South African National Report to the Extended Scientific Committee of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), 2019-2023

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Summary

South Africa's tuna directed fishery is comprised of two fishing fleets, a baitboat (tuna pole-line) fleet of 139 vessels (131 fishing rights), and a longline fleet with a domestic (ZAD) and a Japanese-flagged joint venture (charter vessel(s); ZAC) component of currently a total of 34 vessels (61 fishing rights). The tuna pole-line fleet mainly targets albacore and yellowfin tuna, when available, and the longline fleet targets tuna species (temperate and tropical) and swordfish. SBT has previously only been caught by the longline fleet but the tuna pole-line fleet started catching SBT in small quantities since South Africa became a full Member of CCSBT in 2016. South Africa continues to develop its SBT directed performance within its large pelagic directed fishing sectors. SBT effort in the ZAD has been steadily increasing over the period 2006-2016, from a mere 45 thousand hooks in 2006 to present levels of over 500 thousand hooks, whilst ZAC effort was absent in 2020, 2022 and 2023 and only one vessel operated in 2021. Similar to effort, total annual SBT landings attained a maximum of 222 tons in 2018 and have declined to on average 133t per year since. SBT was caught by 18 longline vessels (all ZAD) and four tuna pole-line vessels in the 2022/2023 season (1 March 2022 to 28 February 2023). ZAD longline vessels landed 145.7 tons (N = 1964) and tuna pole-line vessels landed 0.8 tons (N = 10). The longline fishery operates mostly within South Africa's EEZ from May to October; however, the majority of SBT catch is typically taken over a four-month period; June, July, August and September. There are notable differences in the distribution of catch and effort between the ZAD and ZAC longline vessels. The ZAD operates off the West coast of South Africa (Area 15 and upper Area 9) and in the Northeast Coast (Area 14) and the catch distribution appears to have become more localised and contracted in these two areas since 2019. The limited number of ZAC vessels (1-3) that operated under joint venture in 2019 and 2021 has transitioned to conducting their fishing activities further offshore and into the High Seas in Area 9 as opposed to their contracted range in South Africa's EEZ (Area 14) from 2013-2017. A decline in size composition data is indicative of a decline in SBT catch after 2019. In addition, overall (all sets) observer coverage has decreased in recent years and South Africa looks to improve on observer coverage that is spatially and temporally representative in the ZAD fleet. The 100% observer coverage required on ZAC vessels assisted in measuring 31.2% and 14.9% of SBT caught in 2019 and 2021, respectively. Small samples sizes have resulted in large variability in mean lengths (between 133.7cm and 192.5cm) from 2020 to 2023 in Area 9. The mean lengths in Area 14 and 15 have been fairly similar over the last four years, 171.4cm and 166.1 cm, respectively. The effective observer coverage of SBT effort (number of hooks per sets with at least one SBT) for the ZAD fleet declined in 2021 (6.2%) and 2022 (2.4%) and efforts in place in 2023 has seen observer coverage increase to 13.9%.

1. Introduction

South Africa was formally accepted as a Cooperating Non-Member (CNM) of the CCSBT Extended Commission in August 2006; and subsequently became a Member of the Commission and the Extended Commissions in February 20216. The two South African commercial fishing sectors that target large pelagic species comprise the Large Pelagic Longline (LL) and the Tuna Pole-Line (baitboat) fleet. These fisheries have the potential to expand their Southern Bluefin Tuna (SBT) catches.

1.1 Summary of the Historical Developments in the Fishery – Large Pelagic Longline

South Africa had a brief history targeting SBT in the early 1960s, along the west coast. During this period SBT was one of the most common species caught on longline. This fishery ceased by mid- 1960s in favour of developing other more lucrative fisheries, but foreign vessels continued to fish in South African waters since the 1970s under a series of bilateral agreements. Only in 1997, thirty experimental large pelagic longline permits were issued to revive the local tuna fishery, though swordfish (*Xiphias gladius*) turned out to be the dominant target species initially. The South African Large Pelagic Longline fishery was commercialized in 2005, with the issuing of 18 swordfish-directed and 26 tuna-directed fishing rights valid for 10 years. The fishery was restricted to 50 permits (one permit per vessel) through Total Allowable Effort (TAE) control. The large pelagic longline fishery was initially split into swordfish and tuna-directed sub-sectors due to the drastic declines in swordfish catch and CPUE experienced during the period of the experimental fishery from 1997 to 2005.

Joint-venture agreements with Japan have been in place since 1995, with the primary policy objective of transferring skills to South African crew and operators and reflagging of these vessels. In 2005, when only a few vessels successfully reflagged, the joint ventures were stopped in 2006. This led to a significant decline in catches for that year, prompting the country to lift the ban to enhance catch performance. In 2014, it was decided to no longer classify the fleet under separate fishing strategies, tuna-directed and swordfish-directed, since the fishing behaviour of the local fleet had evolved from exclusive swordfish targeting to include tunas and sharks. Consequently, the fishery is now referred to as the Large Pelagic Longline fishery and includes vessels that target tunas and swordfish, with pelagic sharks being caught incidentally as by-catch. Directed targeting of pelagic sharks is not permitted and has been further disincentivized by banning the use of wire traces since 2016. The 10-year long-term rights granted in 2005 expired in January 2015. In February 2017, a total of 62 commercial fishing rights were granted for a duration of 15 years and 34 vessels were authorized to operate under these rights. Previously, the fishery had been allowing an interim period for foreign vessels to charter in this subsector as a means of skills development and as well as a means of acquiring suitable vessels. Foreign vessels, mainly from Japan and Chinese-Taipei, fished in South African waters through the issuing of bilateral agreements in the 1970s, and re-negotiated these agreements in the 1990s until 2002 (Sauer et al., 2003). The vessels are required to adhere to South African legislation, including but not limited to, the Marine Living Resources Act (Act No. 18 of 1998) and Regulations promulgated thereunder as well as Large Pelagic Longline sector specific regulations. Importantly, each foreign vessel is required to carry an observer on board every trip. The catch from these vessels accrues to South Africa. According to sector specific policy, foreign vessels that operate under South African rights will be required to eventually reflag their vessels and to transfer skills to South Africans.

According to the current (2015) sector specific policy, foreign vessels that operate under South African rights will, after an initial one-year trial period, be required to reflag within three (3) years. The return to stringent timeframes for reflagging has resulted in few to no foreign flagged vessels operating in South Africa in recent years. Despite the reduction in joint venture vessels, and these joint venture vessels not having reflagged to South Africa, the number of vessels actively fishing each year has remained stable (**Figure 1**) owing to the domestic right holders (ZAD) that have been steadily growing the fleet. We expect the number of longline vessels (ZAD) to further increase in the coming years as tuna pole-line vessels convert to longline gear.

The type of longline vessels operated by South Africa is a factor impacting the catching performance for SBT. Japanese super freezer long-liners typically range from 47 to 54 meters in length overall and weigh between 400 to 500 tons gross registered weight. They are constructed of steel, feature a large catch capacity, and are equipped with ultra-low freezers. In contrast, South African vessels are generally smaller, around 24 meters or less in length, weighing less than 100 tons, are predominantly made of

fiberglass reinforced plastic, though some are steel-hulled, and they lack ultra-low freezing capability and large hold capacities. South African vessels typically use ice or refrigerated seawater to maintain their catch at approximately 0°C, whereas Japanese vessels freeze their catch to about -60°C. Due to their longer range, Japanese vessels can undertake trips for Southern SBT well beyond South Africa's Exclusive Economic Zone (EEZ). In contrast, the smaller size and limited freezing capacity of South African vessels restrict them from venturing as far south, where extreme weather conditions prevail. Consequently, South African vessels usually limit their trips to 14 days or less (A Penglides, 2022).

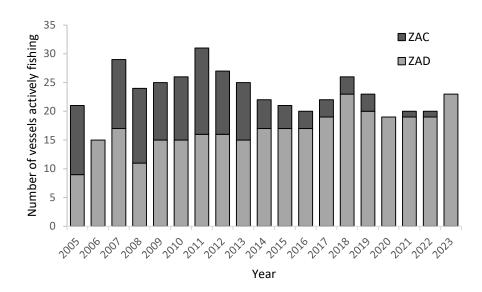


Figure 1. Number of domestic (ZAD) and joint venture (ZAC) vessels operating in South Africa each year from 2005 – 2023.

1.2 Summary of the Historical Developments in the Fishery – Tuna Pole-Line (Baitboat)

Fishing for tunas using rod and reel and/or pole and line dates to the 1970s in South Africa when they were caught in minimal quantities as bycatch in other fisheries, making this the oldest commercial fishery for tuna in South Africa. Interest sparked in 1979 when yellowfin tuna (*Thunnus albacares*) became available close inshore off Cape Point (Shannon, 1968). Operators from other sectors converted their vessels to ice vessels to fish for yellowfin using pole and line or purse-seine nets, resulting in catches of over 4 500 t (Penney and Punt, 1993). By 1980 the yellowfin tuna was no longer available close inshore, resulting in these vessels targeting albacore (Thunnus alalunga) instead on the Southwest and West coasts of South Africa. Albacore catches peaked at 6 000 t in 1989, although these catches were under-reported and were probably closer to 10 000 t (Penney and Punt, 1993). The sector has continued to exploit juveniles and sub-adult albacore of between 2 and 3 years old (average of 86 cm FL) and larger yellowfin tuna (average of 133 cm FL). In addition to the uniform target species, vessels will augment catches opportunistically with snoek (*Thyrsites atun*) and yellowtail (*Seriola lalandi*).

This sector is effort controlled, limiting the number of vessels. Prior to 2006, the pole and line fishery was managed under the bracket of commercial linefishing. During the long-term rights allocation process in 2006, the commercial linefishery was divided into three separate sectors consisting of the traditional linefishery (455 vessels and 3 450 crew), the hake-handline sector (130 vessels and 785 crew) and the tuna pole-line fishery (200 vessels and 3 600 crew) (Mann, 2013). Of the 200 vessels and 3 600 crew allocation available for 8 years, only 198 vessels and 2961 crew were allocated in 2006 (TAC/TAE, 2015). The reallocation of long-term rights in 2013 resulted in the allocation of 164 fishing rights and a

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total of 165 vessels granted for the 2013-2020 period. This reduction was a direct response to the 2013 ICCAT albacore stock assessment, which highlighted significant uncertainty around the estimates of albacore stock status in the south Atlantic.

In 2022, the International Commission for the Conservation of Atlantic Tunas (ICCAT) allocated South Africa an annual albacore quota of 5 280 t for the period 2023 to 2026 (ICCAT, 2022), with the tuna pole-line sector responsible for catching 90% of this allocation. The latest tuna pole-line fishing rights were allocated in March 2022 for a period of 15 years. A total of 131 commercial fishing rights were granted (74 to new applicants), with each fishing right authorised to utilise one (1) or two (2) fishing vessels, with the total number of authorised vessels (139) not exceeding the TAE of 150 vessels. The South African tuna pole-line sector started to fish for SBT for the first time in 2016. The sector catches SBT opportunistically when targeting yellowfin tuna, resulting in relatively small amounts of fluctuating catches each season with a peak of 28 SBT (2.5 tons) landed in 2018.

Since vessels are small and the nature of the operation requires the vessel to maximise on crew (who work in pairs to catch and haul albacore), South Africa has not mandated vessels to accommodate human scientific observers and instead catches have been monitored in port during offloading. Two industry groups within this sector, which collectively cover the entire fleet, are in the process of becoming certified with the Marine Stewardship Council (MSC). One of them should be certified in August 2024. The MSC certification process includes assessing and scoring external validation of evidence and information, and the adequacy of information through methods such as observer coverage. As such, this sector has voluntarily commenced with onboard human scientific observer coverage on suitable and willing vessels and their observer coverage currently is ~3% of fishing days.

1.3 Overview of the most recent fishing season

During the 2022-2023 fishing season (1 March 2022 to 28 February 2023), 26 right holders reported SBT landings, which were made by 18 longline vessels (all ZAD) and four tuna pole-line vessels. Longline vessels landed 145.7 tons (N = 1964) and tuna pole-line vessels landed 0.8 tons (N = 10).

1.1 Trends by gear type

"Targeted" SBT effort is defined here as the total number of hooks per set that retained at least one SBT. The 2018-2019 season was the first time SBT directed effort exceeded 600 thousand hooks since the commercialization of the SBT fishery in 2015. SBT effort in the ZAD fleet has been steadily increasing over the period 2006-2016, from a mere 45 thousand hooks in 2006 to present levels of over 500 thousand hooks (Figure 2). ZAC effort fluctuated widely between 6 (2010) and 497 (2007) thousand hooks with no effort in 2020, 2022 and 2023.

Similar to effort, total annual SBT landings attained a maximum of 222 tons in 2018/2019 (Figure 3). Consistent with relative catches since 2009, the domestic vessels accounted for the majority of South Africa's annual SBT catch. In April 2016, quotas were for the first time allocated to the tuna pole-line sector, which contributed just over 2.3 tons ($\sim 5.5\%$) to total SBT catch in that season. Apart from the peak in catches in 2018 (2.5 tons), as occurred in the longline sector, the tuna pole-line sector catches <2 tons per season by on average 4 vessels and of those 2 tops performing vessels.

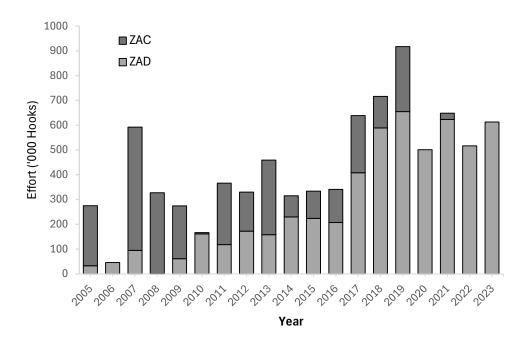


Figure 2. South African SBT directed domestic (ZAD) and chartered (ZAC) longline effort for the period 2005 – 2023. Effort is calculated as the total number of hooks in all sets that retained a SBT.

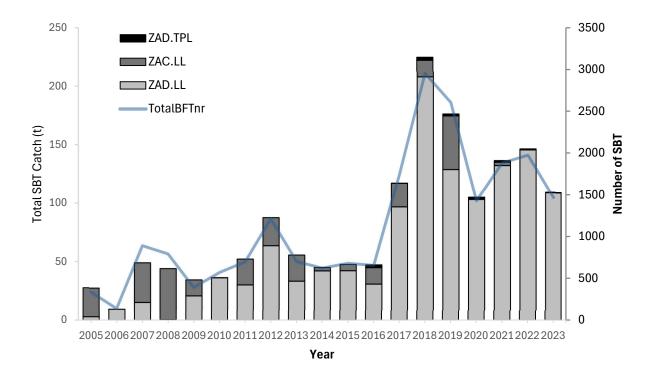


Figure 3. Total catches (tons) of SBT for South African longline (LL) vessels, domestic (ZAD) and chartered (ZAC), for the period 2005 – 2023; and the domestic tuna pole and line (TPL) from 2016. Total catch weights are up-scaled to reflect round weight using vessel-specific conversion factors for GGO and DRO. Total number of SBT caught for ZAD, ZAC and TPL combined from 2005-2023 is included.

1.2 Trends by area and season

The longline fishery operates mostly within South Africa's EEZ from May to October; however, the majority of SBT catch is typically taken over a four-month period; June, July, August and September. Consistent with previous years, most catches of SBT over the 2019/2020 to 2022/2023 occurred from May to October, peaking in July (Figure 4). Area 14 and 15 produced relatively high catches in July, whereas catches peaked only in August in Area 9 (Table 1).

There are notable differences in the distribution of catch and effort between the ZAD and ZAC longline vessels (Figures 5 & 6). The ZAD fleet operates off the West coast of South Africa and the Northeast Coast (Figure 5), with effort distribution clearly associated with proximity to the two main fishing harbour locations (Cape Town on the West coast and Richards Bay on the East coast) and suitable fishing grounds for this mixed-target fishery. The catch distribution of the ZAD fleet appears further localised and contracted in these two areas since 2019 with catches made across CCSBT Statistical Areas 9, 14 and 15. The ZAC vessels have been exclusively operating east of Cape Agulhas (>20° Longitude) since 2012 (Figure 6). While the ZAC fleet showed a strong range contraction from formally widespread effort in Area 9, including the High Seas, to predominantly fishing South Africa's EEZ of Area 14 from 2013 – 2017, this has changed in recent years. The few (1-3) ZAC vessels that operated under joint venture in 2019 and 2021 operated in offshore positions in Area 9.

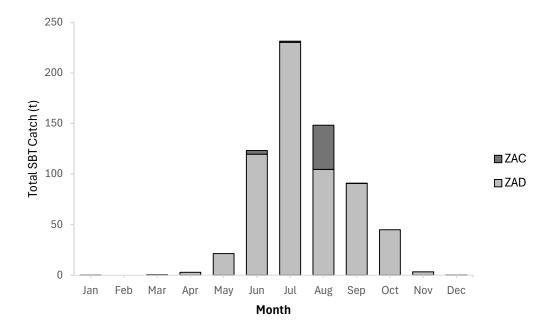


Figure 4. Total monthly SBT catch (in tons) for the Large Pelagic fishery of South Africa from 2019 – 2023. The catch statistics are derived from the domestic longline (LL ZAD) and chartered longline (LL ZAC).

Table 1. Spatial and temporal statistics of South African Large Pelagic longline fishery SBT catches for 2019 to 2023.

Month	Area 9		Area 14		Area 15		Combined	
Monui	nr	tons	nr	tons	nr	tons	nr	tons
Jan	0	0	0	0	2	0.1	2	0.1
Feb	4	0.3	0	0	5	0.2	9	0.4
Mar	0	0.0	0	0.0	0	0.0	0	0.0
Apr	16	1.1	0	0	18	1.3	34	2.5
May	48	3.4	5	0.4	207	14.7	260	18.5
Jun	98	6.0	886	62.5	568	38.8	1552	107.3
Jul	537	34.6	1249	90.6	1217	76.1	3003	201.2
Aug	1465	72.7	85	4.1	863	52.1	2413	128.9
Sep	1095	64.1	3	0.2	237	14.6	1335	78.9
Oct	158	11.5	0	0	462	27.0	620	38.4
Nov	3	0.2	0	0	38	2.6	41	2.8
Dec	1	0.1	0	0	0	0	1	0.1
Total	3425	194.0	2228	157.8	3617	227.3	9270	579.1

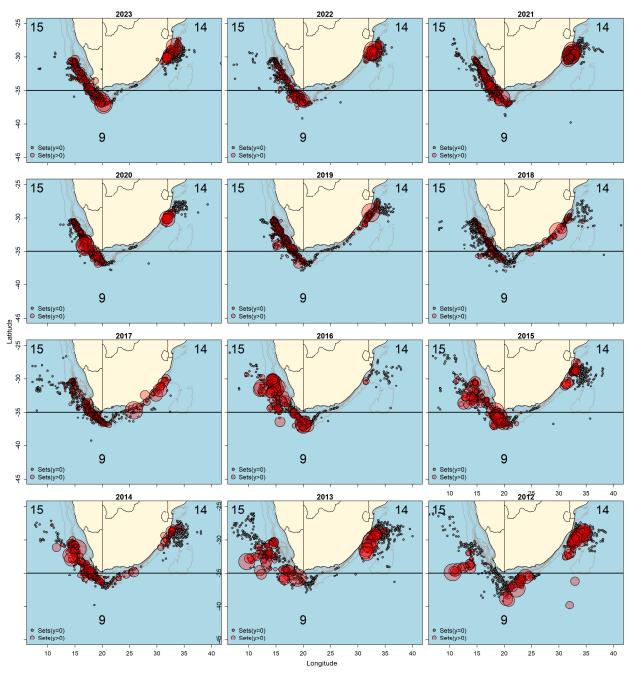


Figure 5. Annual distribution (2012 - 2023) of longline sets for the South African domestic vessels fleet (ZAD). The size of the bubble indicates the relative SBT catch per set in kg per 1000 hooks.

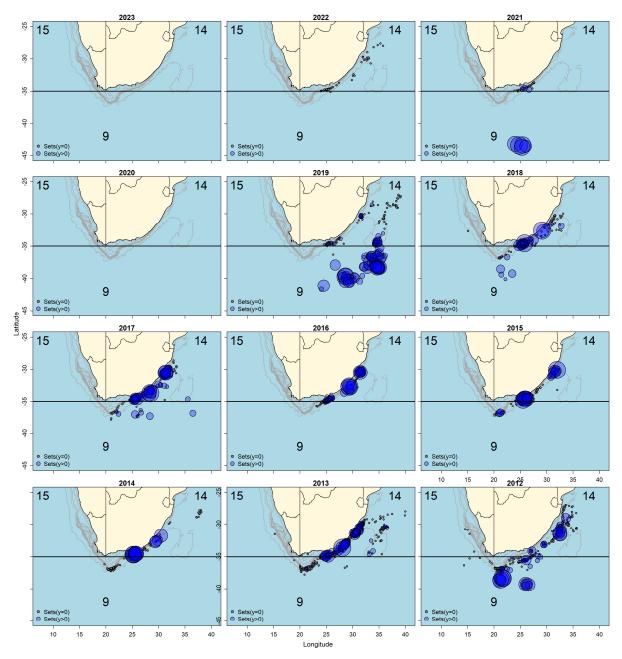


Figure 6. Annual distribution (2012 - 2023) of longline sets for the South African chartered (foreign flagged) vessels (ZAC). The size of the bubble indicates the relative SBT catch per set in kg per 1000 hooks.

2. Nominal CPUE

Nominal CPUE for the longline fleet sector was calculated as kg of SBT round weight per 1000 hooks (Figure 7) and number of SBT per 1000 hooks (Figure 7a). The nominal CPUE only includes sets that caught at least one SBT, which is consistent with the definition of "targeted" effort used throughout this report. In the absence of a direct SBT target fishery and given the historically small quota of 40 tons, the South African longline CPUE can therefore not be seen as an index of relative abundance. The CPUE trends in Areas 9 and 14 were variable, generally increased around 2012, but showed overall no clearly discernible trend for both ZAD and ZAC vessels. There was, however, a steep increase in ZAD CPUE in

2017 for Area 14, which also remained high in 2018 (Figure 7). In area 15, there was a notable increase in CPUE starting in 2008, which has subsequently remained fairly stable with peaks in 2012 and 2018. The 2023 CPUE showed a slight decrease compared to 2022 for the ZAC fleet in Areas 9 and 14 (Figure 7 and 7a).

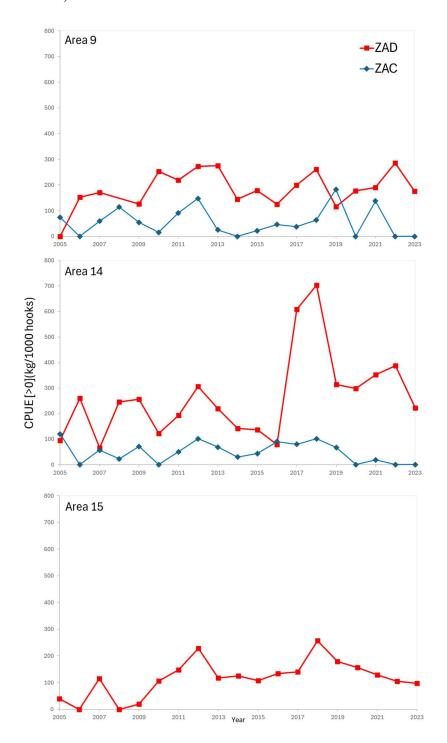


Figure 7. Trends in Nominal CPUE (kg/1000 hooks) by area and fleet segments of domestic and chartered vessels for SBT over the period 2005-2023. Effort is calculated as the total number of hooks in all sets that retained at least one SBT.

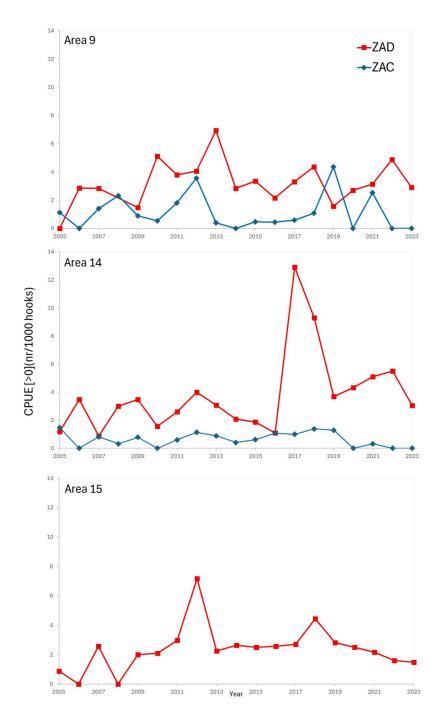


Figure 7a. Trends in Nominal CPUE (nr/1000 hooks) by area and fleet segments of domestic and chartered vessels for SBT over the period 2005-2023. Effort is calculated as the total number of hooks in all sets that retained at least one SBT.

3. Size composition

Size composition data (mm Fork Length) were compiled from the on-board scientific observer programme. A decline in size composition data is indicative of a decline in SBT catch after 2019 (Figure 3 & 8). In addition, overall (all sets) observer coverage has decreased in recent years and, along with improving the longline sector's adherence to fishing regulations related to observer coverage, South Africa is seeking ways to improve the spatial and temporal representation of observer coverage. Increasing the collection of size composition data in all CCSBT areas can be improved, and particularly in Areas 9 and 14. Small samples sizes have resulted in large variability in mean lengths (between 133.7cm and 192.5cm) from 2020 to 2023 in Area 9. The mean lengths in Area 14 and 15 have been fairly similar over the last four years, 171.4cm and 166.1 cm, respectively. The total number of SBT measurements taken by observers was N = 124 in 2023, which equates to 8.5% of the total retained catch by all vessels and represents a significant improvement compared to the 1.0% measured SBT in 2022 (Table 2). The 100% observer coverage required on ZAC vessels assisted in measuring 31.2% and 14.9% of SBT caught in 2019 and 2021, respectively (Table 2).

Table 2. The number and percentage of landed SBT measured by observers from 2017 to 2023.

Year	Nr SBT measured	Percentage SBT measured
2017	256	14.7
2018	380	12.9
2019	814	31.2
2020	333	23.4
2021	280	14.9
2022	20	1.0
2023	124	8.5

4. Fleet size and distribution

The number of ZAC vessels has declined from 12 in 2007 to only three from 2016 – 2019, one in 2021 and complete absence in 2022 and 2023 (Table 3). The activity of the ZAC fleet segment has notably shifted from Area 9 (2005-2010) to Area 14 (2013-2018), with the few vessels showing renewed interest in Area 9 in recent years. ZAD vessels reporting at least on SBT has been increasing gradually since 2005, reaching a maximum of 23 vessels in 2023. New vessels entering the sector have an interest in catching SBT and South Africa's quota allocation that has increased from historically 40 tons to 527 tons is a further encouragement. Area 14 has the lowest percentage of ZAD vessels reporting SBT catch, which reflects the small component of the fleet that operates in that region.

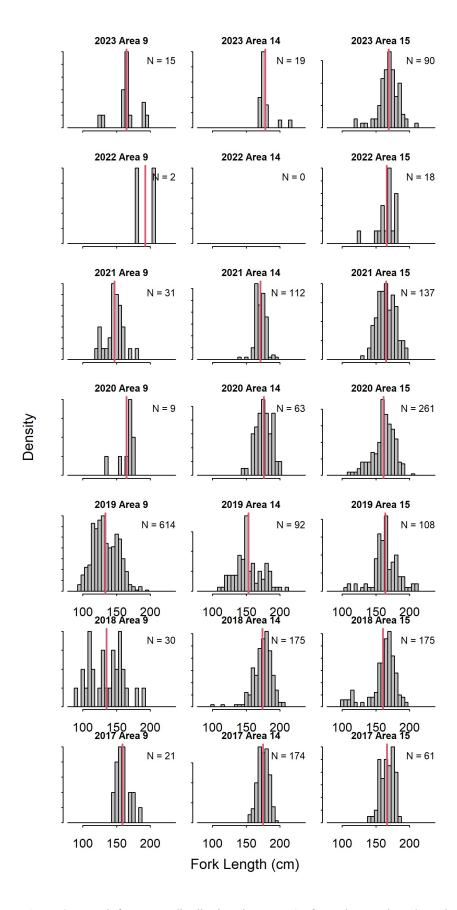


Figure 8. Length frequency distribution (in mm FL) of SBT by area based on observer data from 2012-2017, with red line denoting the mean length and N the sample size.

Table 3. Total number of active domestic (ZAD) and chartered joint-venture (ZAC) vessels that have landed at least
one SBT per year and the percentage (%) of those vessels that reported a SBT from a specific CCSBT area.

	ZAC					ZAD				
Year	Area 9	Area 14	Area 15	Total N	Area 9	Area 14	Area 15	Total N		
2005	100.0	36.4	0.0	11	0.0	66.7	33.3	3		
2006					100.0	50.0	0.0	2		
2007	100.0	50.0	0.0	12	77.8	11.1	44.4	9		
2008	100.0	11.1	0.0	9	0.0	100.0	0.0	1		
2009	100.0	25.0	0.0	8	25.0	75.0	25.0	4		
2010	100.0	0.0	0.0	2	44.4	33.3	66.7	9		
2011	81.8	45.5	0.0	11	55.6	55.6	44.4	9		
2012	77.8	77.8	0.0	9	66.7	44.4	33.3	9		
2013	22.2	100.0	0.0	9	36.4	27.3	63.6	11		
2014	0.0	100.0	0.0	4	54.5	27.3	81.8	11		
2015	50.0	100.0	0.0	4	70.0	30.0	70.0	10		
2016	33.3	100.0	0.0	3	90.0	10.0	80.0	10		
2017	66.7	100.0	0.0	3	100.0	18.2	90.9	11		
2018	33.3	100.0	0.0	3	81.3	31.3	68.8	16		
2019	100.0	100.0	0.0	3	75.0	18.8	81.3	16		
2020					70.6	17.6	76.5	17		
2021	100.0	100.0	0.0	1	68.4	26.3	73.7	19		
2022					66.7	27.8	66.7	18		
2023					78.3	30.4	73.9	23		

5. Scientific Observer Coverage

The government-funded observer programme contract expired in March 2011. Since then, the continuation of the observer coverage has been ensured by introducing measures within the fishing regulations that prescribe a minimum coverage per vessel to strive for 20% observer coverage as on the ZAD vessels. The observer programme for ZAC vessels has continued with 100% of fishing trips observed (Table 5). As mentioned previously, since tuna pole-line vessels are small and the nature of the operation requires the vessel to maximise on crew, South Africa has not mandated these vessels to accommodate a human scientific observer and instead catches have been monitored in port during offloading.

The observers collect all operational, catch (retained and discard), effort and length frequency data, and will collect biological material when required. The observers record data on the following forms:

- Form 1: Vessel and trip information sheet (IOTC Form I-GEN)
- Form 2D: Pelagic longline gear and operation information (IOTC Form 2-LL)
- Form 3D: Fishing effort pelagic long-line (IOTC Form 4-LL)
- Form 4: Marine mammal, sea turtle, and seabird incidental take form
- Form 6: Depredation
- Form 7: Fish biological sampling

The observer effort and coverage statistics by fleet and statistical area are summarized in Tables 4 and 5. The effective observer coverage of SBT effort (number of hooks per sets with at least one SBT) for the

ZAD fleet declined in 2021 (6.2%) and 2022 (2.4%) and efforts in place in 2023 has seen observer coverage increase to 13.9% (Table 4). The ZAD fleet straddles Area 15 and Area 9, with a smaller proportion of effort deployed in Area 9. Achieving a 10-20% observer coverage of SBT effort that is spatially and temporally representative of Areas 9, 14 and 15 for a fleet that is a mixed-target fishery requires agile planning of deployments.

Table 4. Total fishing and observed effort² for South Africa's ZAD vessels from 2019 to 2023 in the pelagic longline fishery.

				Total	Total	Observer	Observer
Fleet		Gear	CCSBT	hooks	hooks	coverage	coverage
code	Year	code	area	set	observed	(percentage)	(percentage)
ZAD	2019	LL	9	65375	9790	15.0	
ZAD	2019	LL	14	65805	6325	9.6	13.4
ZAD	2019	LL	15	523659	71896	13.7	
ZAD	2020	LL	9	71858	4240	5.9	
ZAD	2020	LL	14	45850	8000	17.4	19.9
ZAD	2020	LL	15	383277	87499	22.8	
ZAD	2021	LL	9	33996	1512	4.4	
ZAD	2021	LL	14	124971	22350	17.9	6.2
ZAD	2021	LL	15	465776	15100	3.2	
ZAD	2022	LL	9	82393	1512	1.8	
ZAD	2022	LL	14	145214	0	0.0	2.4
ZAD	2022	LL	15	288957	11088	3.8	
ZAD	2023	LL	9	145878	11882	8.1	
ZAD	2023	LL	14	103391	13139	12.7	13.9
ZAD	2023	LL	15	388909	63816	16.4	

²Effort is defined as number of hooks per set with at least one SBT retained as catch

Table 5. Total fishing and observed effort² for South Africa's ZAD vessels from 2019 to 2023 in the pelagic longline fishery.

				Total	Total	Observer
Fleet		Gear	CCSBT	hooks	hooks	coverage
code	Year	code	area	set	observed	(percentage)
ZAC	2019	LL	9	183635	183635	100
ZAC	2019	LL	14	78639	78639	100
ZAC	2021	LL	9	16116	16116	100
ZAC	2021	LL	14	9228	9228	100

²Effort is defined as number of hooks per set with at least one SBT retained as catch

7. Other relevant information

South Africa's ZAD fleet generally lands SBT in the Gilled and Gutted - Tail on (GGO) processing type and will export in the Dressed - Tail on (DRO) type. When the CCSBT Secretariat reconciles the weights from the Catch Tagging Forms (CTFs) with the Catch Monitoring Forms (CMFs), the GGO and DRO are converted to Round (RD) weight to check for discrepancies and investigate the source of those discrepancies. The CCSBT has a catalogue of conversion factors for the various processing types and the Members that use them (CCSBT, 2023). According to that catalogue, South Africa uses a 1.15

conversion factor for GG/GGO/GGT and a 1.8 conversion factor for DR/DRO/DRT. During the reconciliation of the Catch Monitoring Scheme (CMS) data, an issue is identified throughout the dataset when the GGO and DRO weights converted to RD are compared. Our preliminary analysis indicates that the 1.8 DRO conversion factor is high and should be in the region of 1.2-1.3, in line with Australia's conversion factor of 1.2 for DR. South Africa is in the process of collecting and analysing the weights of SBT in their processing types and formulating a request to update the DRO conversion factor that is implemented. Along with a dataset of GGO and DRO weights to analyse, six SBT have been landed in RD form recently and the dressing conducted in port to test the GGO and DRO conversion factors.

8. Literature cited

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