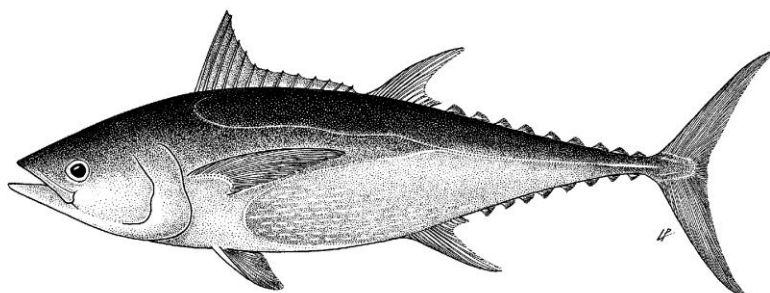


REVIEW OF FISHERIES STATISTICAL DATA AVAILABLE FOR INDIAN OCEAN LONGTAIL TUNA

Author: [IOTC Secretariat](#)



Introduction

Longtail tuna catches are largely driven by small-scale fisheries, with Indonesia accounting for over one-third of global landings and exerting a dominant influence on overall trends. In the Indian Ocean, catches declined after 2010 as fishing effort shifted offshore following a reduction in piracy. However, since 2023, catches have increased sharply, reflecting rising contributions from Iranian, Omani, and Indonesian fisheries.

The overarching objective of the paper is to provide participants at the 14th Session of the IOTC Working Party on Neritic Tunas ([WPNT6](#)) with a review of the status of fisheries information available on longtail tuna (*Thunnus tonggol*) ([Bleeker 1851](#)) occurring in the Indian Ocean. The document describes the temporal and spatial trends in retained catches at global and ocean-basin scale and the main characteristics of the fisheries catching longtail tuna in the Indian Ocean, as well as providing an assessment of the reporting quality of the data sets available at the IOTC Secretariat. A full description of the data sources, processing steps to generate the data sets, and key for reporting quality scores is available in Secretariat ([2026](#)).

Global catches

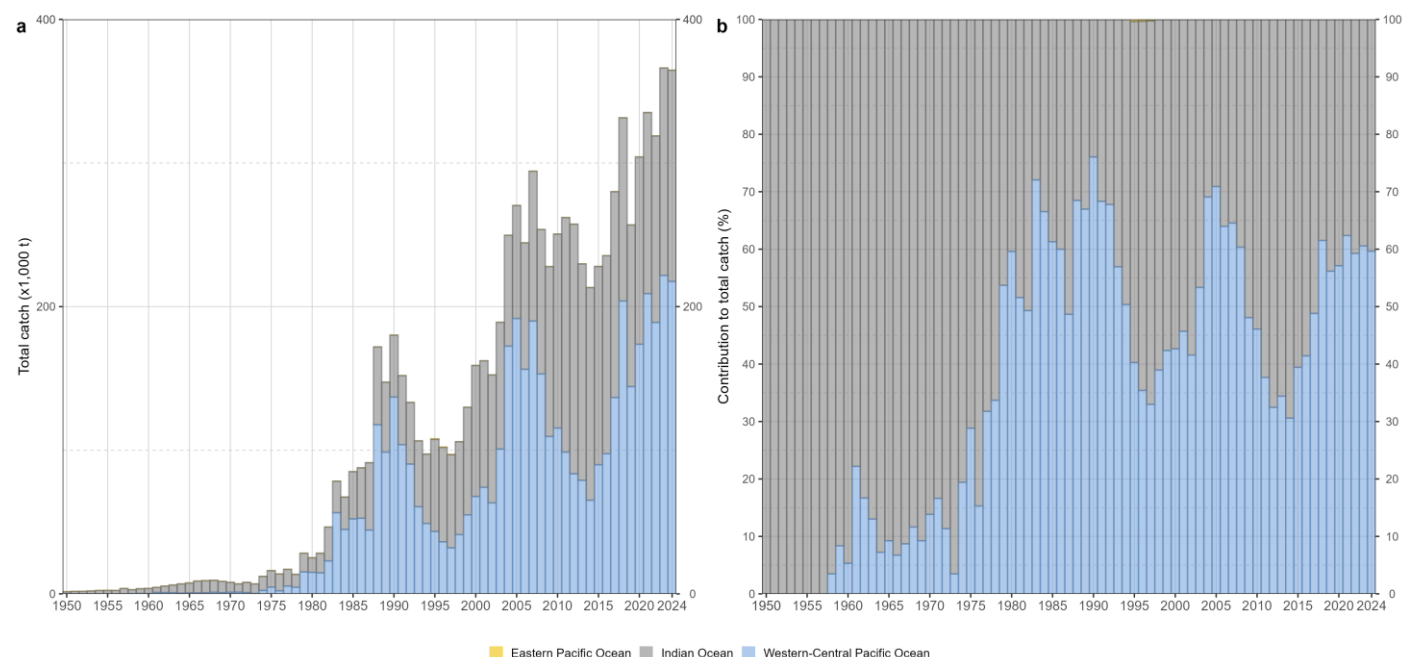


Figure 1: Annual time series of (a) cumulative retained catches (metric tonnes; t) and (b) contribution to the total retained catches (percentage; %) of longtail tuna by ocean basin for the period 1950-2024. Source: [FAO global capture production database](#)

Indian Ocean catches & discards

Historical trends (1950-2024)

Table 1: Mean annual retained catches (metric tonnes; t) of longtail tuna by decade and fishery for the period 1950-2019. The background intensity colour of each cell is directly proportional to the catch level.

Fishery	1950s	1960s	1970s	1980s	1990s	2000s	2010s
Purse seine Other	92	251	1,024	4,371	10,142	18,760	16,133
Longline Other	0	0	0	0	3	0	0
Longline Fresh	1	2	4	12	29	44	58
Longline Deep-freezing	0	0	0	68	12	0	20
Line Coastal longline	24	39	90	255	688	1,074	1,776
Line Trolling	366	651	639	1,569	2,523	2,890	4,446
Line Handline	263	282	1,034	2,170	1,780	2,675	7,697
Baitboat	12	20	45	122	286	446	840
Gillnet	3,073	6,446	10,328	25,224	40,493	64,331	104,070
Other	88	140	317	859	2,038	3,808	8,479
Total	3,919	7,831	13,482	34,650	57,995	94,029	143,518

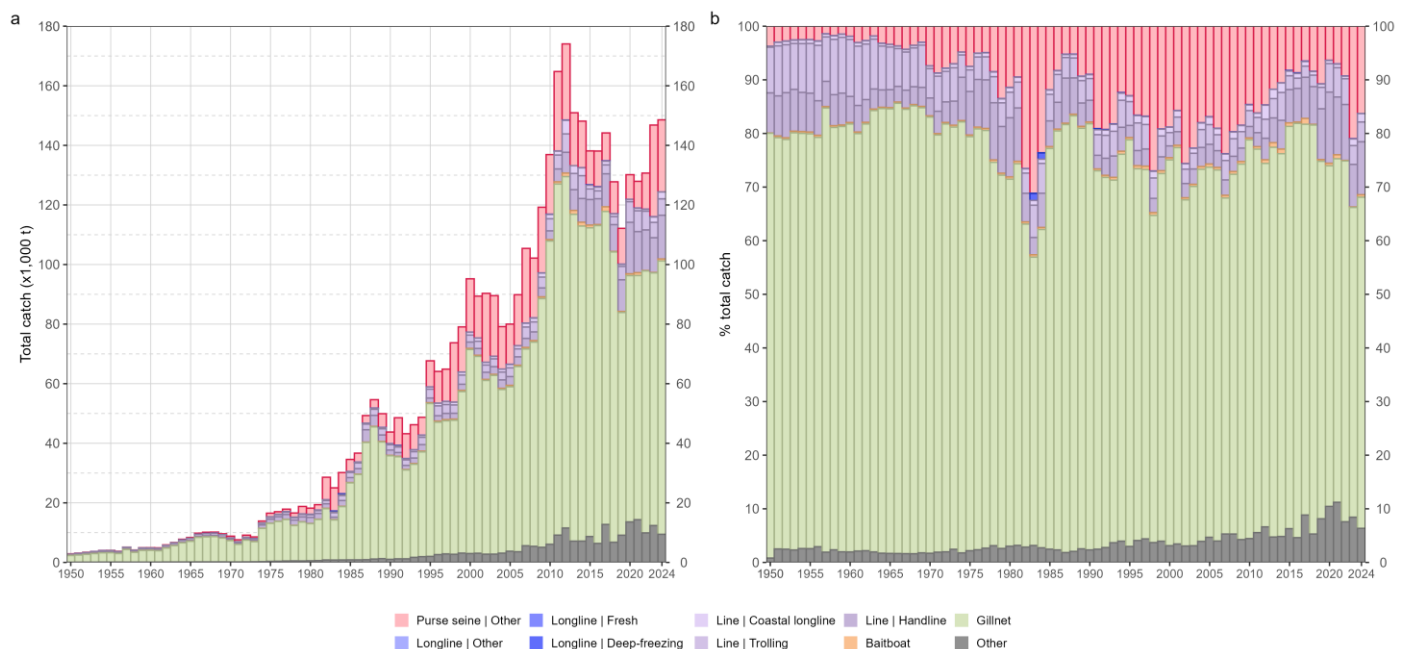


Figure 2: Annual time series of (a) cumulative retained catches (metric tonnes; t) and (b) cumulative contribution to the total retained catches (percentage; %) of longtail tuna by fishery for the period 1950-2024. Data source: [best scientific estimates of retained catches](#)

Table 2: Annual retained catches (metric tonnes; t) of longtail tuna by fishery for the period 2015-2024. The background intensity colour of each cell is directly proportional to the catch level.

Fishery	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Purse seine Other	11,403	12,015	9,391	10,750	12,070	8,274	9,004	12,148	30,797	24,199
Longline Other	0	0	0	0	0	0	0	0	0	0
Longline Fresh	109	112	60	43	41	32	61	35	78	22
Longline Deep-freezing	54	41	51	15	7	12	4	3	2	2
Line Coastal longline	1,209	1,212	1,240	864	674	754	833	622	1,807	2,322
Line Trolling	3,559	2,650	2,984	2,720	4,490	6,924	6,990	6,285	5,153	5,489
Line Handline	8,569	8,649	11,067	8,990	10,612	17,270	13,781	13,612	11,648	14,661
Baitboat	913	356	1,577	170	358	629	955	138	150	688
Gillnet	103,634	106,692	105,067	97,457	74,770	82,668	81,958	87,951	84,806	91,750
Other	8,691	6,375	12,740	6,764	9,127	13,597	14,342	9,904	12,377	9,439
Total	138,142	138,101	144,175	127,773	112,148	130,159	127,930	130,696	146,819	148,572

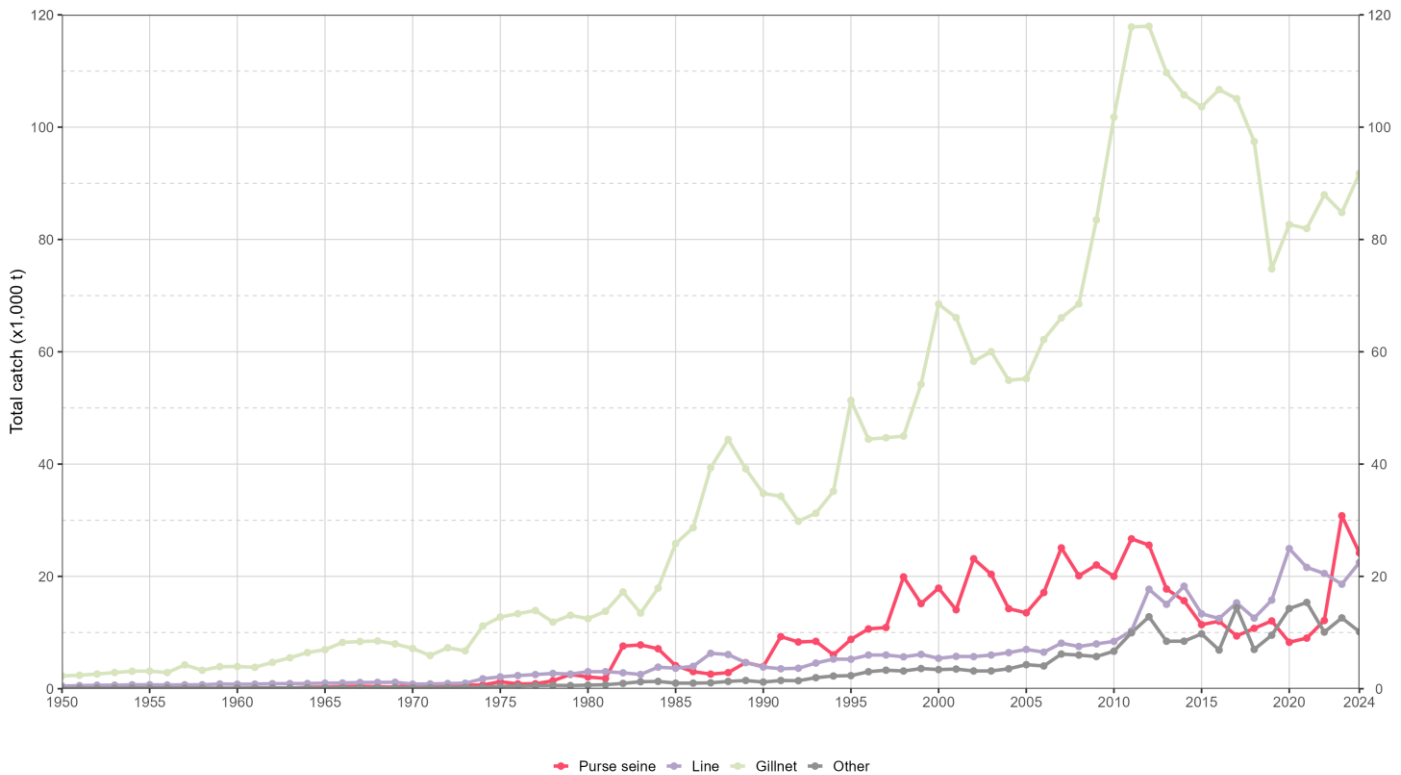


Figure 3: Annual time series of retained catches (metric tonnes; t) of longtail tuna by fishery group for the period 1950-2024. Data source: [best scientific estimates of retained catches](#)

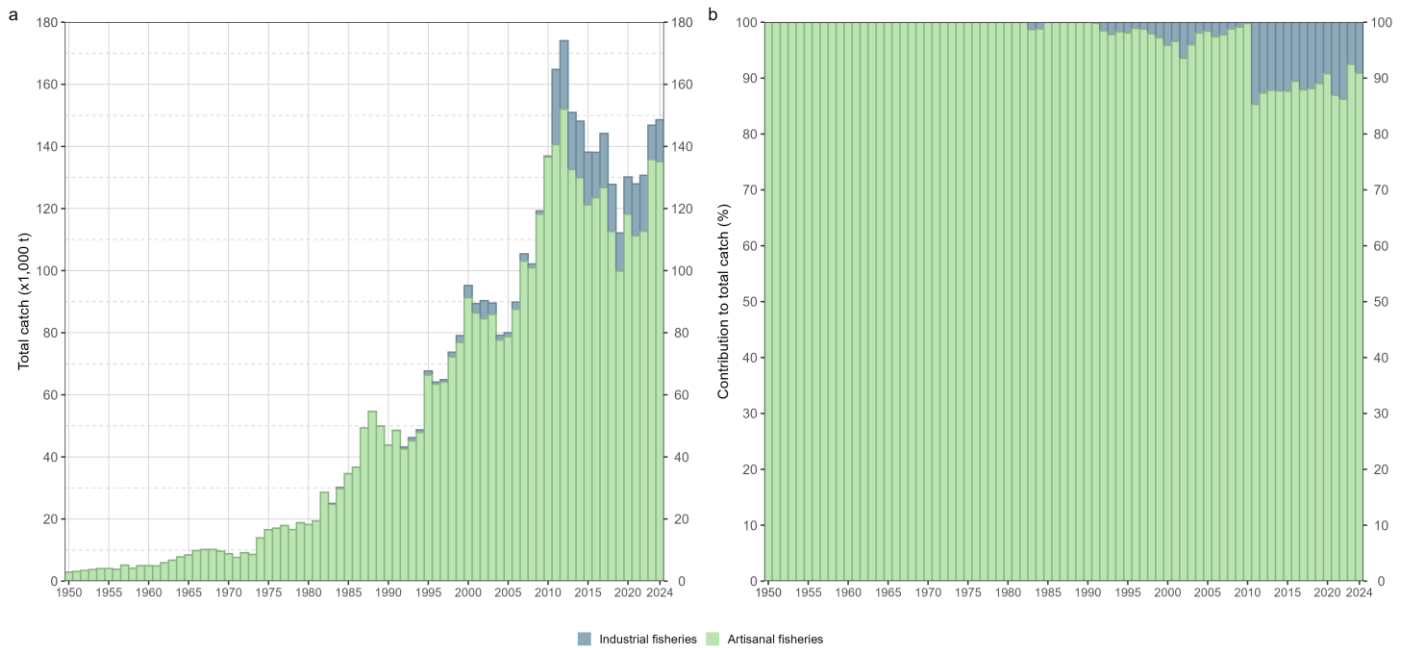


Figure 4: Annual time series of (a) cumulative retained catches (metric tonnes; t) and (b) cumulative contribution to the total retained catches (percentage; %) of longtail tuna by type of fishery for the period 1950-2024. Data source: [best scientific estimates of retained catches](#)

Recent fishery features (2020-2024)

Table 3: Mean annual retained catches (metric tonnes; t) of longtail tuna by fishery between 2020 and 2024.

Fishery	Fishery code	Catch	Percentage
Gillnet	GN	85,827	62.7
Purse seine Other	PSOT	16,884	12.3
Line Handline	LIH	14,194	10.4
Other	OT	11,932	8.7
Line Trolling	LIT	6,168	4.5
Line Coastal longline	LIC	1,268	0.9
Baitboat	BB	512	0.4
Longline Fresh	LLF	46	0.0
Longline Deep-freezing	LLD	5	0.0

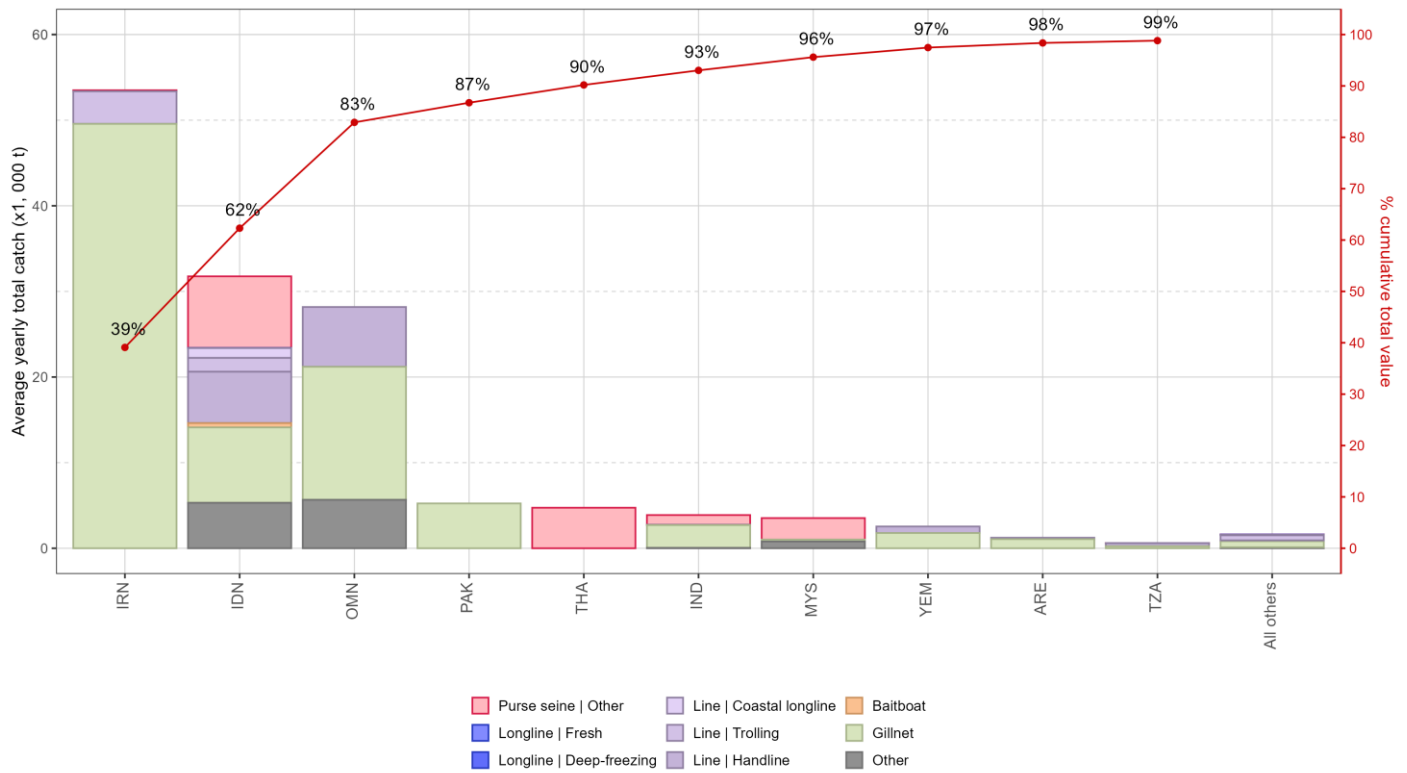


Figure 5: Mean annual retained catches (metric tonnes; t) of longtail tuna by fleet and fishery between 2020 and 2024, with indication of cumulative contribution (percentage; %) of catches by fleet. Data source: [best scientific estimates of retained catches](#)

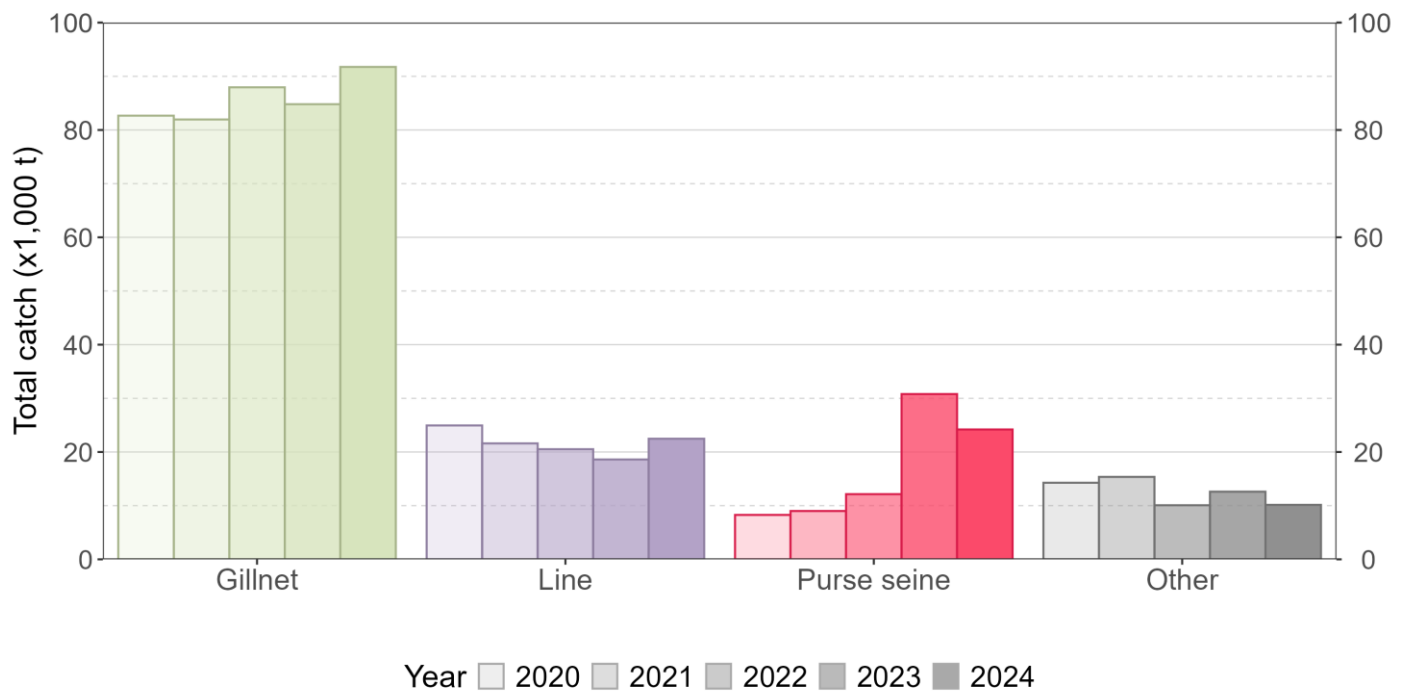


Figure 6: Annual trends in retained catch (metric tonnes; t) of longtail tuna by fishery group between 2020 and 2024. Data source: [best scientific estimates of retained catches](#)

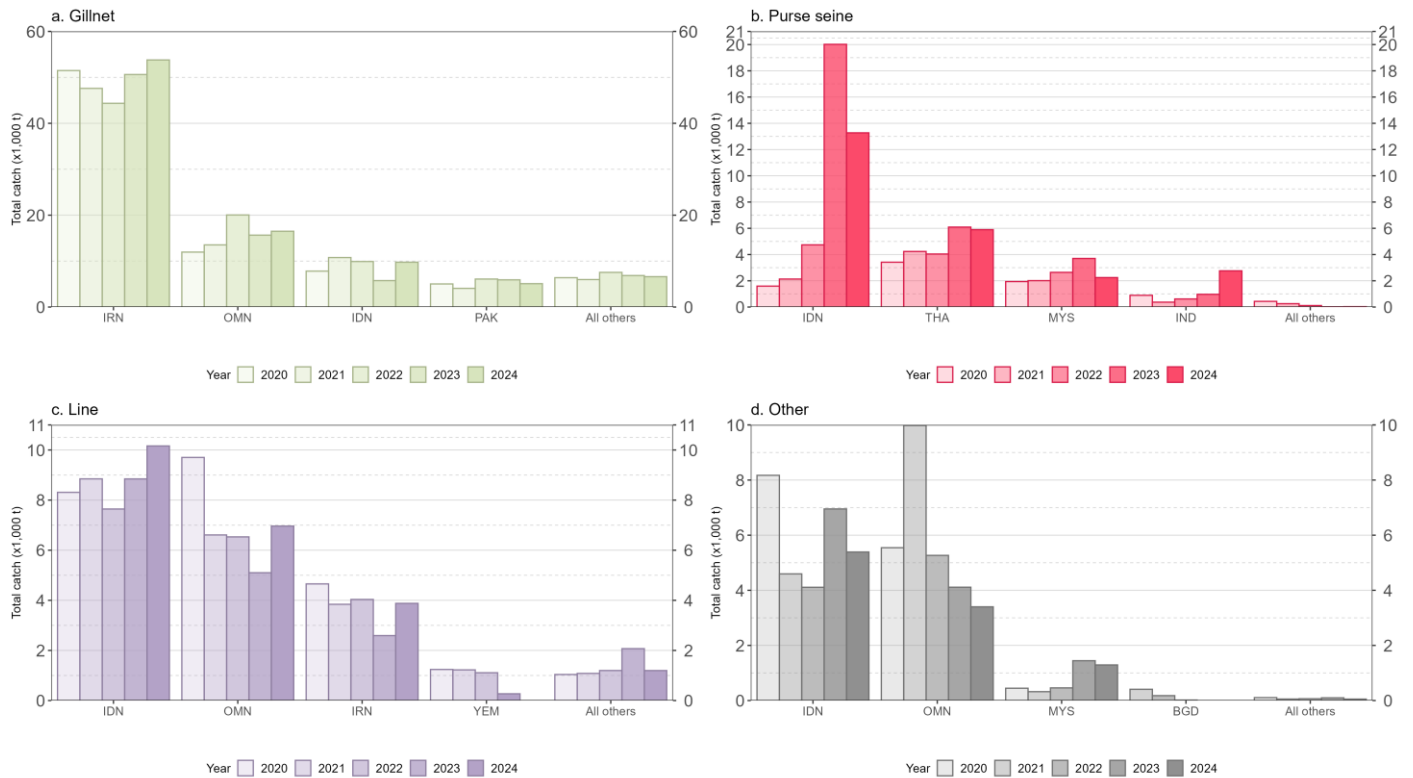


Figure 7: Annual trends in retained catch (metric tonnes; t) of longtail tuna by fishery group and fleet between 2020 and 2024. Data source: [best scientific estimates of retained catches](#)

Changes from [WPNT13](#)

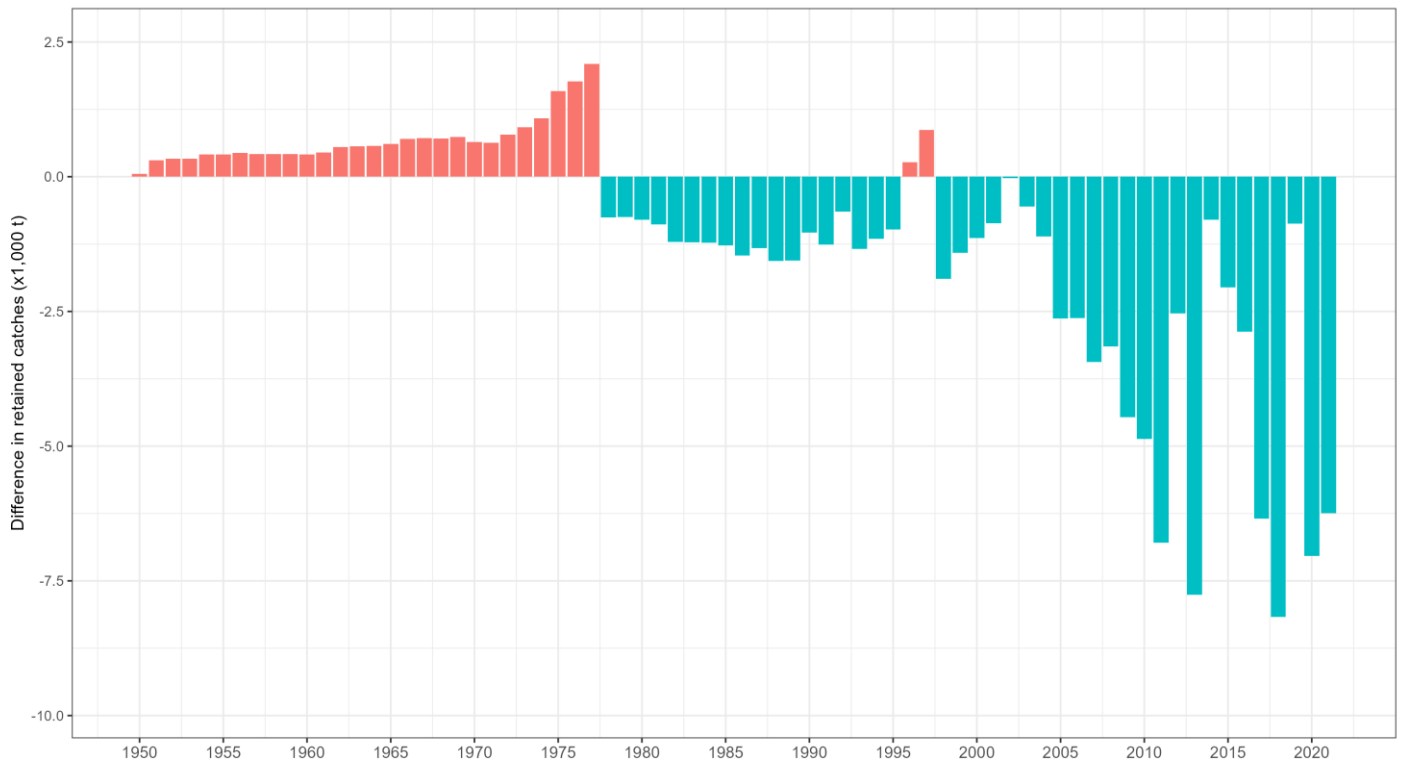


Figure 8: Differences in the annual retained catches (metric tonnes; t) of longtail tuna available between the current assessment meeting and last assessment meeting of longtail tuna (WPNT13 meeting held in July 2023). Details by year, fleet, fishery group, and Indian Ocean major area given in [Appendix II](#)

Uncertainties in retained catch data

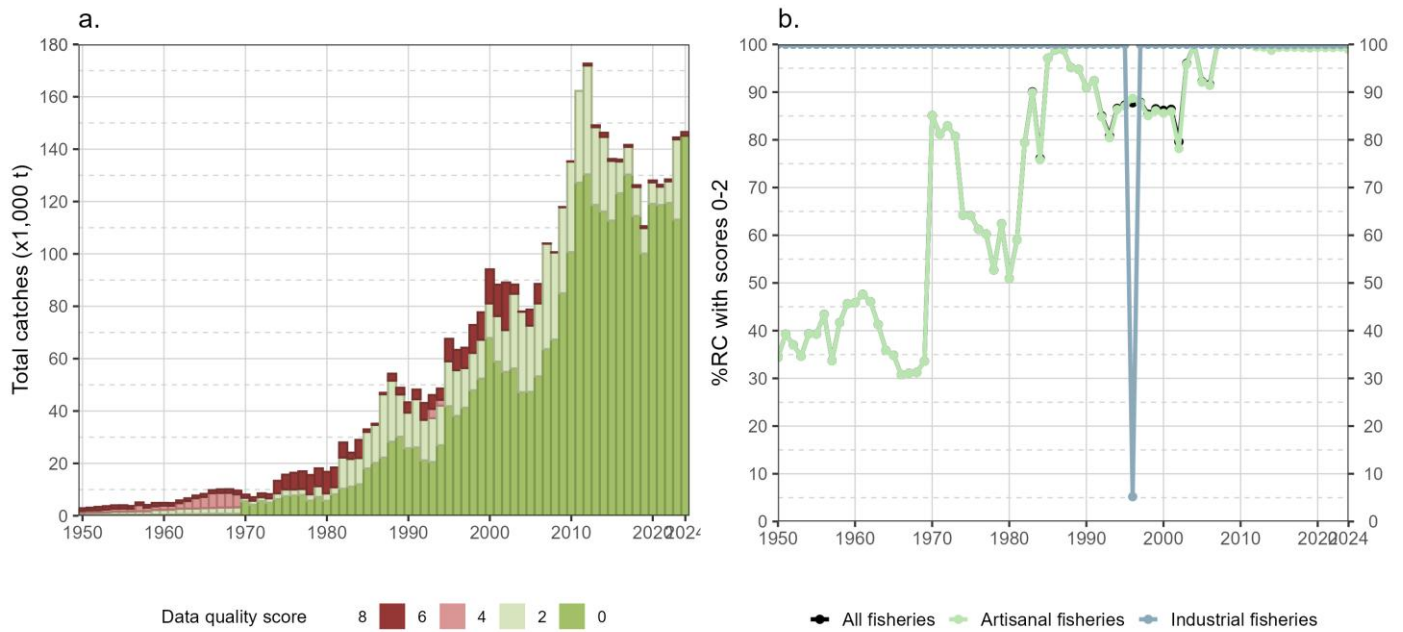


Figure 9: Annual time series of (a) cumulative retained catches (metric tonnes; t) estimated by quality score and (b) contribution of retained catches fully or partially reported to the IOTC Secretariat to all retained catches (percentage; %) of longtail tuna for all fisheries and by type of fishery, for the period 1950-2024

Spatial distribution of catch

Geo-references catches

Geo-referenced catches by fishery and decade (1950-2009)

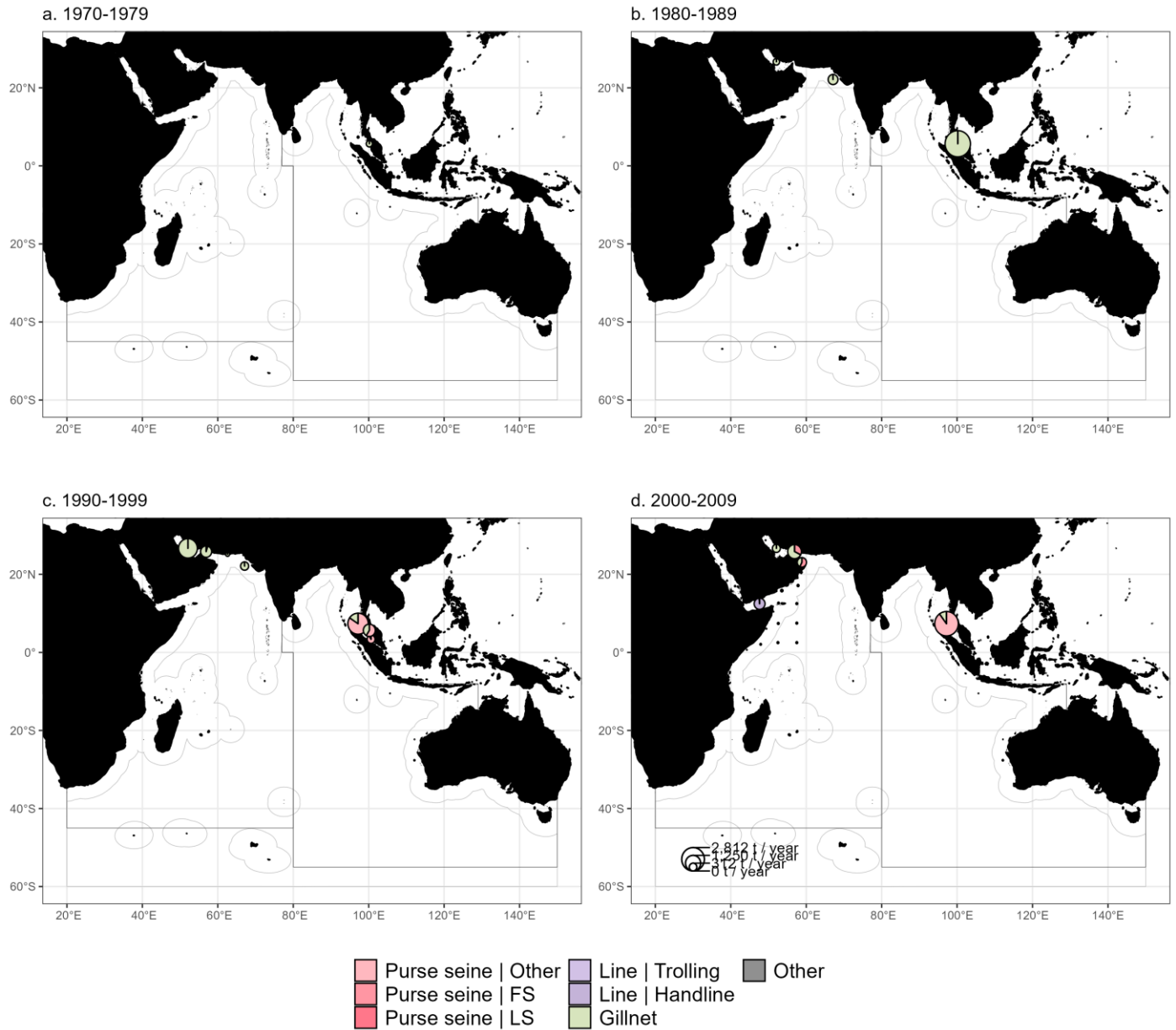


Figure 10: Mean annual time-area catches (metric tonnes; t) of longtail tuna, by decade, 5-degree grid area, and fishery. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [time-area catches](#)

Geo-referenced catches by fishery, last years (2020-2024) and decade (2010-2019)

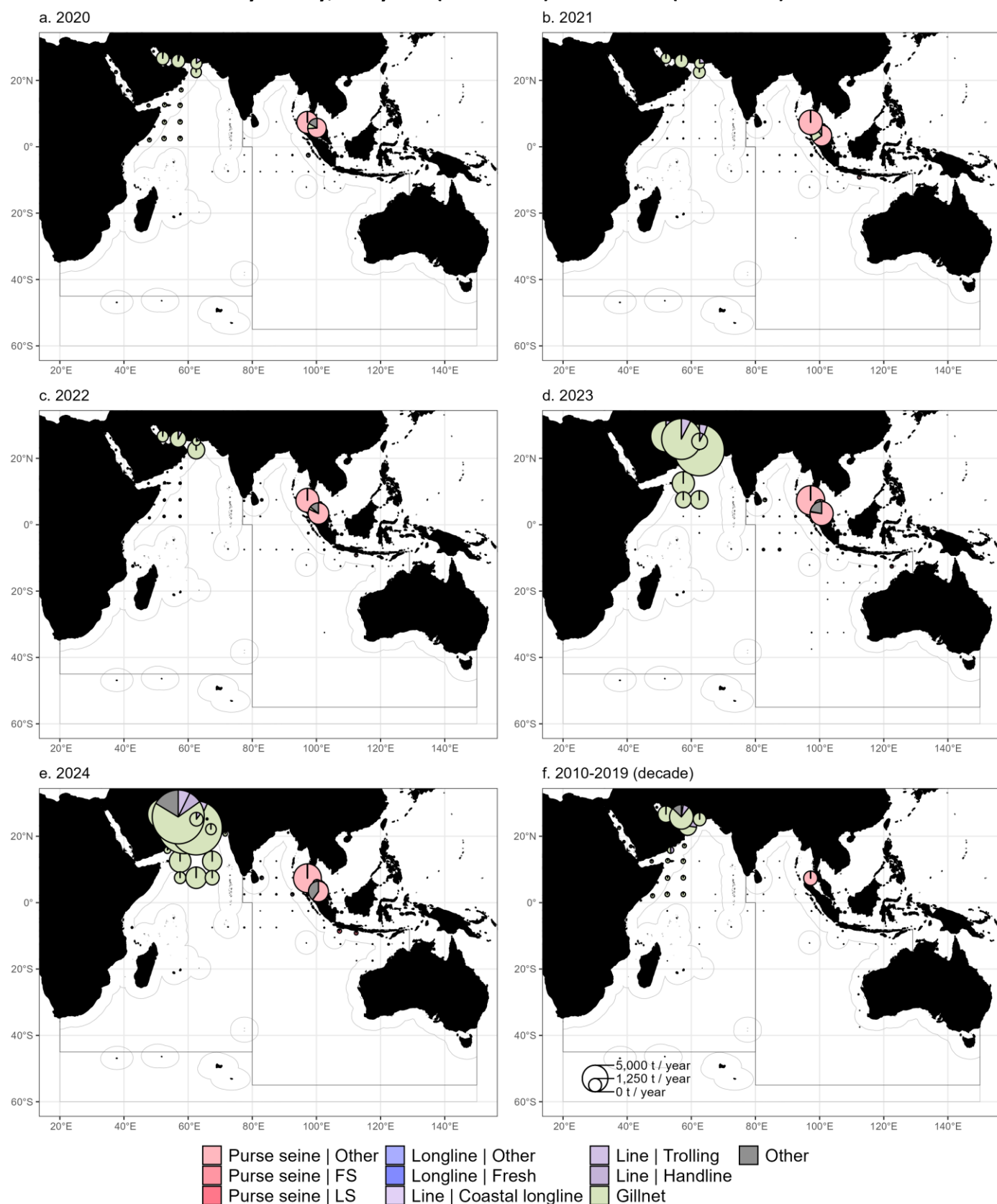


Figure 11: Mean annual time-area catches (metric tonnes; t) of longtail tuna, by year and decade, 5-degree grid area, and fishery. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [time-area catches](#)

Domestic catches within areas under national jurisdiction (2020-2024)

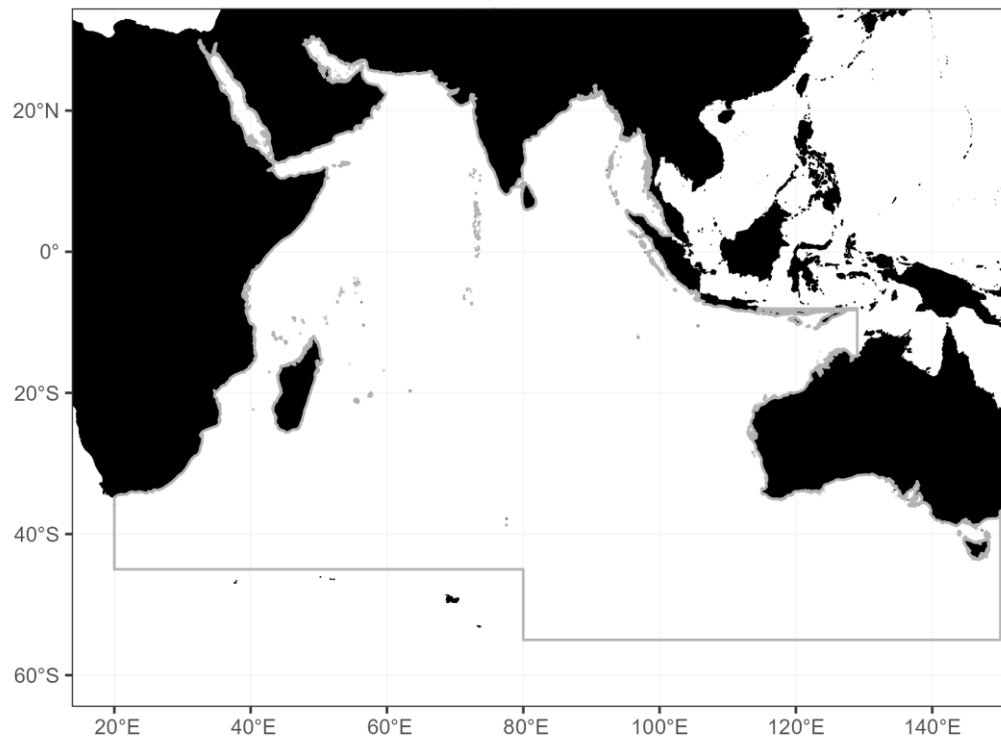


Figure 12: Mean annual density of catch (t km^{-2}) of longtail tuna reported for domestic fisheries operating in areas under national jurisdiction of IOTC coastal states between 2020 and 2024. Data source: [best scientific estimates of retained catches](#)

Uncertainties in geo-referenced catch and effort data

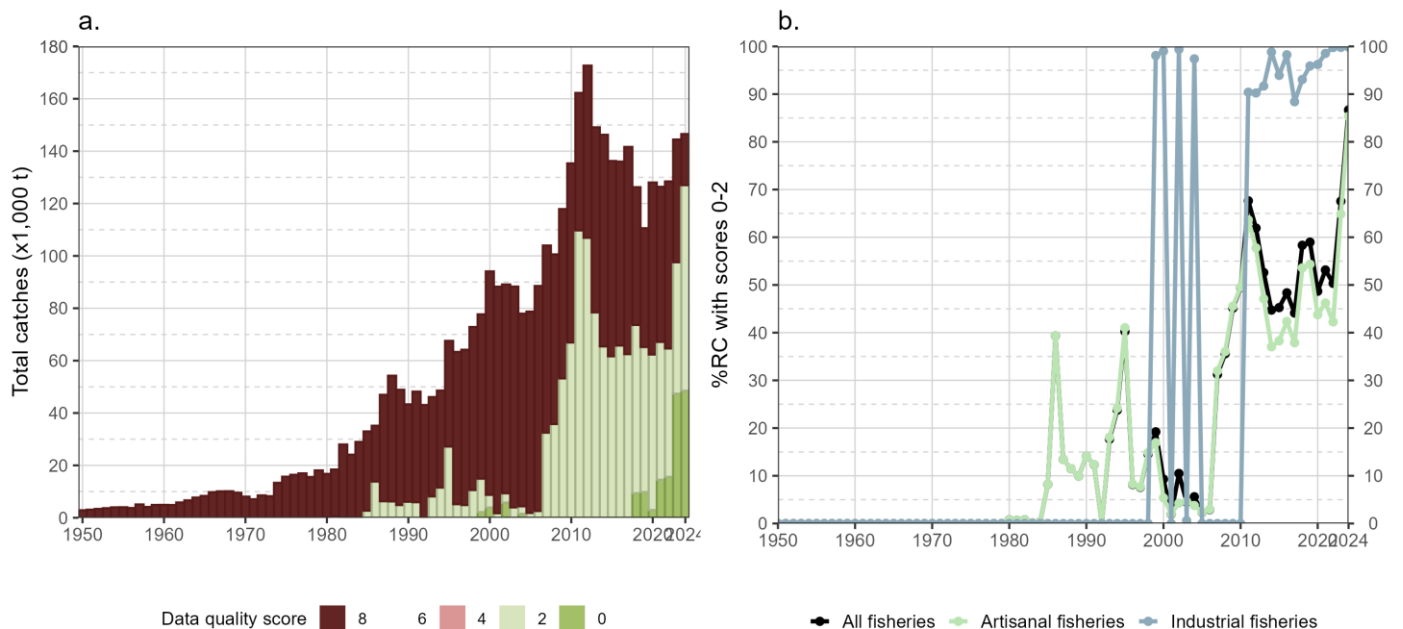


Figure 13: Annual time series of (a) cumulative retained catches (metric tonnes; t) estimated by quality score and (b) contribution of retained catches (percentage; %) with corresponding geo-referenced catch and effort data reported to the IOTC Secretariat in agreement with the requirements of Res. 15/02) to all retained catches of longtail tuna for all fisheries and by type of fishery, for the period 1950-2024

Size composition of the catch

Samples availability

By fishery group

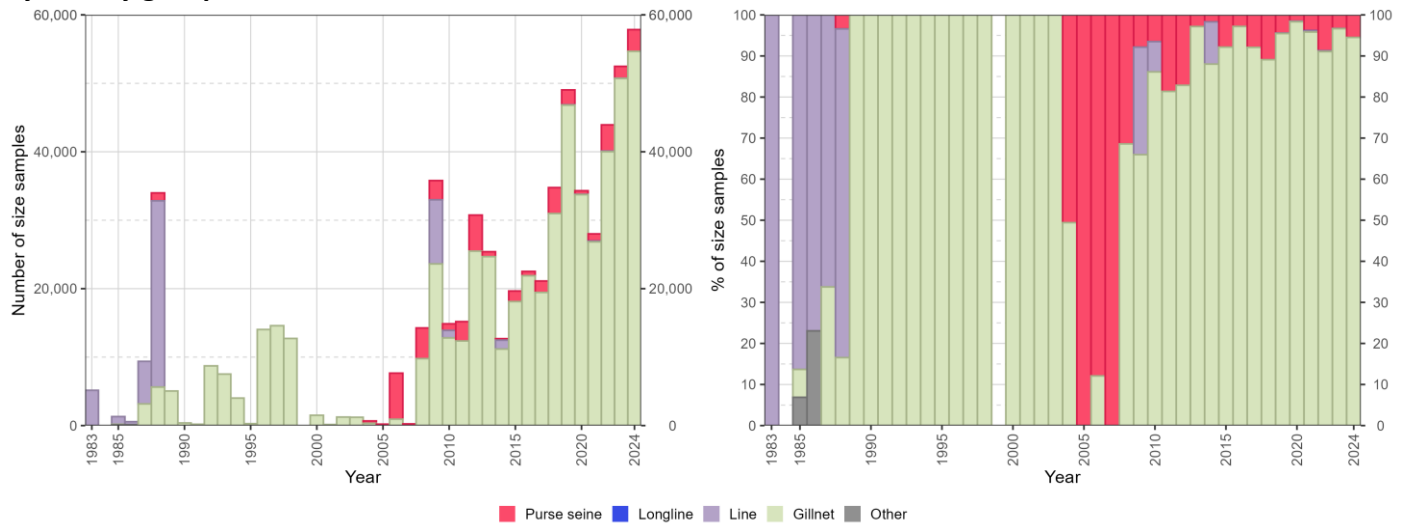


Figure 14: Availability of size-frequency data for longtail tuna as (left) absolute and (right) relative number of samples per year and fishery group. Data source: [standardized size-frequency dataset](#)

Purse seine fisheries

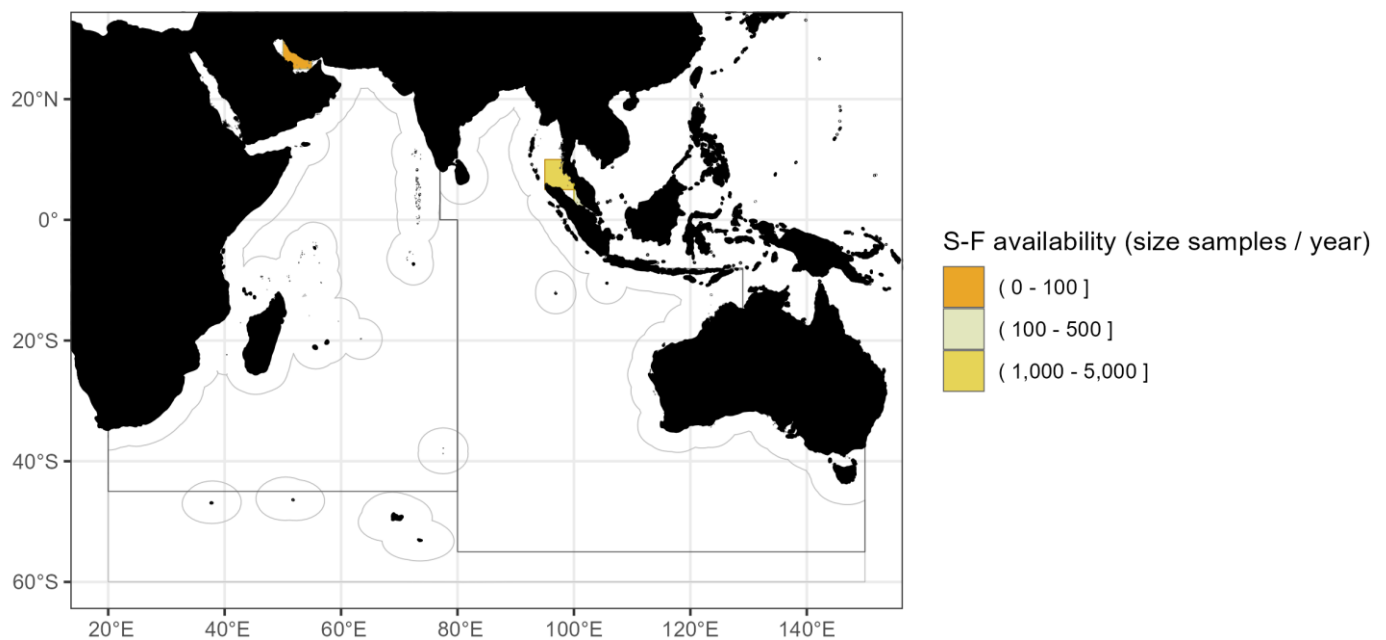


Figure 15: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in purse seine fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

Gillnet fisheries

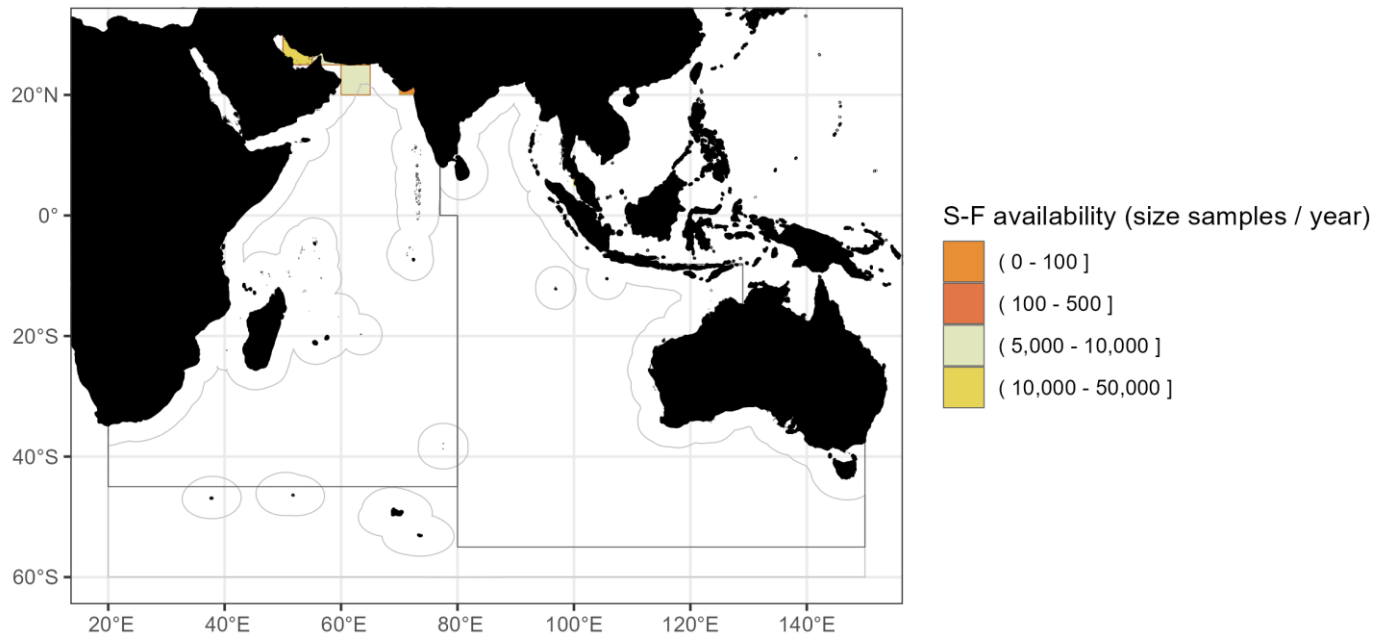


Figure 16: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in gillnet fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

Line fisheries

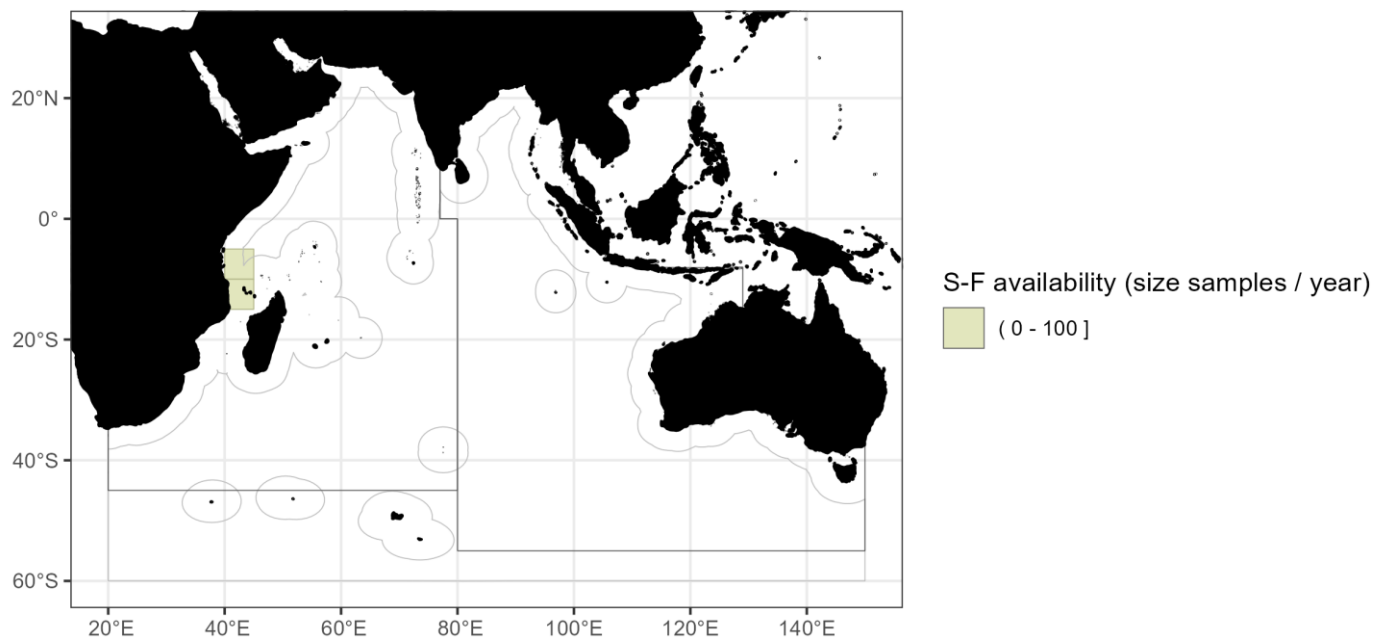


Figure 17: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in line fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

By fishery

Purse seine fisheries

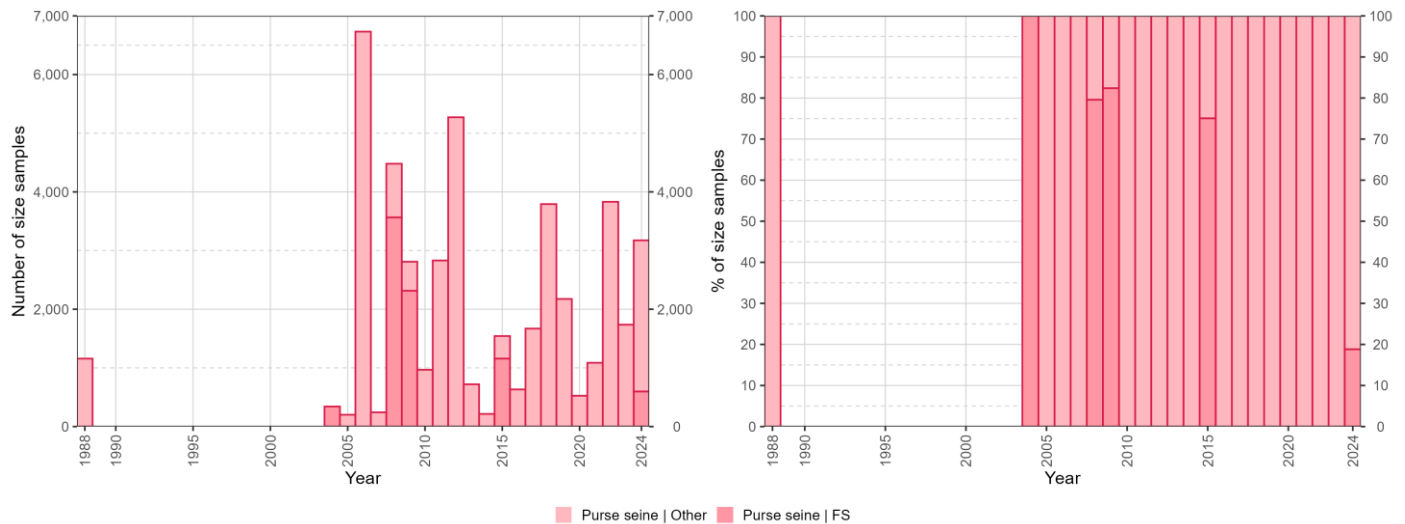


Figure 18: Availability of size-frequency data for longtail tuna as (left) absolute and (b) relative number of samples per year and type of purse seine fishery. Data source: [standardized size-frequency dataset](#)

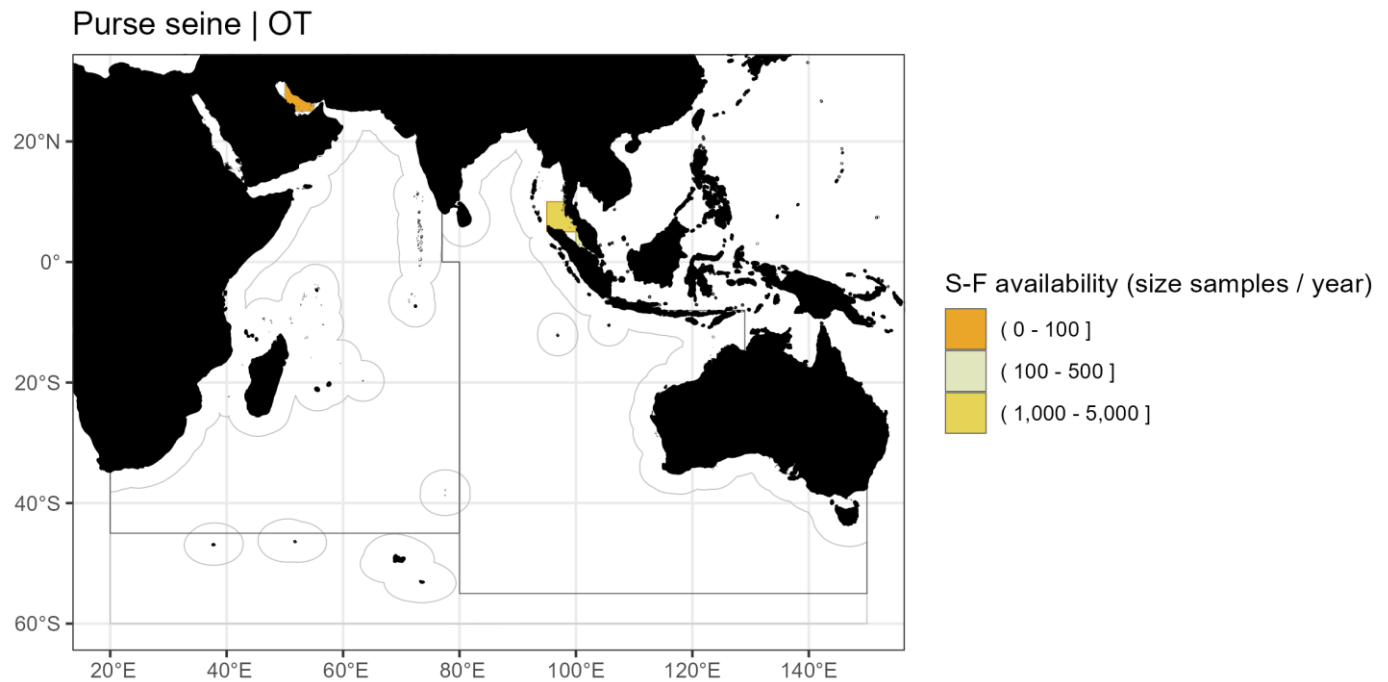


Figure 19: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in coastal and ringnet purse seine fisheries (Purse seine|Other) during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

Gillnet fisheries

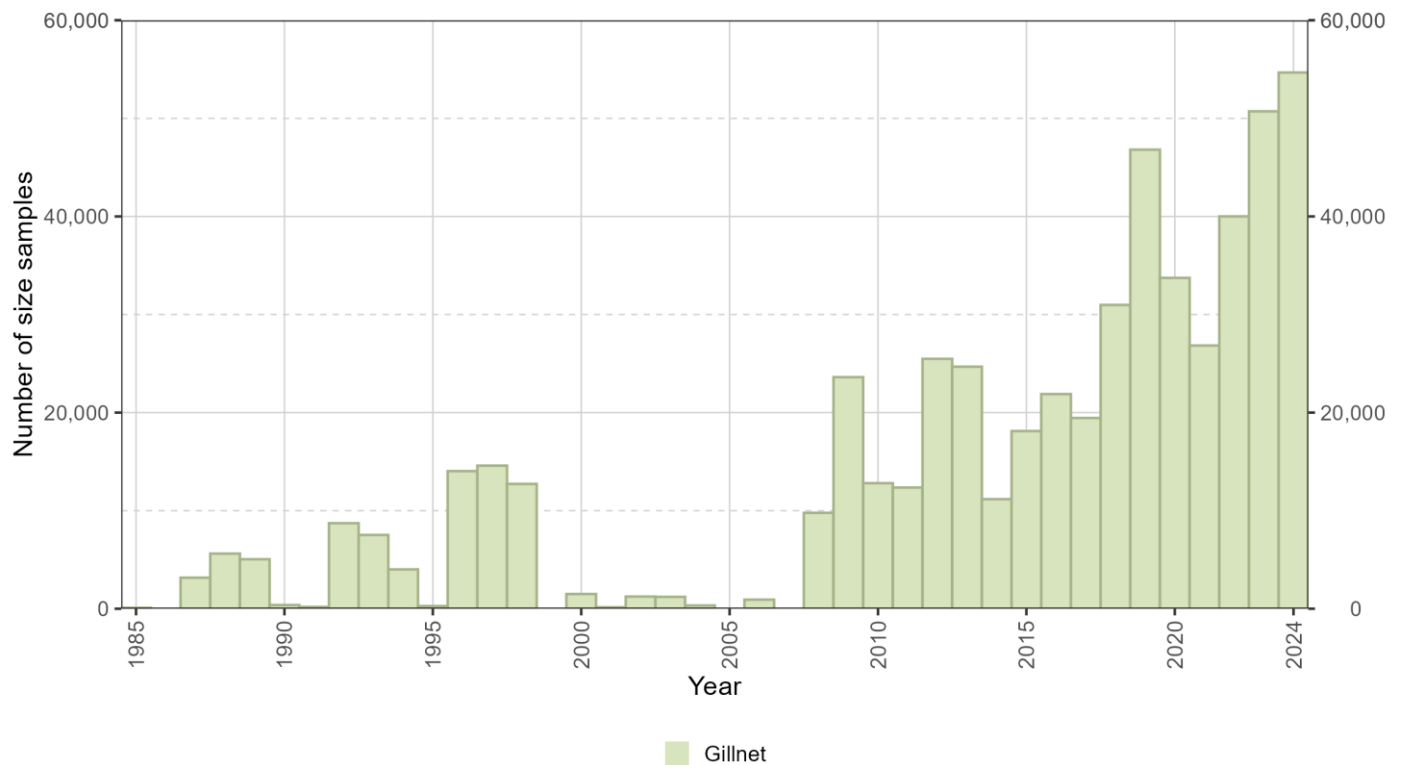


Figure 20: Availability of size-frequency data for longtail tuna as absolute number of samples per year in gillnet fisheries. Data source: [standardized size-frequency dataset](#)

Line fisheries

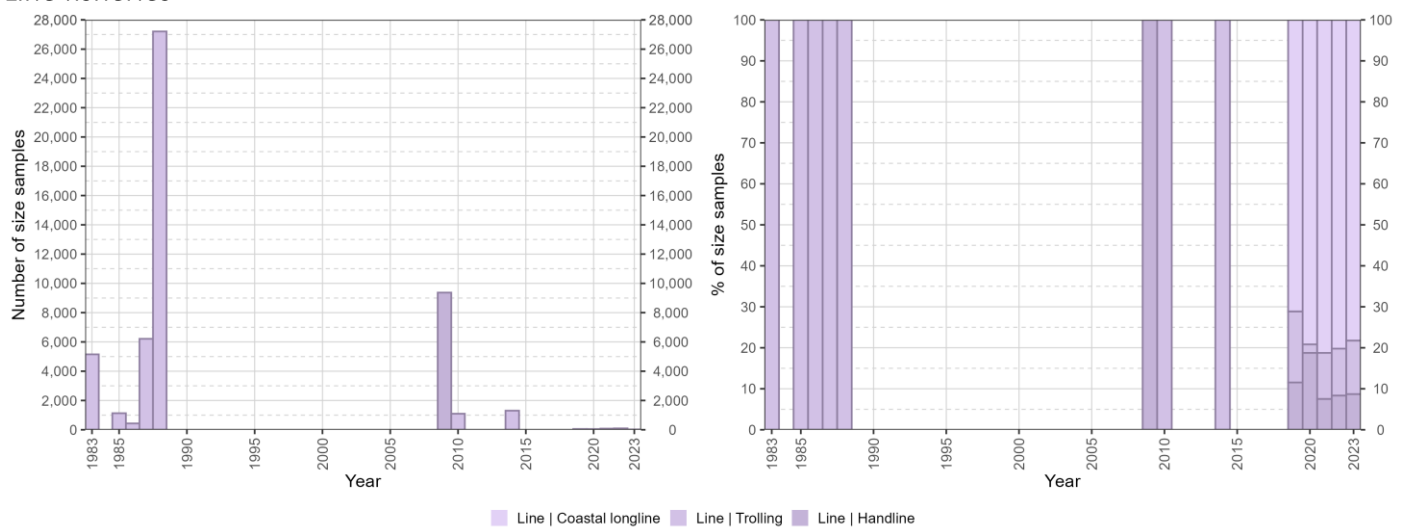


Figure 21: Availability of size-frequency data for longtail tuna as (left) absolute and (right) relative number of samples per year and line fishery type. Data source: [standardized size-frequency dataset](#)

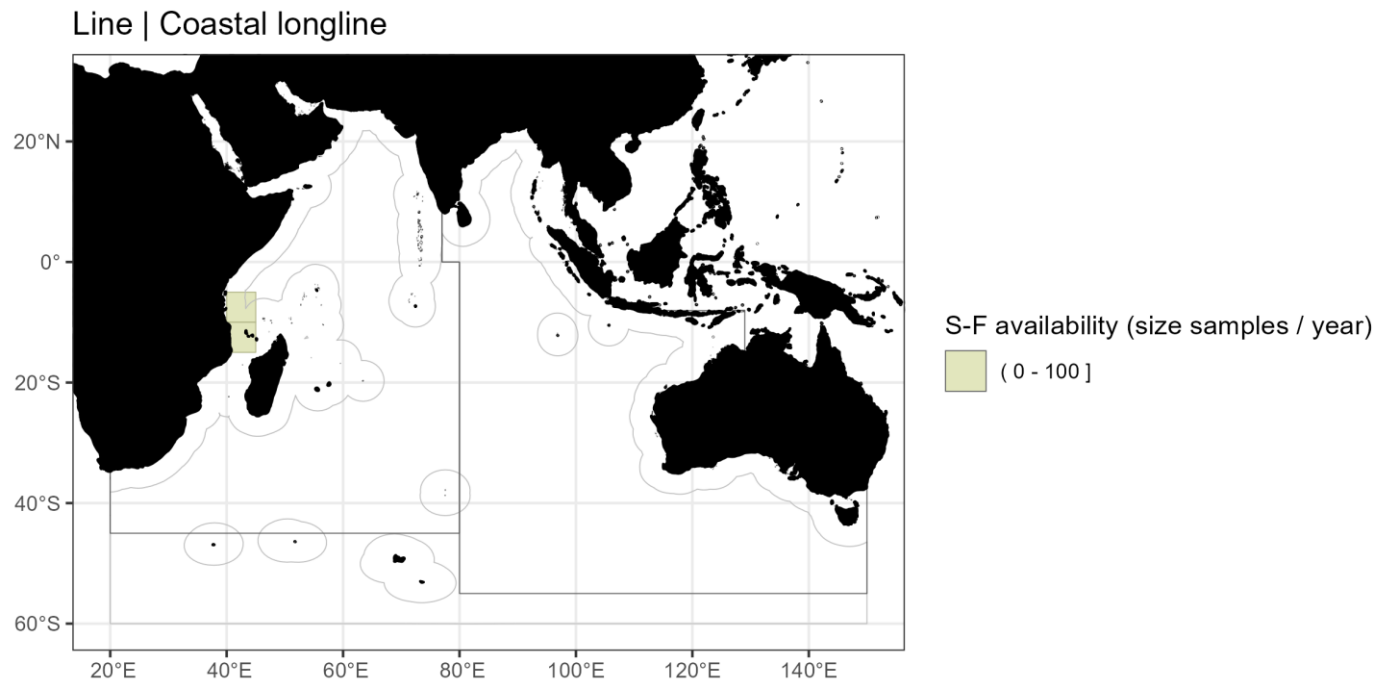


Figure 22: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in coastal longline fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

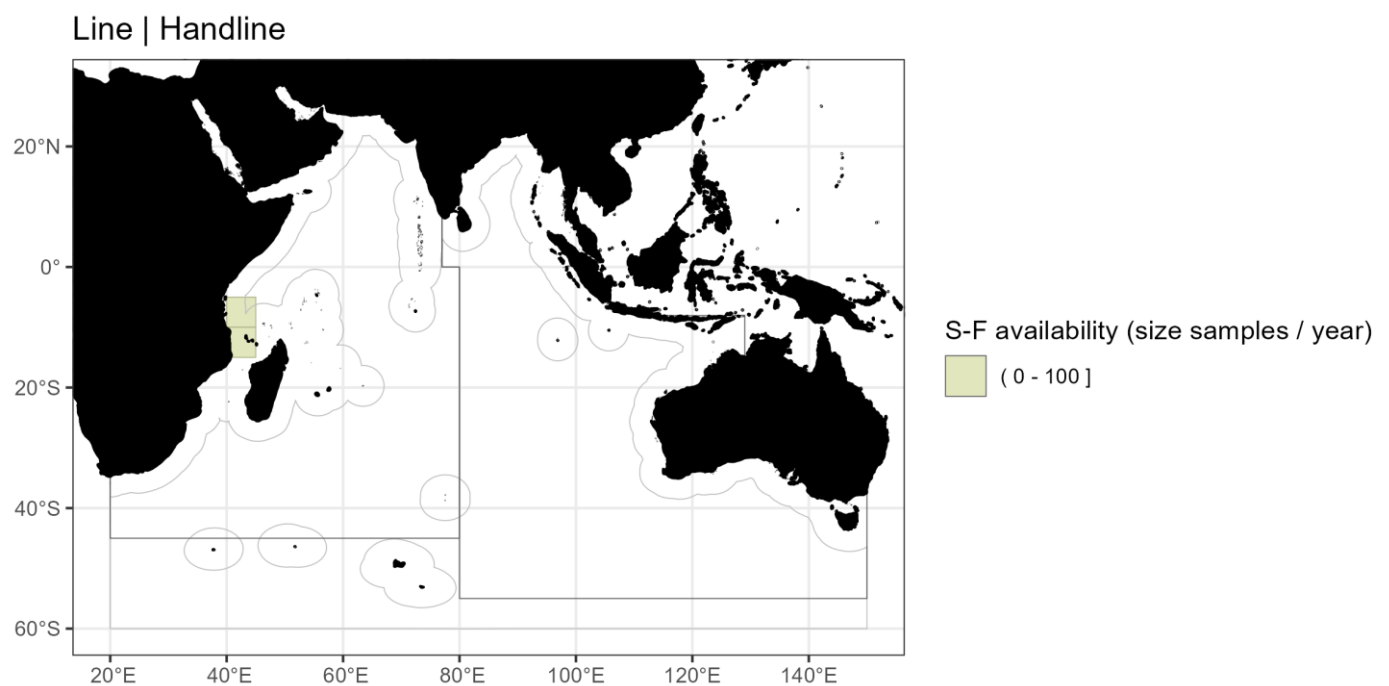


Figure 23: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in handline fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

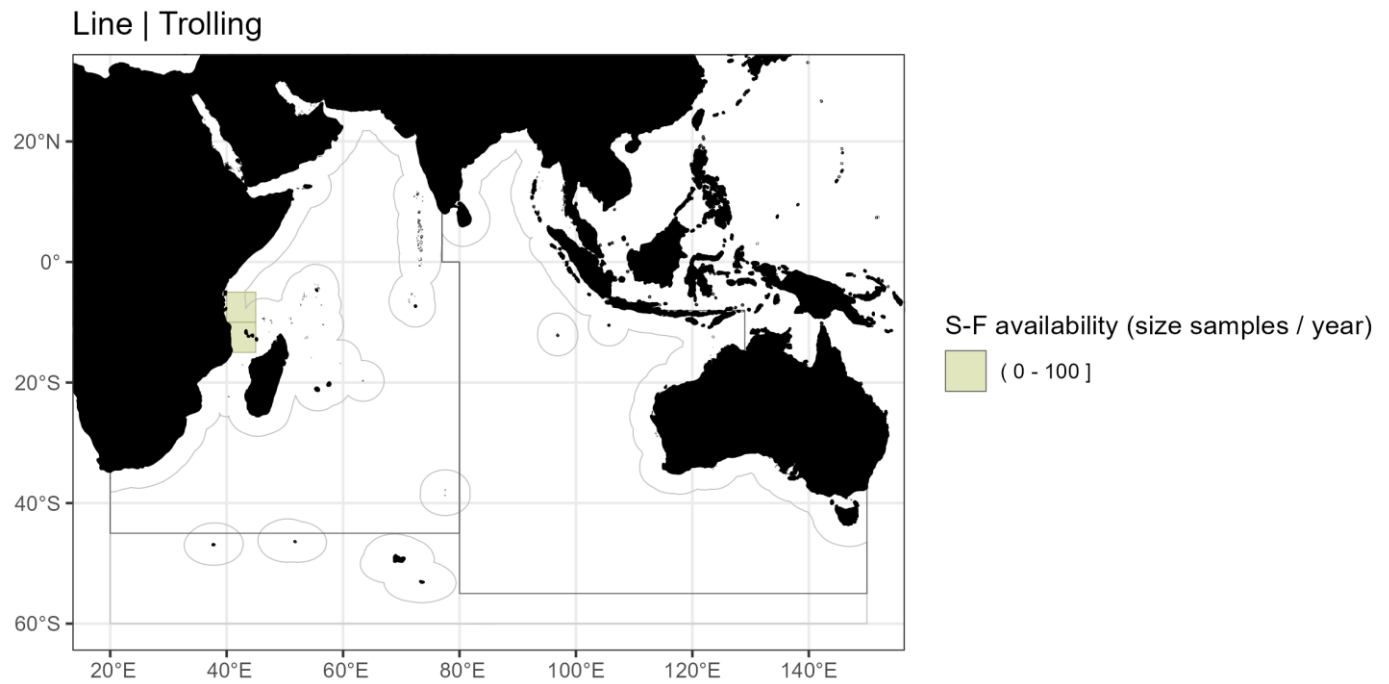


Figure 24: Spatial distribution (mean annual number of samples per 5-degree grid area) of available size-frequency data for longtail tuna caught in trolling fisheries during 2020-2024. Light grey solid lines delineate areas beyond national jurisdiction. Data source: [standardized size-frequency dataset](#)

Other fisheries

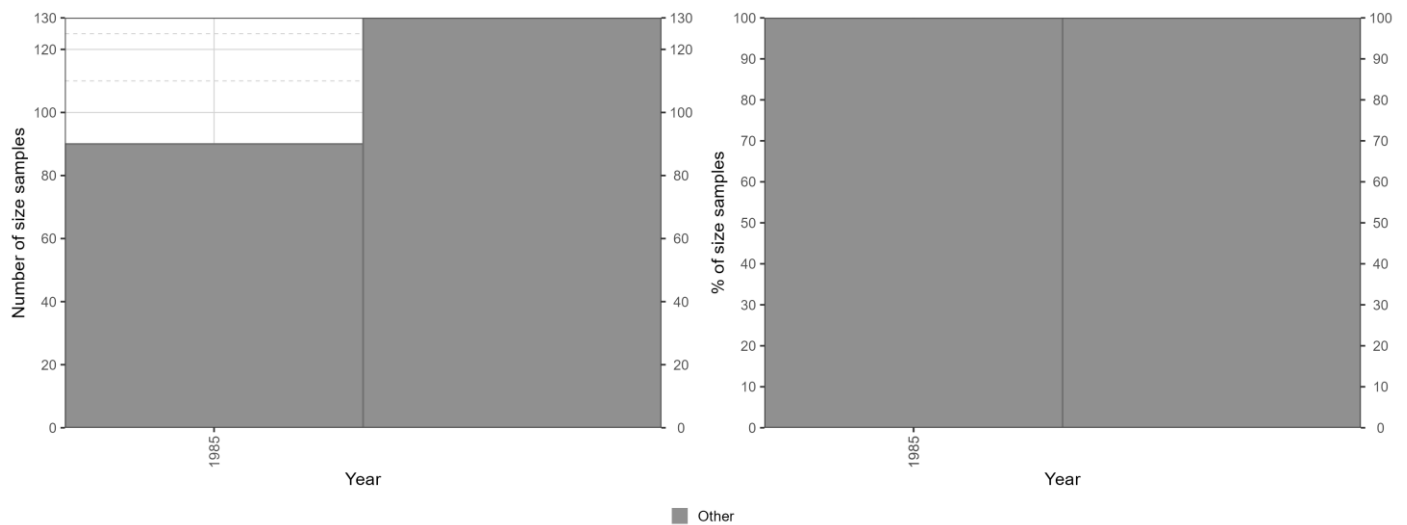


Figure 25: Availability of size-frequency data for longtail tuna as (left) absolute and (right) relative number of samples per year for 'other' fishery types (beach seine). Data source: [standardized size-frequency dataset](#)

Temporal patterns and trends in size distributions

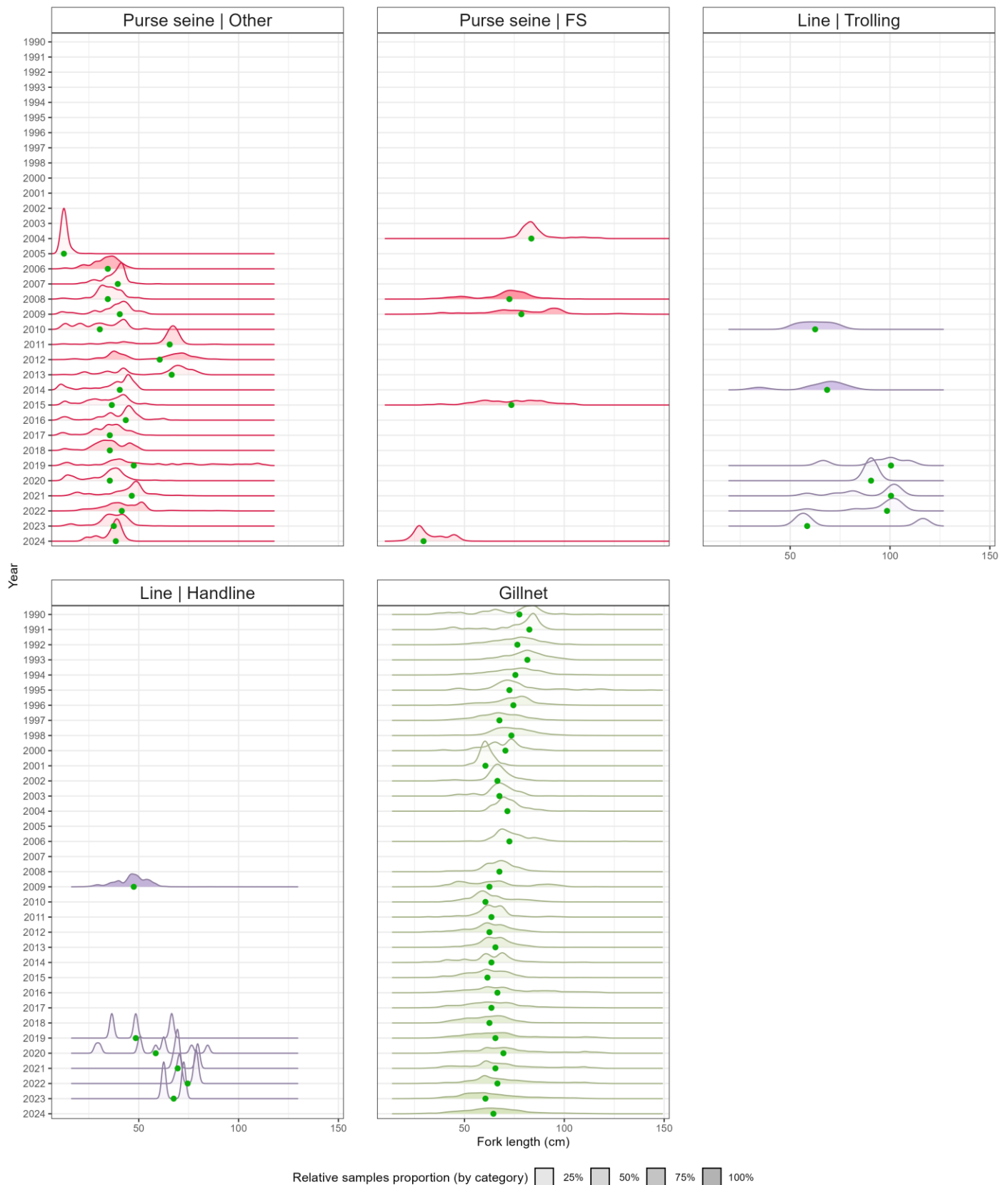


Figure 26: Relative size distribution (fork length; cm) of longtail tuna caught in coastal and ringnet purse seine fisheries (Purse seine|Other), gillnet fisheries, and other fisheries (beach seine). Fill intensity is proportional to the number of samples recorded for the year, while the green dot corresponds to the median value. Data source: [standardized size-frequency dataset](#)

Size distribution by fishery and fleet

Purse seine fisheries (other)

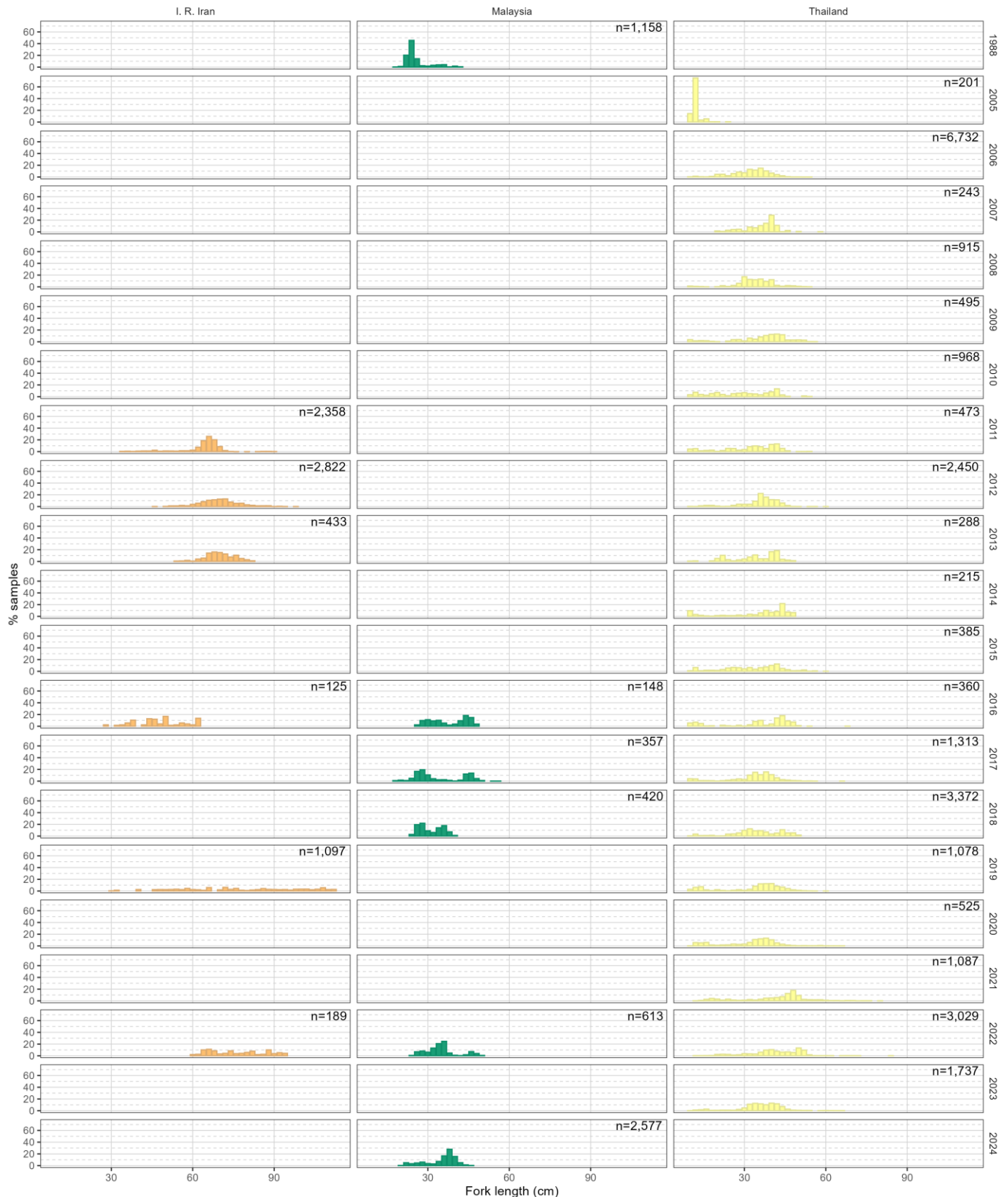


Figure 27: Relative size distribution of longtail tuna (fork length; cm) caught in coastal purse seine and ringnet fisheries (Purse seine|Other) by year and main fleet. Data source: [standardized size-frequency dataset](#)

Gillnet fisheries

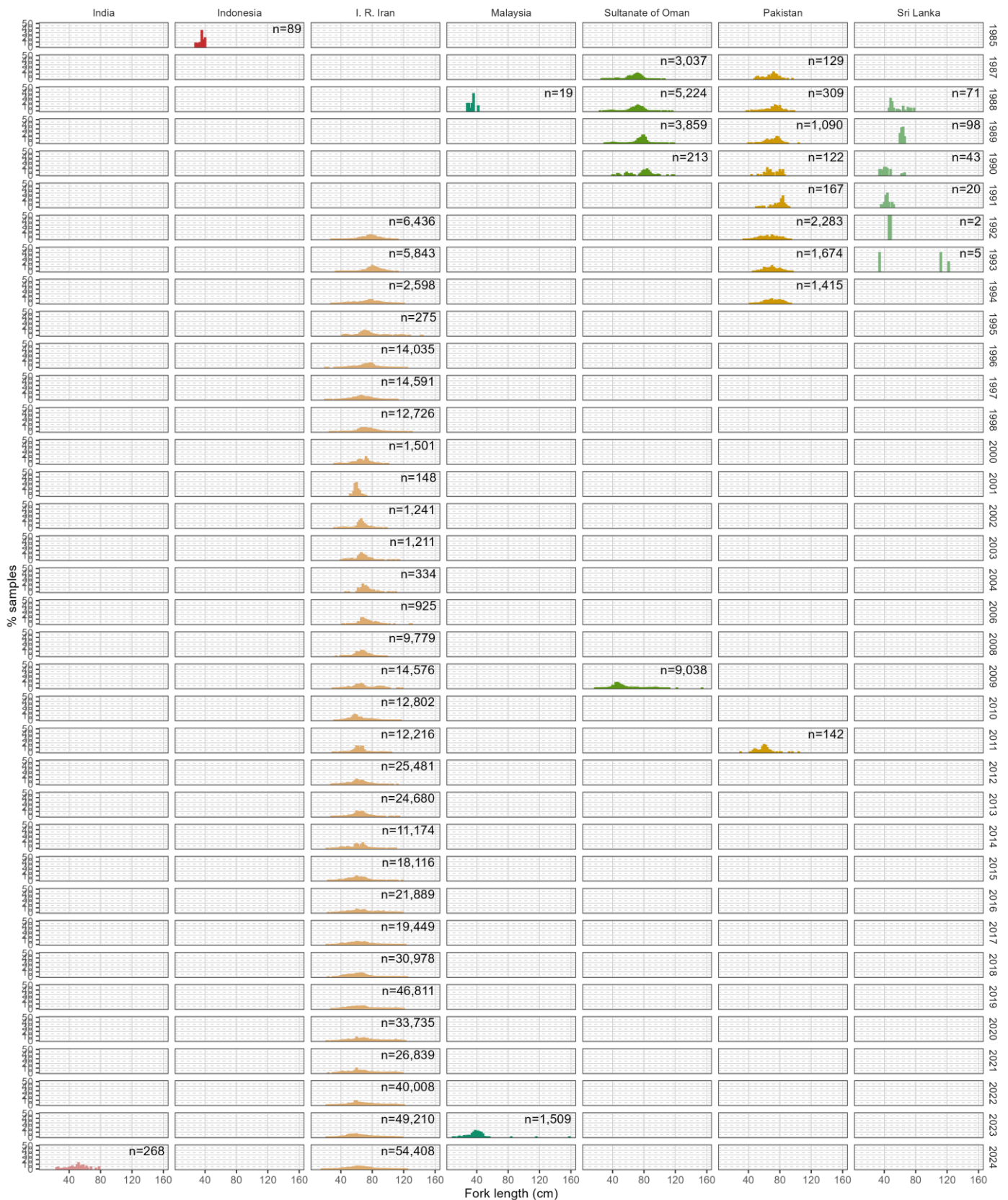


Figure 28: Relative size distribution of longtail tuna (fork length; cm) caught in gillnet fisheries by year and main fleet. Data source: [standardized size-frequency dataset](#)

Iranian and Thailand fisheries

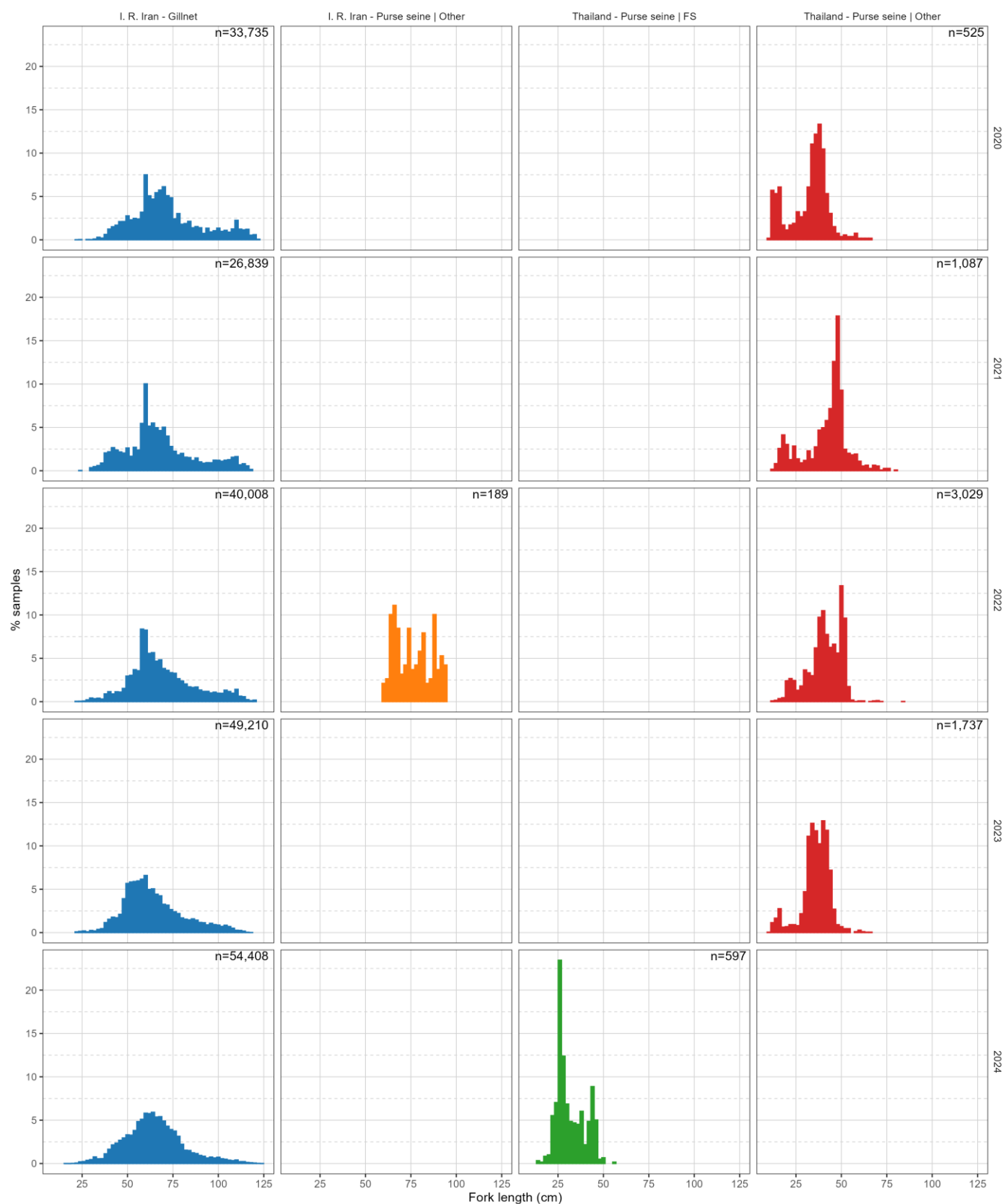


Figure 29: Relative size distribution of longtail tuna (fork length; cm) caught in Iranian and Thailand fisheries by year and main fishery. Data source: [standardized size-frequency dataset](#)

Uncertainties in geo-referenced size-frequency data

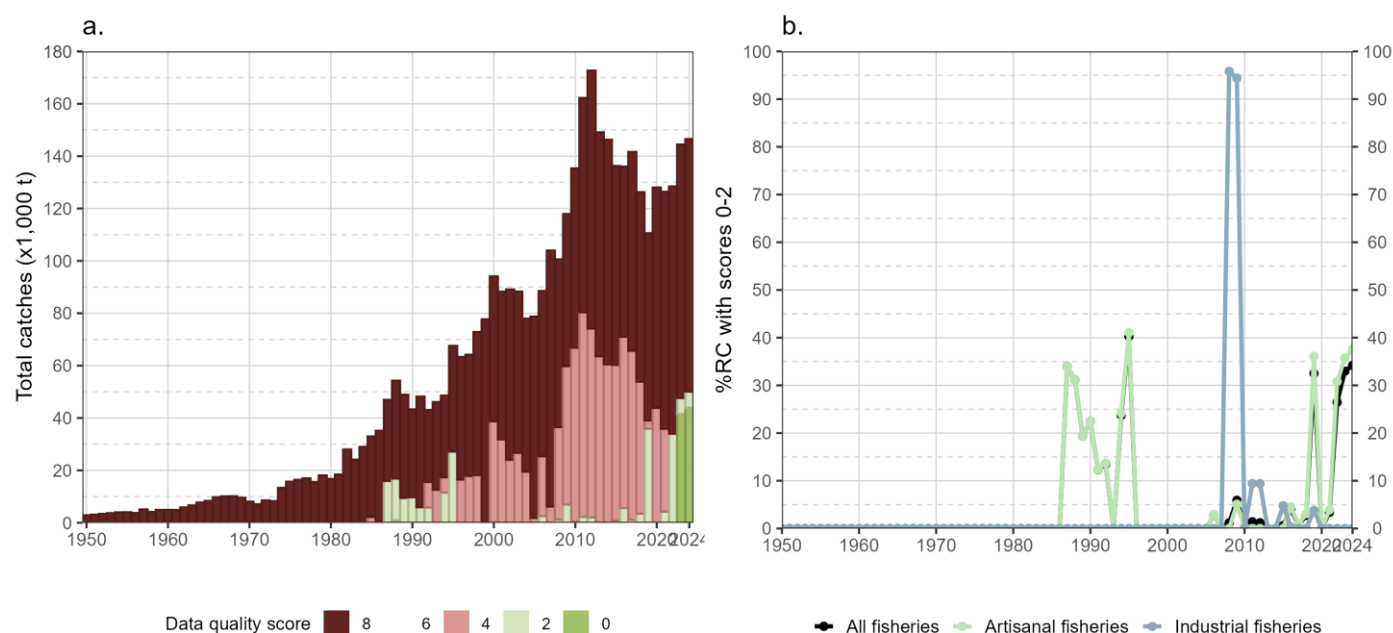


Figure 30: Annual time series of (a) cumulative retained catches (metric tonnes; t) estimated by quality score and (b) contribution of retained catches with corresponding geo-referenced size-frequency data reported to the IOTC Secretariat in agreement with the requirements of Res. 15/02 to all retained catches (percentage; %) of longtail tuna for all fisheries and by type of fishery, for the period 1950-2024

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Appendix II: Changes in best scientific estimates of retained catches from [WPNT13](#)

Table 4: Changes in best scientific estimates of annual retained catches (metric tonnes; t) of longtail tuna by fleet, fishery group, and main Indian Ocean area, limited to absolute values higher than 10 t

Year	Fleet	Fishery group	Area	Current (t)	Previous (t)	Difference (t)
2021	BGD	Other	Eastern Indian Ocean	409	7,258	-6,850
	IDN	Baitboat	Eastern Indian Ocean	955	81	874
		Gillnet	Eastern Indian Ocean	10,774	11,207	-432
		Line	Eastern Indian Ocean	8,847	10,344	-1,497
		Other	Eastern Indian Ocean	3,602	4,768	-1,166
		Purse seine	Eastern Indian Ocean	2,133	99	2,034
	YEM	Gillnet	Western Indian Ocean	2,110	1,570	540
		Line	Western Indian Ocean	1,224	911	313
2020	IDN	Baitboat	Eastern Indian Ocean	629	102	527
		Gillnet	Eastern Indian Ocean	7,817	14,044	-6,227
		Line	Eastern Indian Ocean	8,309	12,963	-4,654
		Other	Eastern Indian Ocean	7,540	5,975	1,565
		Purse seine	Eastern Indian Ocean	1,593	204	1,389
	TMP	Gillnet	Eastern Indian Ocean	180	0	180
	YEM	Gillnet	Western Indian Ocean	1,430	1,328	101
2019	IDN	Baitboat	Eastern Indian Ocean	358	69	289
		Line	Eastern Indian Ocean	6,735	8,865	-2,130
		Other	Eastern Indian Ocean	5,760	4,086	1,674
		Purse seine	Eastern Indian Ocean	2,147	3,233	-1,086
	YEM	Gillnet	Western Indian Ocean	1,751	1,623	128
2018	IDN	Baitboat	Eastern Indian Ocean	170	60	111
		Gillnet	Eastern Indian Ocean	7,391	8,238	-847
		Line	Eastern Indian Ocean	4,670	7,604	-2,935
		Other	Eastern Indian Ocean	3,087	3,505	-418
		Purse seine	Eastern Indian Ocean	803	4,717	-3,914
	2017	Baitboat	Eastern Indian Ocean	1,577	94	1,483
		Gillnet	Eastern Indian Ocean	9,042	12,971	-3,929
		Line	Eastern Indian Ocean	5,544	11,973	-6,429

Year	Fleet	Fishery group	Area	Current (t)	Previous (t)	Difference (t)
2016		Other	Eastern Indian Ocean	7,359	5,518	1,841
		Purse seine	Eastern Indian Ocean	704	27	677
		Baitboat	Eastern Indian Ocean	356	75	281
		Gillnet	Eastern Indian Ocean	11,299	10,400	899
		Line	Eastern Indian Ocean	5,668	9,600	-3,932
		Other	Eastern Indian Ocean	3,694	4,425	-731
		Purse seine	Eastern Indian Ocean	569	22	548
2015		Baitboat	Eastern Indian Ocean	913	79	834
		Gillnet	Eastern Indian Ocean	9,450	10,944	-1,494
		Line	Eastern Indian Ocean	5,125	10,102	-4,977
		Other	Eastern Indian Ocean	7,312	4,656	2,656
		Purse seine	Eastern Indian Ocean	929	23	906
		2014	Baitboat	Eastern Indian Ocean	1,284	81
Gillnet			Eastern Indian Ocean	8,347	11,136	-2,788
Line			Eastern Indian Ocean	5,894	10,279	-4,385
Other			Eastern Indian Ocean	6,945	4,737	2,208
Purse seine			Eastern Indian Ocean	2,950	23	2,927
2013			Baitboat	Eastern Indian Ocean	1,306	91
		Gillnet	Eastern Indian Ocean	7,244	12,641	-5,397
		Line	Eastern Indian Ocean	6,374	11,669	-5,295
		Other	Eastern Indian Ocean	6,565	5,378	1,186
		Purse seine	Eastern Indian Ocean	555	26	529
		2012	Baitboat	Eastern Indian Ocean	1,183	78
Gillnet			Eastern Indian Ocean	8,571	10,821	-2,250
Line			Eastern Indian Ocean	5,658	9,988	-4,330
Other			Eastern Indian Ocean	7,138	4,603	2,534
Purse seine			Eastern Indian Ocean	376	22	353
2011			Baitboat	Eastern Indian Ocean	756	79
	Gillnet	Eastern Indian Ocean	7,622	10,864	-3,242	
	Line	Eastern Indian Ocean	4,328	10,028	-5,700	

Year	Fleet	Fishery group	Area	Current (t)	Previous (t)	Difference (t)
		Other	Eastern Indian Ocean	5,390	4,622	768
		Purse seine	Eastern Indian Ocean	651	23	628
2010		Baitboat	Eastern Indian Ocean	494	76	417
		Gillnet	Eastern Indian Ocean	6,672	10,540	-3,868
		Line	Eastern Indian Ocean	5,118	9,729	-4,611
		Other	Eastern Indian Ocean	4,107	4,484	-377
		Purse seine	Eastern Indian Ocean	3,505	22	3,483
		2009	Baitboat	Eastern Indian Ocean	595	74
Gillnet			Eastern Indian Ocean	8,448	10,210	-1,762
Line			Eastern Indian Ocean	4,909	9,425	-4,515
Other			Eastern Indian Ocean	4,189	4,344	-155
Purse seine			Eastern Indian Ocean	1,409	21	1,388
2008			Baitboat	Eastern Indian Ocean	527	63
		Gillnet	Eastern Indian Ocean	7,489	8,708	-1,219
		Line	Eastern Indian Ocean	4,352	8,038	-3,686
		Purse seine	Eastern Indian Ocean	1,249	18	1,231
2007		Baitboat	Eastern Indian Ocean	532	64	468
		Gillnet	Eastern Indian Ocean	7,559	8,898	-1,339
		Line	Eastern Indian Ocean	4,393	8,214	-3,821
		Purse seine	Eastern Indian Ocean	1,261	18	1,242
2006	Baitboat	Eastern Indian Ocean	426	51	375	
	Gillnet	Eastern Indian Ocean	6,054	7,071	-1,017	
	Line	Eastern Indian Ocean	3,518	6,527	-3,009	
	Purse seine	Eastern Indian Ocean	1,010	15	995	
2005	Baitboat	Eastern Indian Ocean	483	57	426	
	Gillnet	Eastern Indian Ocean	6,852	7,860	-1,008	
	Line	Eastern Indian Ocean	3,982	7,255	-3,274	
	Purse seine	Eastern Indian Ocean	1,143	16	1,126	
2004	Baitboat	Eastern Indian Ocean	402	44	358	
	Gillnet	Eastern Indian Ocean	5,713	6,095	-382	

Year	Fleet	Fishery group	Area	Current (t)	Previous (t)	Difference (t)
2003		Line	Eastern Indian Ocean	3,320	5,626	-2,306
		Other	Eastern Indian Ocean	2,833	2,593	240
		Purse seine	Eastern Indian Ocean	953	13	940
		Baitboat	Eastern Indian Ocean	353	37	316
		Gillnet	Eastern Indian Ocean	5,016	5,173	-157
		Line	Eastern Indian Ocean	2,915	4,775	-1,860
		Other	Eastern Indian Ocean	2,487	2,201	287
		Purse seine	Eastern Indian Ocean	836	11	826
		2002	Baitboat	Eastern Indian Ocean	360	36
Line			Eastern Indian Ocean	2,969	4,653	-1,684
Other			Eastern Indian Ocean	2,534	2,145	389
Purse seine			Eastern Indian Ocean	852	10	842
2001			Baitboat	Eastern Indian Ocean	389	42
		Gillnet	Eastern Indian Ocean	5,530	5,807	-277
		Line	Eastern Indian Ocean	3,213	5,360	-2,147
		Other	Eastern Indian Ocean	2,742	2,470	272
		Purse seine	Eastern Indian Ocean	922	12	910
		2000	Baitboat	Eastern Indian Ocean	393	43
Gillnet			Eastern Indian Ocean	5,577	5,971	-394
Line			Eastern Indian Ocean	3,241	5,512	-2,271
Other			Eastern Indian Ocean	2,765	2,540	225
Purse seine			Eastern Indian Ocean	930	12	918