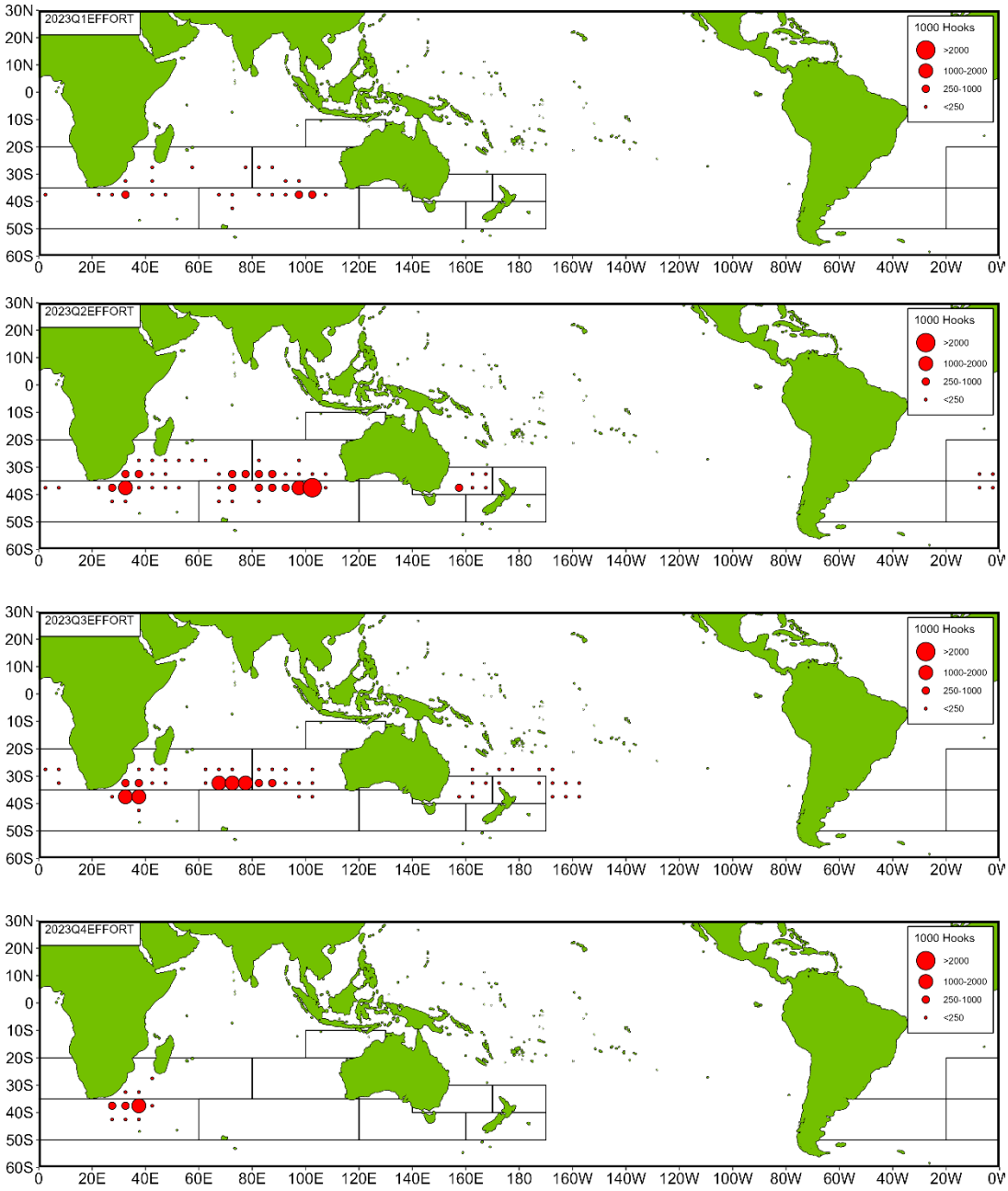

Fig.6 (4) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2023

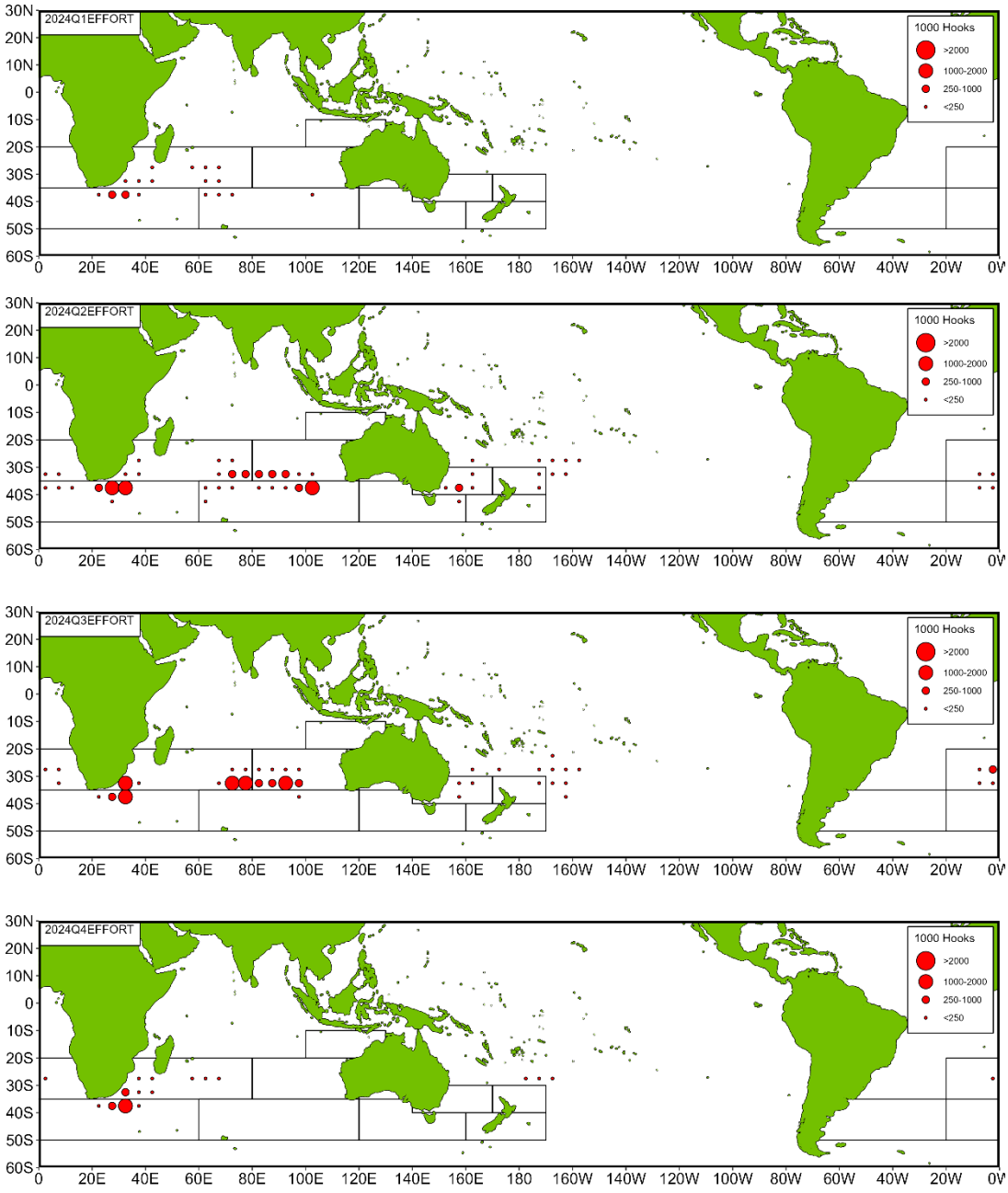

Fig.6 (5) Fishing efforts distributions by quarter of Taiwanese SBT longline fishery in 2024

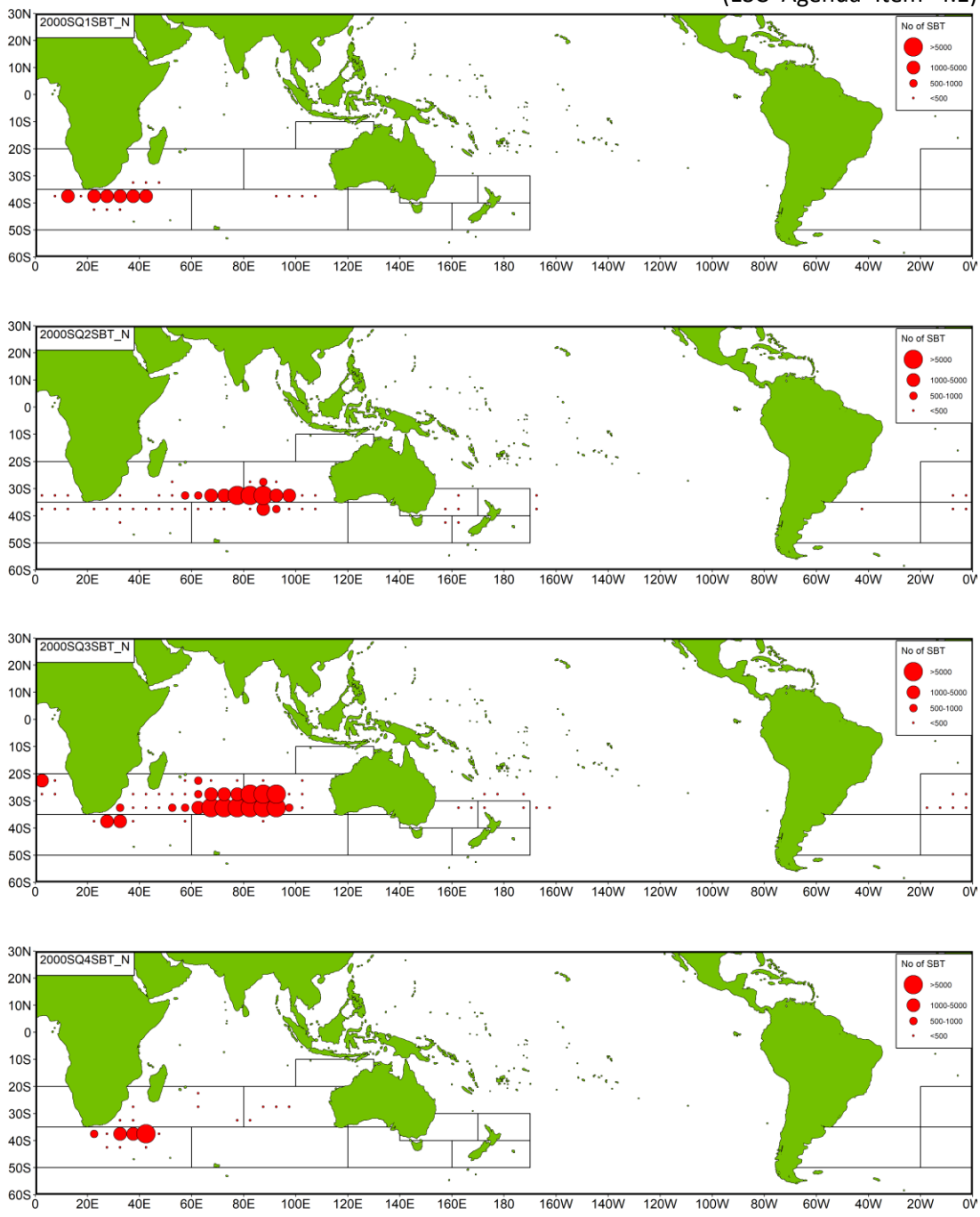

Fig.7 (1) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2000s

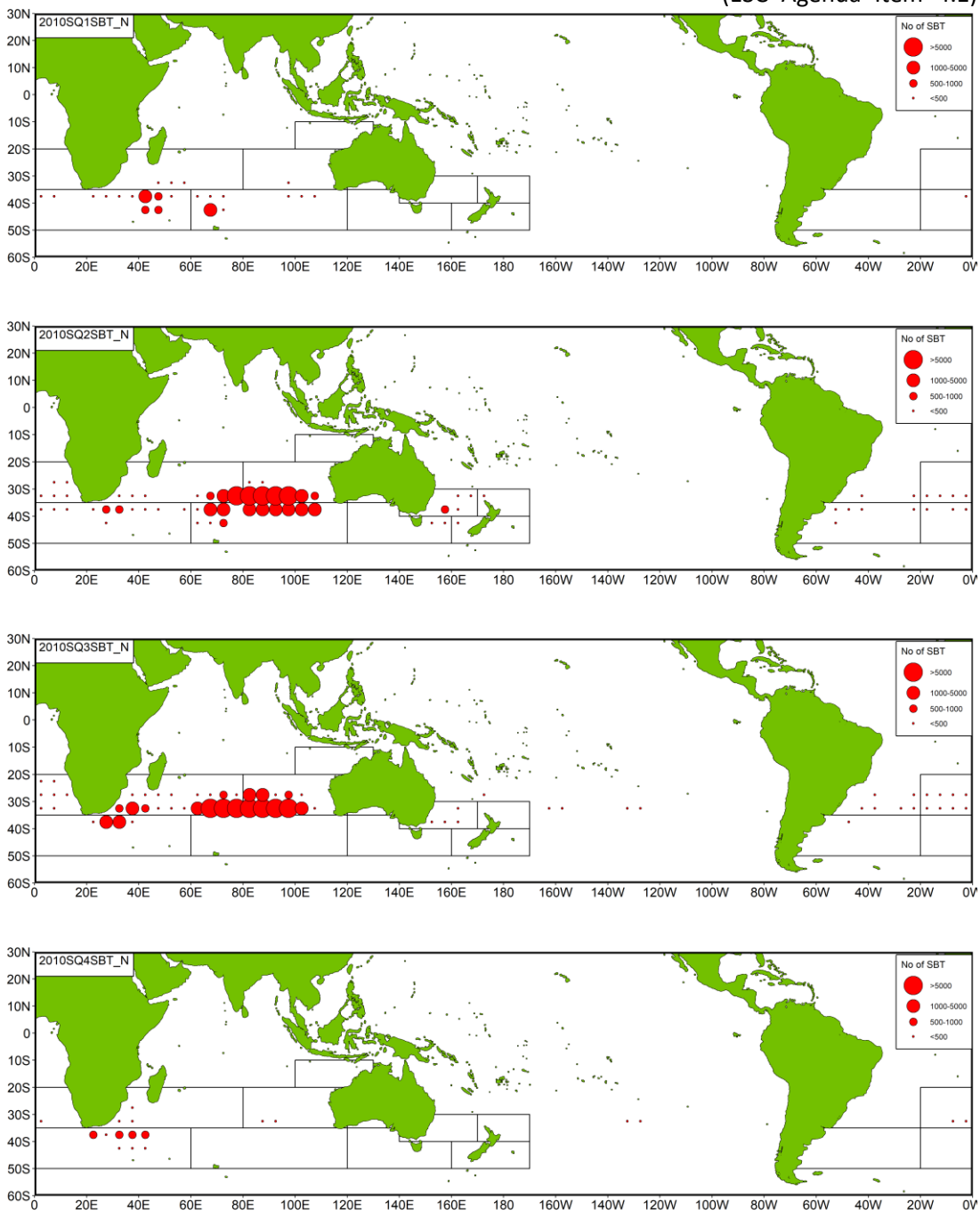

Fig.7 (2) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2010s

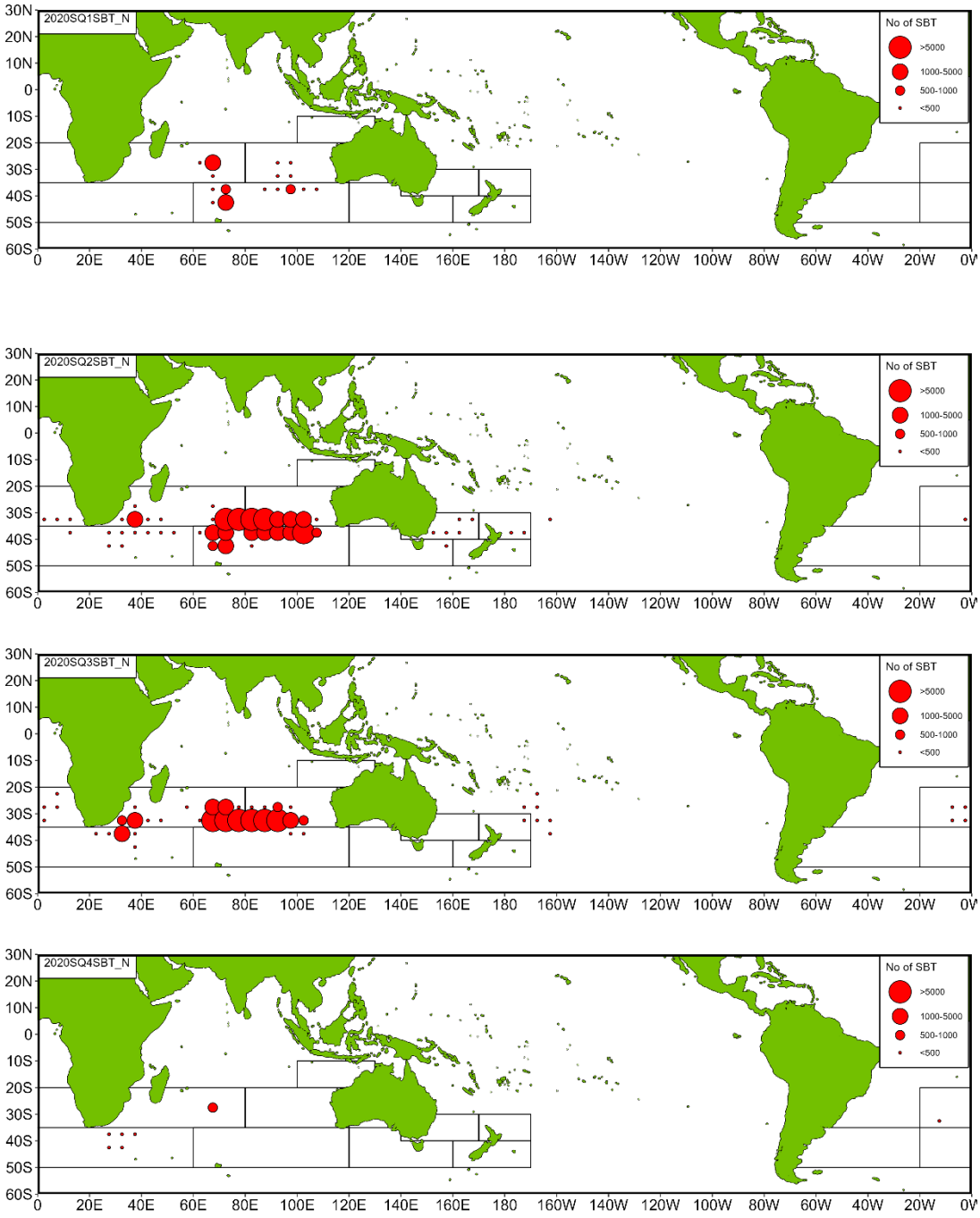

Fig.7 (3) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2020s

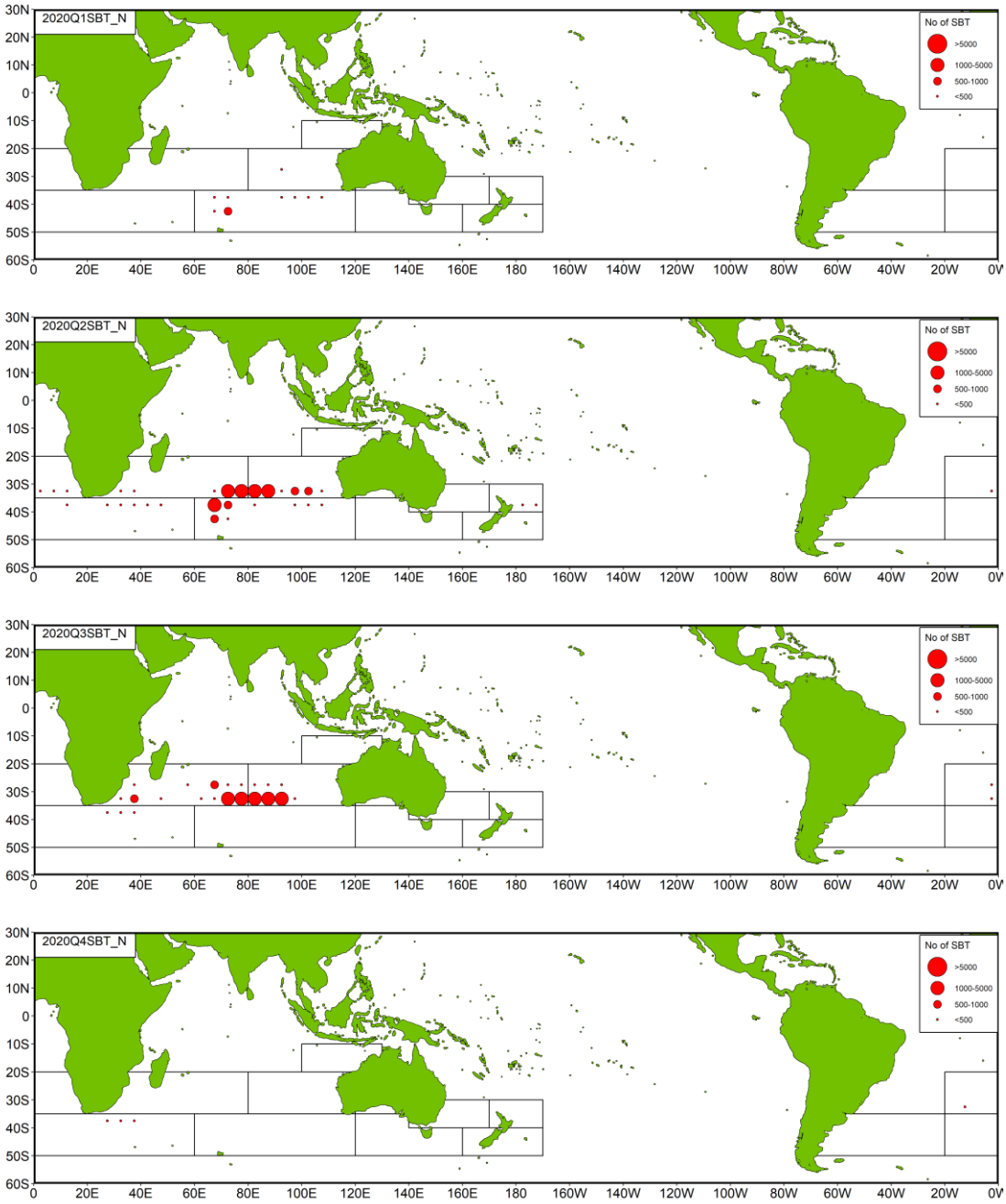

Fig.8 (1) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2020

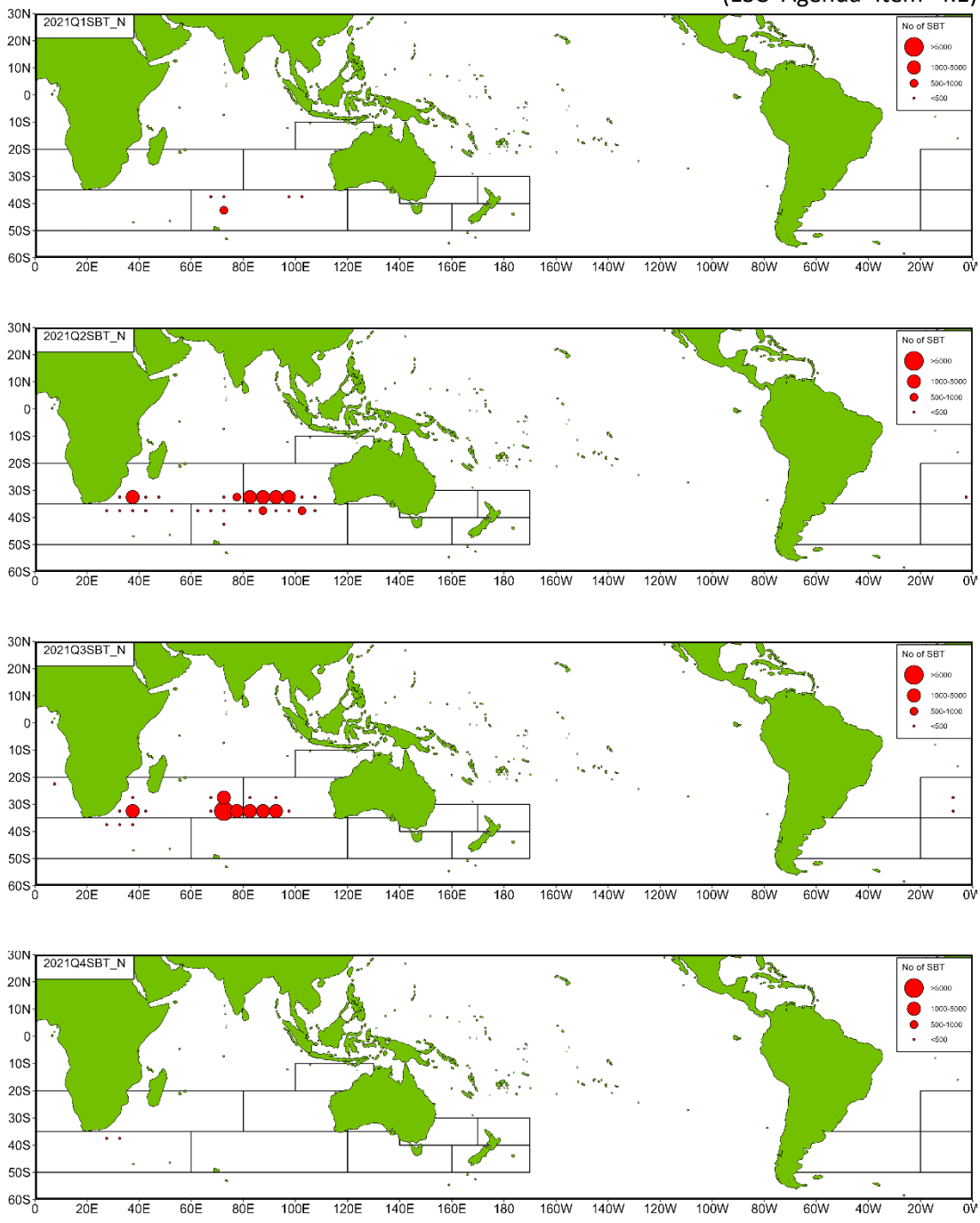

Fig.8 (2) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2021

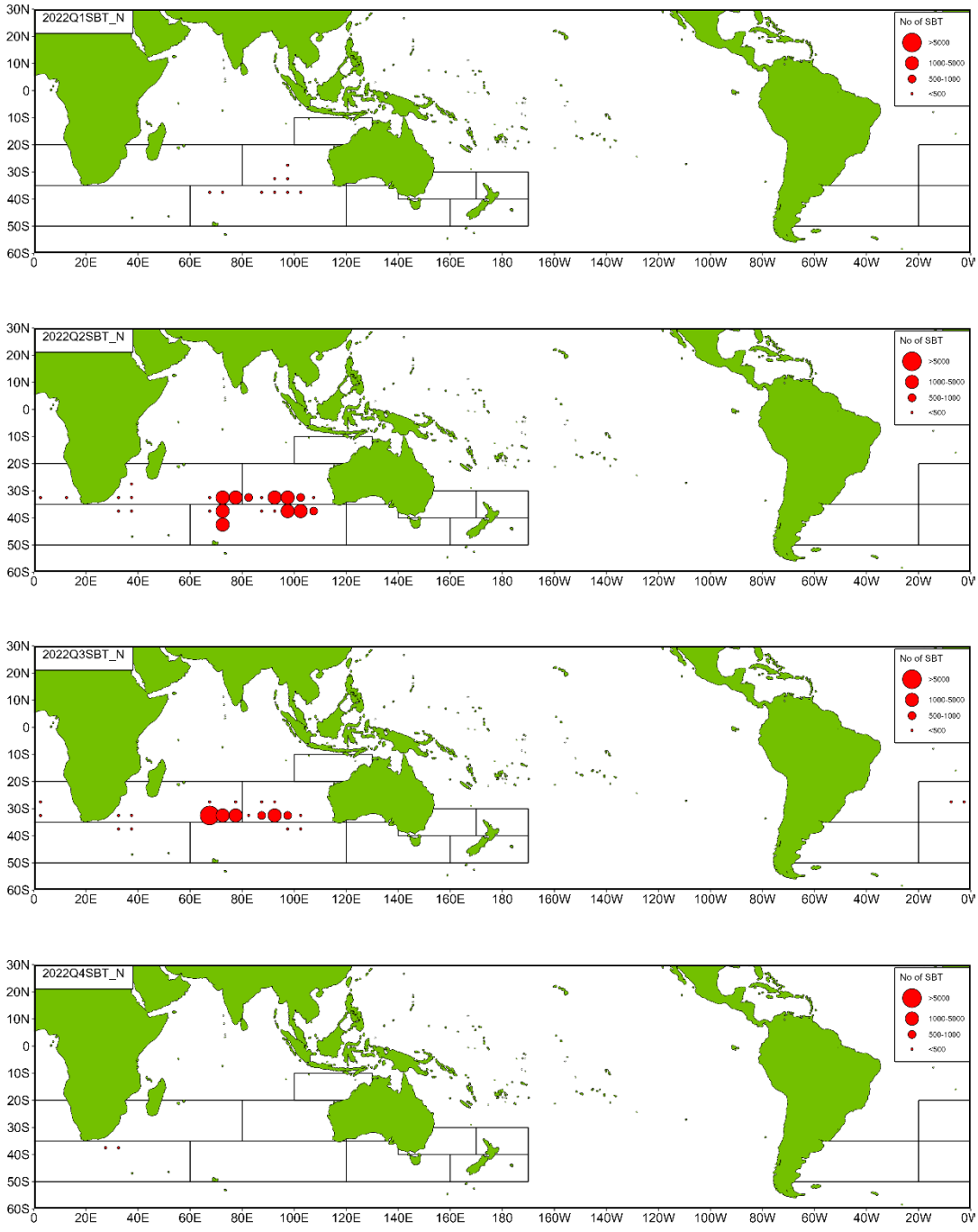

Fig.8 (3) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2022

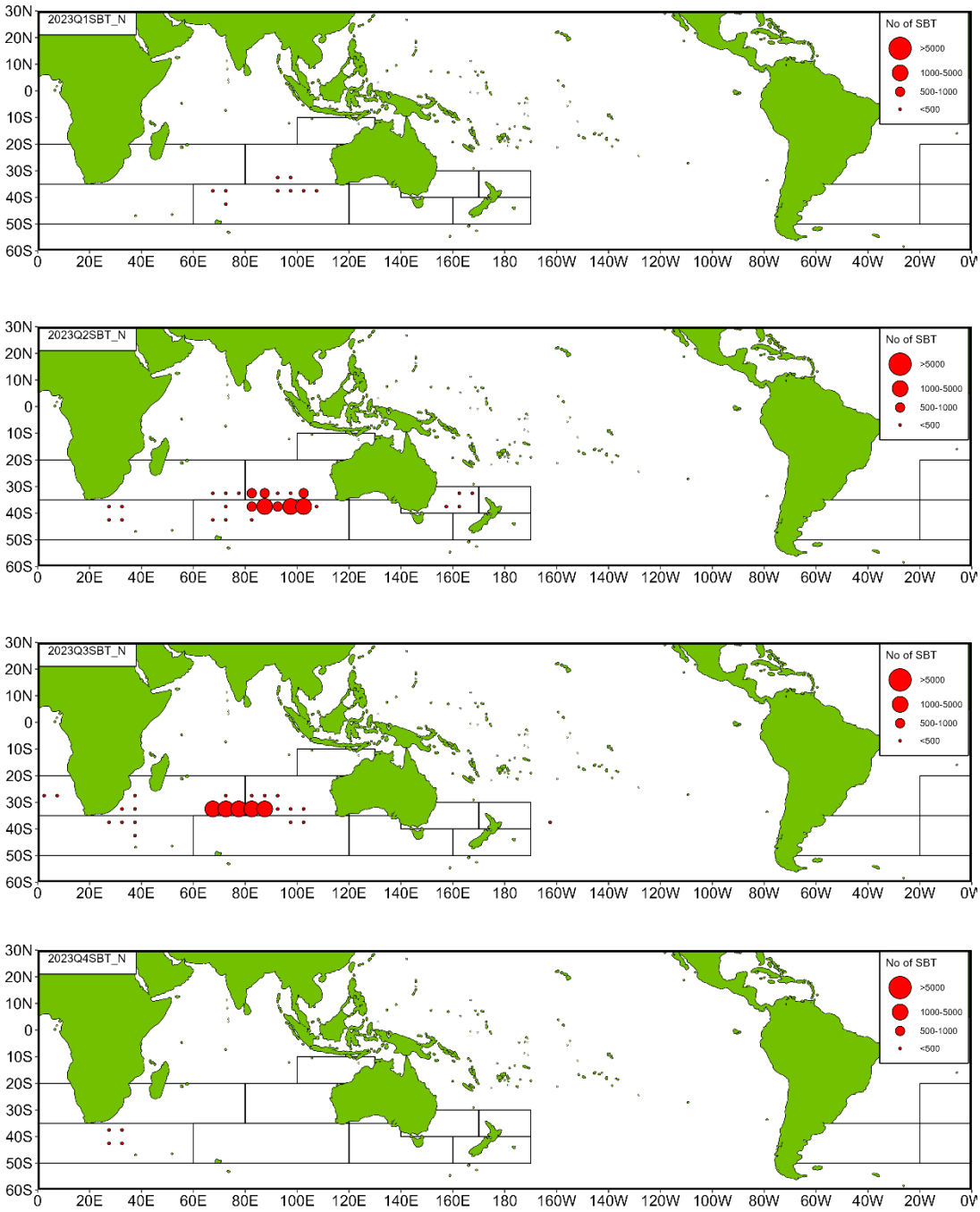

Fig.8 (4) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2023

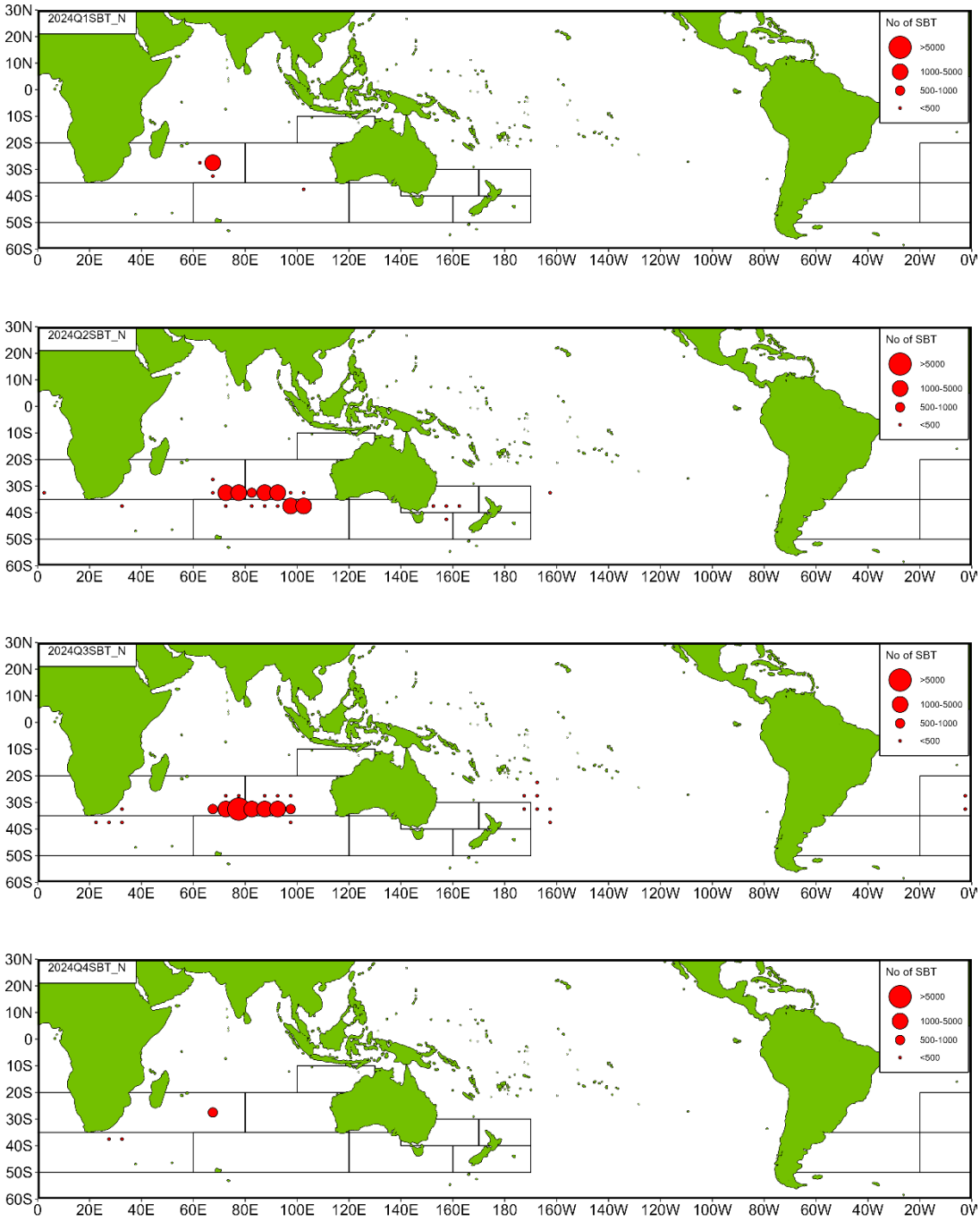

Fig.8 (5) SBT catch (in number) distributions by quarter of Taiwanese SBT longline fishery in 2024

Annex 1

Scientific Observer Program

Observer Training

To collect scientific information of tuna longliners, the scientific observer program of large-scale tuna longline fishery of Taiwan was launched in 2002, and the trained observers were deployed on SBT fishing vessels in the following year.

To work in coordination with the FA, the Overseas Fisheries Development Council (OFDC) is responsible for implementing the program and recruiting scientific observers. The Program also invited researchers on fishery sciences and senior observers to form a special panel for designing the observer training program, items of observation, biological and by-catch information to be collected for scientific research and the format of data records.

The qualifications of recruitment for observer is senior high school graduation, with experience on-board preferred. They are also required the competence to live and work at sea. Candidate observers who have passed the oral examination will have to take a 4-week training program, and only those who pass the training program and medical check will be qualified and deployed on board as scientific observers.

Observer training program includes basic safety training for seafaring, operations of navigation devices and VMS system, identification of catch species, sea turtles, seabirds, sharks and marine mammals, sampling skill for muscle tissue, otolith, stomach content and gonad, and data collection for fishing activities, catches and locations, and basically understanding of Conservation and Management Measures and Resolutions of the RFMOs. After 3-weeks training, they are required to undergo at sea training on a training ship for one week and have a test in identifying tuna and tuna-like species at domestic fish market.

Recently, two batches of observer training are supported by this program annually. The main objective of training courses is inviting experts and scholars to provide follow-up lectures related the observer safety during maritime navigation, species identification, and biological sampling. The Program also conducted observer

experiences sharing events periodically. for improving the at-sea observation practice, sampling technique, and potential resolutions while observers have problems.

Scientific Observer Program Design and Coverage

At the initial stage, for the purpose of encouraging industries to join the observer program, the observed vessels were offered reward catch quota after completing the observation cruise, if they fully cooperated with the observer's duties. However, this measure has been put an end since 2007. It is regarded as the obligation of industries to accept observer on board and the vessels were randomly selected. Since 2008, upon completion of the observation missions, debriefers, served by senior observers, will examine observer's reports to enhance data accuracy.

The threat of Somalia piracy still exists in the tropical Indian Ocean. The same as recent years, most of our observers deployed on fishing vessels which operate in the southern Indian Ocean for the safety of observers, therefore, the observer coverage rate for SBT fishing vessels maintaining stability. In 2021, the deployment of observers was hindered by COVID-19, thus the observer dispatched on fishing vessels decreased significantly. However, the observer coverage rate by vessels was still met the requirements, only for efforts and catches were close approach to 10%.

The summary of observed catch and effort by area and month from 2023 and 2024 was shown in Table1. In 2023, 17 observers were deployed on 15 of the 47 fishing vessels authorized to target SBT, and on 2 of the 17 vessels authorized for SBT bycatch. A total of 2,673 fishing days were observed out of 3,476 fishing days. In the 2024 calendar year, 16 observers were deployed on 16 of the 52 fishing vessels seasonally authorized to target SBT, including one vessel operating in the Pacific Ocean. And, one observer was deployed on one of the five vessels authorized to bycatch SBT. There were 3,435 fishing days, of which 2,829 days were observed. For the observer coverage rates, the values were 25.56% by vessels, 15.51% by hooks, and 19.38% by catch in 2023. And, the values in 2024 were 29.82% by vessels, 12.65% by hooks, and 16.35% by catch. To conduct effective monitoring, it is necessary for the Fisheries Agency to consider the sustainable development of the observer program and its budget, in order to reduce the impact of frequent changes in fishing vessel operations, which may affect

coverage rates.

Observer Data Collected

The data recorded by observer on board includes 3 categories: vessel and gear attributes, set details, and catch and bycatch information (including sighting of marine mammals, sea turtles and sea birds).

The biological samples, including measurement of weight and length of all fishes during the observation time, and collection of otoliths, muscle tissues, stomach, and gonads of SBT, were carried out by observers on board. Table 2 shows the summary of biological samples collected by observers from 2023 and 2024. The length measurements of SBT in 2023 and 2024 were 5,431 and 6,123 respectively, and the number of otoliths of SBT collected were 2 and 18 in 2023 and 2024. The otoliths of the SBT collected by observers on board was reduced in 2023, as related samples were available from the SBT landed in domestic fishing ports. The length measurements by species were summarized in Table 3.

Tag Return Monitoring

There were 781 tags retrieved by our SBT fishing vessels from 2002 to 2024, of which 695 were released from the CCSBT and 86 were released from the CSIRO. The details of tags retrieval from 2002 to 2024 is shown in Table 4. The retrieved tags and the related information had been delivered to the CCSBT Secretariat.

Problems Experienced

Although the observer program is fully supported by the fishing industry, several issues remain unresolved. These include the inability of fishing masters to attend briefing meetings held inland, delays in supplying observers with necessary materials, and occasional loss of biological samples during transshipment to the home port.

Table 1 Summary of observed catch and efforts by area and by month

(a)2023 (calendar year)

Area*	Month	Numbers of vessels observed	Numbers of all vessels	Cover rate for the number of vessels	Number of hooks used by observed vessels	Number of hooks by all vessels	Cover rate for the number of hooks	Number of SBT observed	Number of SBT by all vessels	Cover rate for the number of SBT
Area2	**Total**	15	31	48.40%	802583	2792058	28.70%	1604	6387	25.10%
	2	1	3	33.30%	22694	108012	21%	-	0	-
	3	-	5	-	-	74750	-	-	23	-
	4	1	6	16.70%	1776	40330	4.40%	2	6	33.30%
	5	7	12	58.30%	33951	107868	31.50%	41	79	51.90%
	6	15	28	53.60%	374694	1394739	26.90%	611	2716	22.50%
	7	6	12	50%	227398	642939	35.40%	738	2542	29%
	8	4	7	57.10%	97483	331020	29.40%	199	902	22.10%
	9	2	2	100%	44587	92400	48.30%	13	119	10.90%
Area8	**Total**	15	36	41.70%	1496680	6977504	21.50%	2051	8632	23.80%
	3	8	25	32%	171551	1234430	13.90%	92	438	21%
	4	14	34	41.20%	497114	2476758	20.10%	350	2148	16.30%
	5	15	31	48.40%	662519	2790985	23.70%	1178	4939	23.90%
	6	6	19	31.60%	130577	399331	32.70%	304	901	33.70%
	8	1	1	100%	34919	76000	45.90%	127	206	61.70%
Area9	**Total**	-	14	-	-	4980890	-	-	637	-
	3	-	4	-	-	213790	-	-	0	-
	4	-	7	-	-	454290	-	-	100	-
	5	-	9	-	-	808710	-	-	121	-
	6	-	9	-	-	385440	-	-	59	-
	7	-	6	-	-	355040	-	-	123	-
	8	-	9	-	-	607960	-	-	40	-
	9	-	9	-	-	387040	-	-	38	-
	10	-	6	-	-	605740	-	-	70	-
	11	-	6	-	-	533800	-	-	32	-
	12	-	6	-	-	629080	-	-	54	-
Area14	**Total**	12	47	25.50%	1057719	6870995	15.40%	1764	12283	14.40%
	2	1	2	50%	1764	39150	4.50%	-	0	-
	4	-	1	-	-	3553	-	-	0	-
	5	-	3	-	-	29300	-	-	2	-
	6	9	30	30%	180568	1161904	15.50%	105	870	12.10%
	7	11	42	26.20%	525581	3014658	17.40%	1150	5211	22.10%
	8	11	39	28.20%	349806	2210150	15.80%	509	6200	8.20%
	9	-	11	-	-	405480	-	-	0	-
	10	-	1	-	-	3500	-	-	0	-
	11	-	1	-	-	3300	-	-	0	-
Area15	**Total**	1	2	50.00%	6604	25320	26.10%	8	40	20%
	7	1	2	50.00%	6604	25320	26.10%	8	40	20%
Area4	**Total**	1	3	33.30%	6860	85760	8%	4	43	9.30%
	5	-	1	-	-	7200	-	-	3	-
	6	1	3	33.30%	6860	78560	8.70%	4	40	10%
Grand Total		17	64	26.56%	3370446	21732527	15.51%	5427	28022	19.38%

* The areas which with observer deployed.

(b)-1 2024 (calendar year)

Area*	Month	Numbers of vessels observed	Numbers of all vessels	Cover rate for the number of vessels	Number of hooks used by observed vessels	Number of hooks by all vessels	Cover rate for the number of hooks	Number of SBT observed	Number of SBT by all vessels	Cover rate for the number of SBT
Area2	**Total**	14	35	40%	1064495	4129328	25.80%	3180	13752	23.10%
	4	1	2	50%	4530	10040	45.10%	-	0	-
	5	8	16	50%	92915	327241	28.40%	89	368	24.20%
	6	12	18	66.70%	309347	1001965	30.90%	1183	4099	28.90%
	7	10	25	40%	404363	1455621	27.80%	1342	4912	27.30%
	8	10	26	38.50%	253340	1246021	20.30%	566	4220	13.40%
	9	-	3	-	-	88440	-	-	153	-
Area4	**Total**	1	3	33.30%	81143	211885	38.30%	44	102	43.10%
	5	1	2	50%	38447	84480	45.50%	34	59	57.60%
	6	1	3	33.30%	42696	127405	33.50%	10	43	23.30%
Area7	**Total**	1	1	100%	5751	26880	21.40%	28	86	32.60%
	5	1	1	100%	5751	26880	21.40%	28	86	32.60%
Area8	**Total**	13	25	52%	1004282	3377721	29.70%	1236	3893	31.70%
	3	4	8	50%	60032	195040	30.80%	23	64	35.90%
	4	12	23	52.20%	435851	1537567	28.30%	496	1326	37.40%
	5	12	22	54.50%	448257	1426511	31.40%	569	1871	30.40%
	6	5	7	71.40%	60142	121403	49.50%	148	257	57.60%
	8	-	1	-	-	28800	-	-	82	-
	9	-	1	-	-	68400	-	-	293	-
Area9	**Total**	-	11	-	-	8046840	-	-	476	-
	1	-	5	-	-	68180	-	-	0	-
	2	-	1	-	-	58500	-	-	0	-
	3	-	9	-	-	528840	-	-	0	-
	4	-	9	-	-	835360	-	-	0	-
	5	-	11	-	-	1145380	-	-	0	-
	6	-	11	-	-	984120	-	-	15	-
	7	-	11	-	-	748860	-	-	15	-
	8	-	11	-	-	350060	-	-	8	-
	9	-	11	-	-	909920	-	-	305	-
	10	-	11	-	-	1103280	-	-	129	-
	11	-	11	-	-	1101360	-	-	4	-
	12	-	6	-	-	212980	-	-	0	-
Area12	**Total**	1	4	25%	72468	665890	10.90%	-	61	-
	5	-	1	-	-	19150	-	-	0	-
	6	1	3	33.30%	10500	135960	7.70%	-	3	-
	7	1	3	33.30%	51984	324220	16%	-	38	-
	8	1	3	33.30%	9984	151560	6.60%	-	16	-
	9	-	2	-	-	35000	-	-	4	-

(b)-2 2024 (calendar year)

Area*	Month	Numbers of vessels observed	Numbers of all vessels	Cover rate for the number of vessels	Number of hooks used by observed vessels	Number of hooks by all vessels	Cover rate for the number of hooks	Number of SBT observed	Number of SBT by all vessels	Cover rate for the number of SBT
Area14	**Total**	9	38	23.70%	756039	7093142	10.70%	1615	18817	8.60%
	1	-	7	-	-	134600	-	-	2793	-
	3	2	6	33.30%	8656	40440	21.40%	-	3	-
	4	2	8	25%	14138	190960	7.40%	-	0	-
	5	2	11	18.20%	84242	428619	19.70%	-	97	-
	6	9	26	34.60%	253292	1459503	17.40%	634	4533	14%
	7	8	33	24.20%	219834	2136840	10.30%	742	6261	11.90%
	8	4	29	13.80%	155942	1747640	8.90%	233	3875	6%
	9	2	19	10.50%	19935	310480	6.40%	6	625	1%
	10	-	4	-	-	69480	-	-	0	-
	12	-	10	-	-	574580	-	-	630	-
Area15	**Total**	1	3	33.30%	22092	59240	37.30%	20	58	34.50%
	5	1	1	100%	1860	15200	12.20%	1	21	4.80%
	7	1	1	100%	2076	3000	69.20%	1	2	50%
	8	1	2	50%	18156	41040	44.20%	18	35	51.40%
Grand Total		17	57	29.82%	3006270	23610926	12.65%	6123	37443	16.35%

* The areas with observer deployed.

Table 2 Number of biological samples collected by observers in 2023 and 2024

Year		**2023**	**2024**
SBT catch data recorded		5431	6123
SBT length measured		5431	6121
Otolith	Southern bluefin tuna	2	18
Gonad	Southern bluefin tuna	270	140
	Escolar	90	58
	Oilfish	22	3
	Rudderfish	4	3
Muscle	Swordfish	0	12
caudal peduncle	Escolar	0	58
	Oilfish	0	3
	Rudderfish	0	3
head	Escolar	90	58
	Southern bluefin tuna	1	0
	Oilfish	22	3
	Rudderfish	4	3

Table 3 Number of length measurements per species by area and by month

(a) 2023

Area	Area 2							Area 8					Area 14				Area 15	Area4
Month	2	4	5	6	7	8	9	3	4	5	6	8	2	6	7	8	7	6
Albacore	149	8	310	4553	2051	926	283	3048	9315	10857	1231	10	19	4894	8995	4569	597	242
Bigeye tuna	19	0	2	239	114	88	62	15	25	3	5	0	0	176	936	431	12	9
Black marlin	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Pomfrets	0	0	0	22	24	33	5	0	10	120	24	9	0	6	24	7	0	0
Blue shark	12	0	7	41	39	42	79	26	117	142	21	26	0	17	74	87	11	11
Butterfly kingfish	0	0	11	37	28	0	0	21	144	247	24	39	0	2	0	0	0	0
Blue marlin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Rudderfish	0	0	0	6	0	0	0	1	12	16	0	0	0	8	18	5	0	0
Common dolphinfis	14	1	0	21	4	6	1	5	5	0	0	0	2	16	207	158	0	0
Opah	0	0	46	270	137	64	19	190	911	956	329	0	0	141	272	245	0	2
Escolar	3	0	12	274	110	90	12	24	82	144	31	0	0	136	491	361	0	6
Longfin mako	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Striped marlin	0	0	0	2	0	0	1	1	0	0	0	0	0	3	3	2	0	0
Ocean sunfish	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Oilfish	0	0	2	42	12	4	0	8	16	52	13	0	0	18	52	27	0	1
Other fish	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Southern bluefin tun	0	2	41	611	738	199	13	92	350	1178	304	127	0	105	1150	509	8	4
Indo-Pacific sailfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0
Skipjack tuna	8	0	0	0	0	0	0	0	0	0	0	0	1	3	13	3	0	0
Shortfin mako	0	0	2	17	16	4	1	5	16	26	9	0	0	7	15	17	0	2
Longbill spearfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Shortbill spearfish	8	0	0	21	4	1	0	1	1	1	1	0	1	1	11	2	0	0
Swordfish	0	0	0	32	7	3	0	1	10	29	4	0	0	21	74	48	0	0
Wahoo	12	0	0	84	7	9	2	0	1	1	0	0	1	61	72	22	0	0
Yellowfin tuna	6	0	0	114	19	17	15	6	5	0	0	0	0	166	265	82	7	3

(b) 2024

Area	Area 2					Area 8				Area 14							Area 15			Area4		Area7	Area12		
Month	4	5	6	7	8	3	4	5	6	3	4	5	6	7	8	9	5	7	8	5	6	5	6	7	8
Albacore	33	2222	5900	9990	6709	1688	12920	12804	1352	45	353	2828	5443	2963	1743	223	154	75	1402	1670	1614	109	824	4049	1310
Bigeye tuna	2	64	172	442	249	8	46	37	0	5	13	205	443	121	140	29	1	5	27	2	18	0	8	21	5
Black marlin	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pomfrets	0	0	8	0	1	0	1	1	1	0	0	0	1	4	2	0	0	0	0	3	1	0	0	2	0
Blue shark	1	1	3	20	10	21	48	19	1	7	1	2	7	10	27	7	0	0	0	82	71	14	12	99	5
Butterfly kingfish	0	9	0	0	0	2	71	95	10	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Blue marlin	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0
Rudderfish	0	0	11	6	1	1	4	6	2	0	0	1	4	4	0	0	0	0	0	0	0	0	0	0	0
Common dolphinfisl	1	5	1	5	7	16	51	23	0	7	14	12	9	2	5	0	0	0	3	1	0	0	0	1	0
Opah	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Escolar	0	34	122	163	216	50	434	345	33	1	9	51	98	112	35	1	0	0	3	23	14	1	3	18	2
Longfin mako	2	44	407	965	513	5	84	184	36	14	5	92	429	387	119	0	0	2	18	346	130	94	16	91	3
Striped marlin	1	0	0	0	1	0	0	0	0	1	0	0	2	0	1	0	0	0	0	1	2	0	3	7	5
Oilfish	0	0	34	54	34	0	16	12	3	0	0	0	7	12	3	0	0	0	0	369	79	42	1	3	0
Rainbow runner	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
Slender sunfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Southern bluefin tun	0	89	1183	1342	566	23	494	569	148	0	2	0	632	742	233	6	1	1	18	34	10	28	0	0	0
Indo-Pacific sailfish	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skipjack tuna	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	8	55	0	19	130	2
Shortfin mako	1	2	13	13	8	1	5	20	0	1	0	2	13	7	4	2	0	0	0	10	15	1	3	11	0
Shortbill spearfish	0	2	5	6	1	1	1	4	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	4	0
Swordfish	0	12	22	58	17	2	22	17	1	3	4	2	35	19	6	0	0	0	0	13	3	10	3	3	0
Wahoo	1	18	6	32	11	1	4	19	0	3	0	38	9	6	18	0	0	0	0	0	2	0	0	0	0
Yellowfin tuna	2	7	7	6	6	13	3	6	0	4	4	79	30	2	30	0	0	0	1	3	12	0	5	17	5

Table 4 Number of SBT tags retrieval during 2002-2024

Year	Total		
		CCSBT	CSIRO
2002	18	2	16
2003	42	24	18
2004	133	112	21
2005	229	204	25
2006	259	253	6
2007	40	40	0
2008	5	5	0
2009	0	0	0
2010	27	27	0
2011	13	13	0
2012	5	5	0
2013	5	5	0
2014	1	1	0
2015	2	2	0
2016	0	0	0
2017	0	0	0
2018	0	0	0
2019	0	0	0
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	2	2	0
2024	0	0	0
Grand Total	**781**	**695**	**86**