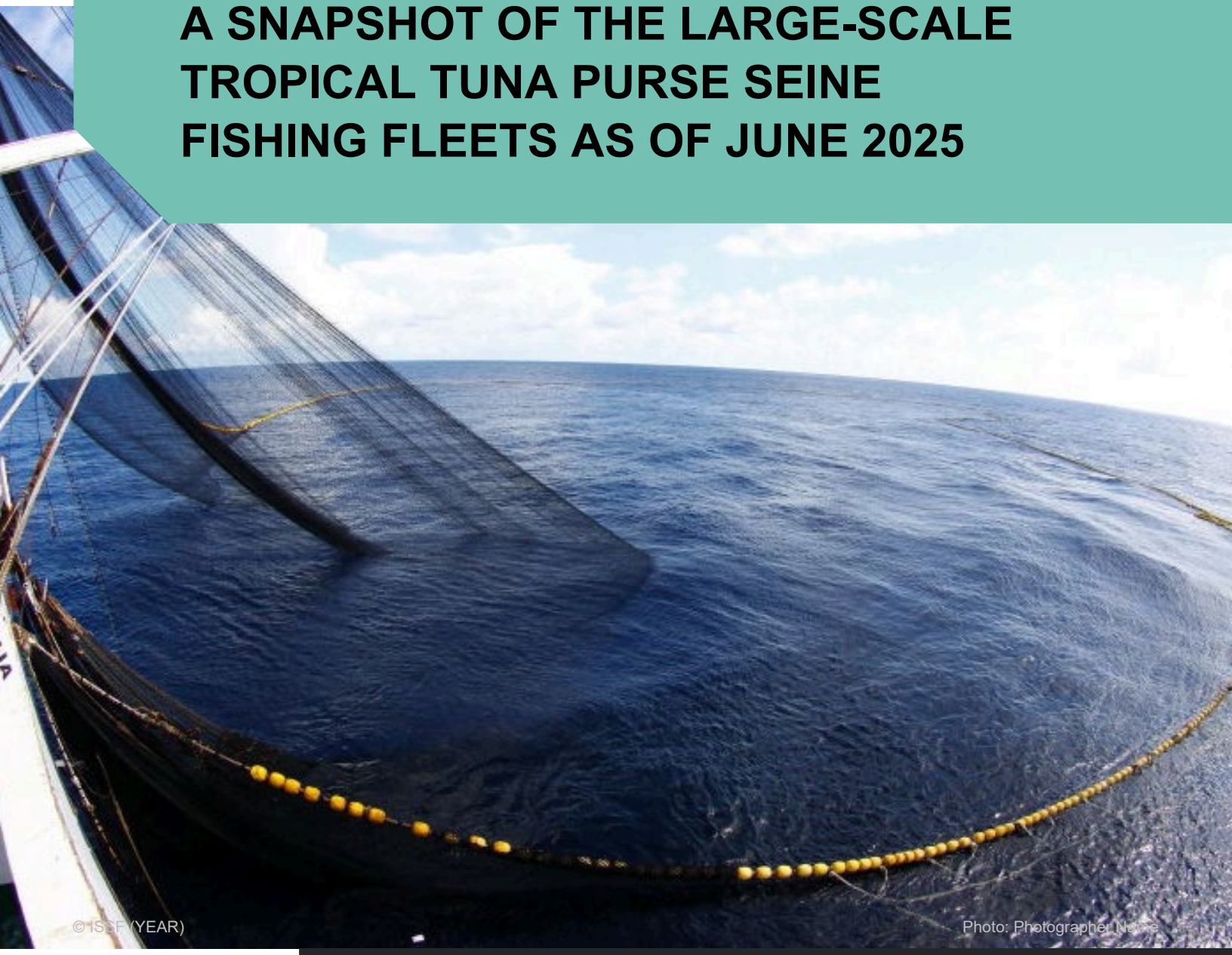
ISSF INTERNATIONAL SEAFOOD SUSTAINABILITY FOUNDATION

ISSF Technical Report 2025-09

A SNAPSHOT OF THE LARGE-SCALE TROPICAL TUNA PURSE SEINE FISHING FLEETS AS OF JUNE 2025



Ana Justel-Rubio / **June 2025, Version 13.0**

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Abstract

Purse seine vessels account for about 66% of the world's tuna catch. However, the number of purse seiners operating in the various oceans is not available from a single source. In this paper we estimate the number and fishing capacity of authorized tuna purse seiners based primarily on information available from the five tuna Regional Fishery Management Organizations (RFMOs). After accounting for possible duplicate entries, we calculate that as of June 2025 there are at least 2,106 purse seiners fishing for tunas worldwide. This is surely an underestimate because many small-scale purse seiners or purse seiners operating in only one EEZ do not have to be listed on RFMO records of authorized fishing vessels, our primary source of data. Focusing on large-scale purse seiners (defined here as having 335 m^3 fish hold volume or greater) that target tropical tunas (skipjack, yellowfin and bigeye), we calculate there are 675 such vessels with a combined fishing capacity of over 864,000 m^3. While the number of these vessels increased during the past year, aggregate fishing capacity increased by less than 1%. In terms of the proportion of these vessels flagged to developing or emerging economies relative to developed economies, we found that it has been increasing steadily since ISSF started producing these snapshot reports. Of those 675 large scale purse seine vessels fishing for tropical tunas, 498 are registered on the ISSF Pro Active Vessel Register (PVR), which represent 74% in number and 83% in fish hold volume (FHV). About 12% of these 675 large-scale vessels are authorized to fish in more than one RFMO, which should be taken into account in any efforts to manage fishing capacity at a regional level.

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Table of Contents

Research Questions

This study aimed to respond the following questions:

- What is the **current number and capacity of purse seine vessels authorized to target tuna worldwide?**

- What proportion of that capacity is represented by those **large-scale purse seiners that target exclusively tropical tuna?**

- How has the estimated global capacity **changed since last year?**

- Where are large-scale purse seine vessels targeting tropical tuna **authorized to fish?**

- What is the **trend in flagging changes** between developed-country economies and developing ones?

- How many large-scale purse seine vessels targeting tropical tuna have been **built in the last few years?**

1. Introduction

Purse seine fishing vessels catch about 66% of the 5.2 million tonnes of tunas taken annually worldwide (ISSF, 2025). Of the tropical tunas, purse seiners generally target skipjack (*Katsuwonus pelamis*) and yellowfin (*Thunnus albacares*), though they also catch bigeye tuna (*Thunnus obesus*) associated primarily with floating objects.

In recent years, several authors have estimated the number of vessels and fishing capacity of tropical tuna purse seine fleets either regionally (e.g., Gillett and Lewis, 2003) or globally (Joseph, 2003; Reid et al., 2005; Restrepo and Forrestal, 2012; Justel-Rubio and Restrepo, 2014, 2015, and 2016; Justel-Rubio et al., 2017, 2018; Justel-Rubio and Recio, 2019, 2020, 2021,2022 and 2023; Justel-Rubio, 2024). The aim of this paper is to provide an updated "snapshot" of the purse seine fleet as of June 2025 based primarily on the records of authorized vessels established by the five tuna RFMOs, as in Restrepo and Forrestal (2012) and all subsequent versions of this study. Some of the key factors considered in this series of updated studies are the new vessels that have been constructed and improvements to the data contained in the RFMO records.

2. Methods

The Glossary (Appendix 1) defines acronyms used in this document.

We generally used the same sources of information and methodology as in the 2024 snapshot (Justel-Rubio, 2024). Vessel registers from all tuna RFMOs were consulted, as well as the International Handling Services (IHS) Sea-Web database (IMO number database) and the FFA List of Vessels in Good Standing.[1]

The following steps were taken to compile the list of vessels:

1. Retrieve the CCSBT, IATTC, ICCAT, IOTC and WCPFC lists and select purse seine vessels only.
2. Identify duplicates. This involved sorting by IMO, or by Flag and then by name, and manually identifying vessels of the same name or similar name (e.g., "No. 8 XXX" and "XXX No. 8") and the same characteristics such as size or radio call sign.
3. Fill in missing fields (hold volume, fish carrying capacity, LOA) when data were available from the IHS Sea-Web database or FFA.
4. Set LOA: If several vessel size measurements were available, LOA was set to the largest value. This is because usually either LOA or LBP, or both, are reported in the RFMO lists and LOA>LBP.
5. Set GRT: If several vessel tonnage values were available, GRT was set to the smallest value. This is because usually GRT and GT are recorded in the lists and GRT<GT.
6. Use relationships between different vessel attributes to calculate FHV for all vessels without that information (explained below and in sections 3.1 and 3.2).
7. Determine large-scale purse seine vessels and quantify them by Flag, including FHV estimates.
8. Identify a subset of those large-scale vessels that likely target tropical tunas and quantify them.

All records from the previous version of the database were verified with updated versions of the tRFMO databases and missing values completed with the supporting databases available (IHS Sea-Web database, FFA Vessels in Good Standing). A standard procedure was applied to identify possible duplicate records as explained in step 2 above. Length measures were again split into LOA, LBP and RGL; and Gross Tonnage data were grouped into GRT and GT.

For steps 6 and 7 we used the relationships between vessel attributes calculated using the likelihood-based approach of the 2016 snapshot (Justel-Rubio and Restrepo, 2016) (described in Appendix 2). These relationships are used to categorize Large-Scale purse seine vessels following the ISSF definition, that is, purse seine vessels with ≥ 335 m^3 of capacity (fish hold volume, FHV). Taking into consideration the goodness of fit (the measure of how well the response variable is

[1] In previous versions of this study we also consulted the five tuna RFMO Consolidated List of Authorized Vessels (CLAV), which is, unfortunately, no longer available.

explained by the model) of the various relationships, LOA and FHV missing values were estimated in this order:

1. Fill in LOA:
   If GT is available, then use the **GT-LOA** relationship.
   If GT is not available but GRT is, then use the **GRT-LOA** relationship.
2. Fill in FHV:
   If FCC is available, use the **FHV-FCC** relationship.
   Otherwise, use the **FHV-LOA** relationship.

Note that, with the aim of improving the reliability of FHV estimates, the relationships between FHV and other variables (FHV-FCC, FHV-LOA) are those calculated by Restrepo and Justel-Rubio (2016), which were based only in a subset of vessels listed at the Inter-American Tropical Tuna Commission (IATTC) Record as of April 2016. The reason to do so is that the IATTC has been the only tRFMO to verify vessels' reported FHV values up to January 2017. A more detailed explanation on the calculation of FHV for tuna purse seine vessels can be found in ISSF Technical Report 2016-10 (Restrepo and Justel-Rubio, 2016).

In doing the analyses, we realised that some vessels are now flagged to countries that did not appear in the last snapshot (Justel-Rubio, 2024). We therefore updated the list of countries according to the International Monetary Fund's (IMF) April 2025 World Economic Outlook[2], in two broad IMF groupings: "Advanced Economies" (Developed) and "Emerging and Developing Economies" (Other). **Table 1** summarizes the flag codes and development status of the flag states used in this paper.

[2] https://www.imf.org/-/media/Files/Publications/WEO/2025/April/English/text.ashx

***Table 1**. Flag codes used in this paper. The column Economy indicates whether a given flag is treated as a developed economy in this study.*

FLAG	NAME	ECONOMY	FLAG	NAME	ECONOMY	FLAG	NAME	ECONOMY
ALB	Albania	Other	GTM	Guatemala	Other	NIC	Nicaragua	Other
DZA	Algeria	Other	GIN	Guinea	Other	OMN	Oman	Other
AUS	Australia	Developed	IDN	Indonesia	Other	PAN	Panama	Other
BLZ	Belize	Other	IRN	Iran	Other	PNG	PN Guinea	Other
BRA	Brazil	Other	ITA	Italy	Developed	PER	Peru	Other
CHN	China, P.R.	Other	JPN	Japan	Developed	PHL	Philippines	Other
TWN	Chinese T.	Developed	KEN	Kenya	Other	SEN	Senegal	Other
COL	Colombia	Other	KIR	Kiribati	Other	SYC	Seychelles	Other
COK	Cook Islands	Other	KOR	Korea, Rep.	Developed	SLB	Solomon	Other
HRV	Croatia	Developed	LBY	Libya	Other	ESP	Spain	Developed
CYP	Cyprus	Developed	MLT	Malta	Developed	SYR	Syria	Other
ECU	Ecuador	Other	MHL	Marshall	Other	TZA	Tanzania	Other
EGY	Egypt	Other	MAU	Mauritius	Other	TUN	Tunisia	Other
SLV	El Salvador	Other	MEX	Mexico	Other	TUR	Turkey	Other
FRA	France	Developed	FSM	FS Micronesia	Other	TUV	Tuvalu	Other
GEO	Georgia	Other	MAR	Morocco	Other	USA	USA	Developed
GHA	Ghana	Other	NAU	Nauru	Other	VUT	Vanuatu	Other
GRC	Greece	Developed	NZL	New Zealand	Developed	VEN	Venezuela	Other

3. Results and Discussion

3.1 Global list of authorized purse seine vessels

Merging the RFMO lists, selecting purse seine vessels only and identifying likely duplicates, resulted in a total of 2,106 purse seine vessels. This is 9% more than the 1,939 purse seiners in Justel-Rubio (2024) and is due to several vessels being listed (or re-listed) on the RFMO vessel records, mainly small-scale purse seiners flagged to Mediterranean countries in ICCAT and to Indonesia in IOTC; as well as few new constructions registered to an RFMO. There may be other causes for changes in the number of purse seine vessels, such as changes in vessel type as reported to the RFMOs (for example, fish carriers and support vessels are sometimes listed as purse seiners and vice versa), or vessels that have sunk or been scrapped.

After following steps 3-5 outlined above in Section 2, and updating the vessels' information with the most recent tRFMO vessel records and supporting databases, the resulting database contained information as follows (the percentage of vessels with complete information is shown):

Data field	v1.0 (2012)	v2.0 (2014)	v3.0 (2015)	v4.0 (2016)	v5.0 (2017)	v6.0 (2018)	v7.0 (2019)	V8.0 (2020)	V9.0 (2021)	V10.0 (2022)	V11.0 (2023)	V12.0 (2024)	V13.0 (2025, this study)
LOA	83%	82%	85%	84%	94%	94%	95%	96%	96%	97%	97%	97%	97%
GRT	76%	57%	47%	43%	52%	52%	49%	49%	47%	47%	46%	44%	42%
GT	N/A	48%	57%	61%	56%	61%	61%	62%	63%	63%	65%	66%	68%
FHV	33%	47%	30%	36%	35%	35%	35%	39%	35%	36%	36%	47%	51%
FCC	19%	33%	23%	29%	28%	28%	28%	31%	27%	28%	27%	27%	24%

In terms of vessel sizes, the available data showed a bi-modal distribution (**Figure 1**), with high peaks at around 22.5 and 32.5 meters and a second, much less pronounced mode, at around 77.5 meters (LOA). Vessel sizes ranged from 7.1 to 116 meters LOA. There is a large drop in the frequency of authorized vessels below 20 m because most RFMOs generally do not require registration below this size.

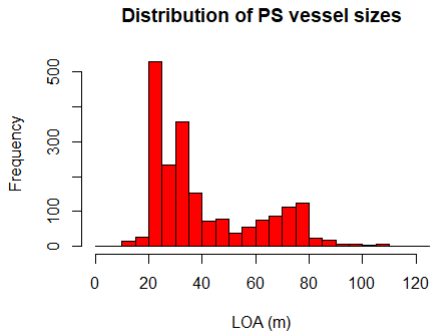

***Figure 1**. Distribution of purse seine vessel sizes (LOA in m) in the RFMO vessel records.*

3.2 Filling in missing values

The following LOA and FHV missing values were filled using the relationships as described in Section 2. For full details of the relationships used, see Appendix 2.

1. Fill in LOA
   Using the **GT-LOA** relationship: done for 66 vessels.
   Using the **GRT-LOA** relationship: done for 6 vessels.
2. Fill in FHV
   Using the **FHV-FCC** relationship: done for 84 vessels.
   Using the **FHV-LOA** relationship: done for 958 vessels.

3.3 The global tuna purse seine fleet

We found that 2,106 purse seine vessels were authorized by tRFMOs to fish for tunas in June 2025. We estimate that these 2,106 vessels have a combined FHV of over 1,190,000 m^3. The distribution by Flag is given in **Table 2**. The ratio of vessels flagged to developing versus developed countries is 3.9:1.0 in number of vessels but about 2.9:1.0 in capacity. Both ratios are higher than those calculated in Justel-Rubio (2024).

***Table 2**. Distribution of tuna purse seiners (all sizes) by flag as of June 2025. The entries represent the number of vessels and their estimated combined FHV.*

FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)
ALB	2	633	GTM	1	1851	NIC	3	4901
DZA	39	11727	GIN	1	1222	OMN	6	9894
AUS	8	1114	IDN	404	103437	PAN	24	35913
BLZ	9	12814	IRN	8	11296	PNG	12	16171
BRA	3	738	ITA	92	19583	PER	15	7404
CHN	77	40896	JPN	52	52892	PHL	87	56621
TWN	29	50413	KEN	1	2240	SEN	7	11386
COL	14	15110	KIR	13	16994	SYC	14	31091
COK	1	1160	KOR	44	59487	SLB	9	7437
HRV	8	2138	LBY	15	4586	ESP	89	59451
CYP	1	142	MLT	3	749	SYR	3	545
ECU	106	86312	MHL	10	15162	TZA	1	3500
EGY	3	746	MAU	3	5458	TUN	59	13915
SLV	6	10477	MEX	53	63018	TUR	106	46661
FRA	31	25835	FSM	26	39545	TUV	5	7937
GEO	5	2309	MAR	459	77933	USA	35	28426
GHA	17	25394	NAU	24	38291	VUT	7	13597
GRC	33	5052	NZL	1	84	VEN	22	28942
						Total	2,106	1,190,631
						Developed	426	305,366
						Other	1,680	885,264
						Oth:Dev	3.94	2.90

3.4 The large-scale purse seine tuna fleet

There are many ways to approach the definition or categorization of large-scale fishing vessels. In ISSF Conservation Measures, large-scale purse seiners are considered those with FHV of 335 m^3 or greater, which is the definition we used here. Limiting the list to large-scale vessels excluded 1,242 vessels, resulting in a total of 864 large-scale purse seiners with an overall estimated FHV of ~965,000 m^3 (**Table 3**). Limiting the list to large-scale vessels removed about 59% of the vessels in numbers — but only removed 19% of the combined fish hold volume. The Other: Developed ratio of capacity decreased both in terms of FHV and in number of vessels.

***Table 3**. Distribution of large-scale tuna purse seiners (≥ 335 m^3 FHV) by flag as of June 2025. The entries represent the number of vessels and their estimated combined FHV.*

FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)
ALB	1	409	IDN	74	31921	PAN	24	35913
DZA	16	6211	IRN	8	11296	PNG	12	16171
AUS	3	367	ITA	17	9158	PER	13	6804
BLZ	9	12814	JPN	43	50878	PHL	45	49669
CHN	22	32177	KEN	1	2240	SEN	7	11386
TWN	29	50413	KIR	13	16994	SYC	14	31091
COL	13	14840	KOR	44	59487	SLB	9	7437
COK	1	1160	LBY	6	2405	ESP	29	50696
HRV	3	1274	MLT	1	456	TZA	1	3500
ECU	86	81141	MHL	10	15162	TUN	13	5026
EGY	1	336	MAU	3	5458	TUR	75	40497
SLV	6	10477	MEX	49	62103	TUV	5	7937
FRA	24	23948	FSM	26	39545	USA	16	26485
GEO	3	1661	MAR	8	3951	VUT	7	13597
GHA	17	25394	NAU	24	38291	VEN	22	28942
GTM	1	1851	NIC	3	4901			
GIN	1	1222	OMN	6	9894			

Total	864	964,987
Developed	209	273,161
Other	655	691,826
Oth:Dev	3.13	2.53

3.5 The large-scale tropical tuna purse seine tuna fleet

Tuna RFMO vessel lists include purse seine vessels that fish for other tuna species like bluefin tuna[3] either permanently or sporadically. In addition, the WCPFC record includes purse seiners which operate north of 20°N and do not target tropical tunas year-round.

Vessels were excluded following these criteria:

- Vessels that are only authorized on the ICCAT record to fish bluefin tuna or other species but not tropical tunas;
- Vessels flagged to Japan that are on the WCPFC record but not on the FFA record and are presumably operating north of 20°N and not targeting tropical tunas.
- Vessels authorized by IOTC and CCSBT and flagged to Australia but considered to target only Southern bluefin tuna.
- Vessels on the IOTC Authorized vessel record but not on the Active list of vessels targeting tropical tuna for recent years (2023-2024), and not authorized by any other RFMOs[4]. Newly identified vessel records were not excluded as those vessels may have been actively fishing for tropical tunas in 2024/2025 but not yet added to the IOTC Active list.

Removing these vessels resulted in an estimated 675 large-scale, tropical tuna purse seine vessels with a combined hold volume of 864,668 m^3 (**Table 4**). Compared to the list of all large-scale tuna purse seiners above, these correspond to 22% and 10% reductions in number of vessels and aggregate FHV, respectively. The Other: Developed country ratio of capacity is estimated around 3.5:1.0 in vessel numbers and 2.5:1.0 in FHV.

[3] Atlantic bluefin (*Thunnus thynnus*), Pacific bluefin (*Thunnus orientalis*) or Southern bluefin (*Thunnus maccoyii*)

[4] Given the caveats of the Active list as described by IOTC ("*the lists of active vessels recorded for each year may be incomplete due to: a)The list includes only ships reported by their flag countries, b) Incomplete reports from IOTC CPC's; c) IOTC CPC's not having reported lists of active vessels for one or more years; d) Active vessels operating under the flag of non IOTC CPC that are not included in the record, e) Fields containing "Unknown" values may also indicate that the field is "Not applicable*"); national reports to IOTC from the vessel flag CPCs were used to contrast information in this list.

***Table 4**. Distribution of large-scale tropical tuna purse seiners targeting tropical tunas by flag as of June 2025. The entries represent the number of vessels and their estimated combined FHV.*

FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)	FLAG	VESSELS	FHV(m^3)
BLZ	9	12814	JPN	26	39761	PNG	12	16171
CHN	22	32177	KEN	1	2240	PER	13	6804
TWN	29	50413	KIR	13	16994	PHL	45	49669
COL	13	14840	KOR	44	59487	SEN	7	11386
COK	1	1160	MHL	10	15162	SYC	14	31091
ECU	85	80734	MAU	3	5458	SLB	9	7437
SLV	6	10477	MEX	49	62103	ESP	23	48137
FRA	12	18379	FSM	26	39545	TZA	1	3500
GHA	17	25394	MAR	4	1955	TUV	5	7937
GTM	1	1851	NAU	24	38291	USA	16	26485
GIN	1	1222	NIC	3	4901	VUT	7	13597
IDN	71	30556	OMN	6	9894	VEN	22	28942
ITA	1	1790	PAN	24	35913			
						Total	675	864,668
						Developed	151	244,452
						Other	524	620,216
						Oth:Dev	3.47	2.54

It is important to note where these 675 vessels are authorized to fish. **Table 5** shows the current number of authorized vessels by RFMO (the diagonal shows the number of authorizations in each RFMO). Twelve percent of these vessels were registered in more than one tRFMO in June 2025. The largest number of authorizations – 332 – was in the WCPFC. However, several sources suggest that the number of active large-scale tropical tuna vessels in that region is about 270 (e.g., Vidal et al., 2023). Thus, about 60 vessels despite being authorized to fish in the WCPFC area might be either not fishing there or not required to be listed on the record (note that, in the WCPFC, vessels that fish solely in their own EEZ do not need to be on the WCPFC Record).

Tuna RFMOs have public lists of vessels authorized to operate in their Convention Areas, but not all tRFMOs maintain up-to-date lists of vessels that are actively fishing in the Convention Areas, so it is difficult to estimate active capacity by region at any given time. In this study we have used ICCAT's active list to exclude vessels that are currently authorized to fish but inactive or inoperative (for which ICCAT keeps separate lists). We have also consulted IOTC's list of active vessels, which has been used, given its shortcomings identified by IOTC Secretariat, with a conservative approach to identify vessels that may not be actively fishing for tropical tuna, as described above. For IATTC, the list of Active purse seiners, which is regularly updated, is also available.

***Table 5.** Distribution of large-scale tropical tuna purse seine (≥ 335 m^3 FHV) tRFMO authorizations. Numbers in yellow represent the total number of vessels authorized in that tRFMO (including both vessels authorized by that tRFMO only and vessels authorized also in other tRFMOs).*

	CCSBT	IATTC	ICCAT	IOTC	WCPFC
CCSBT	**0**				
IATTC		**228**	21	1	27
ICCAT			**90**	13	6
IOTC				**108**	20
WCPFC					**332**

In terms of the proportion of large-scale purse seine vessels fishing for tropical tunas flagged to developing or emerging economies relative to developed economies, there has been a steady increase since ISSF started producing these snapshot reports. Currently, there are 3.47 times more vessels (and 2.54 times more fish hold volume) flagged to developing or emerging economies than there are flagged to developed ones (**Figure 2**).

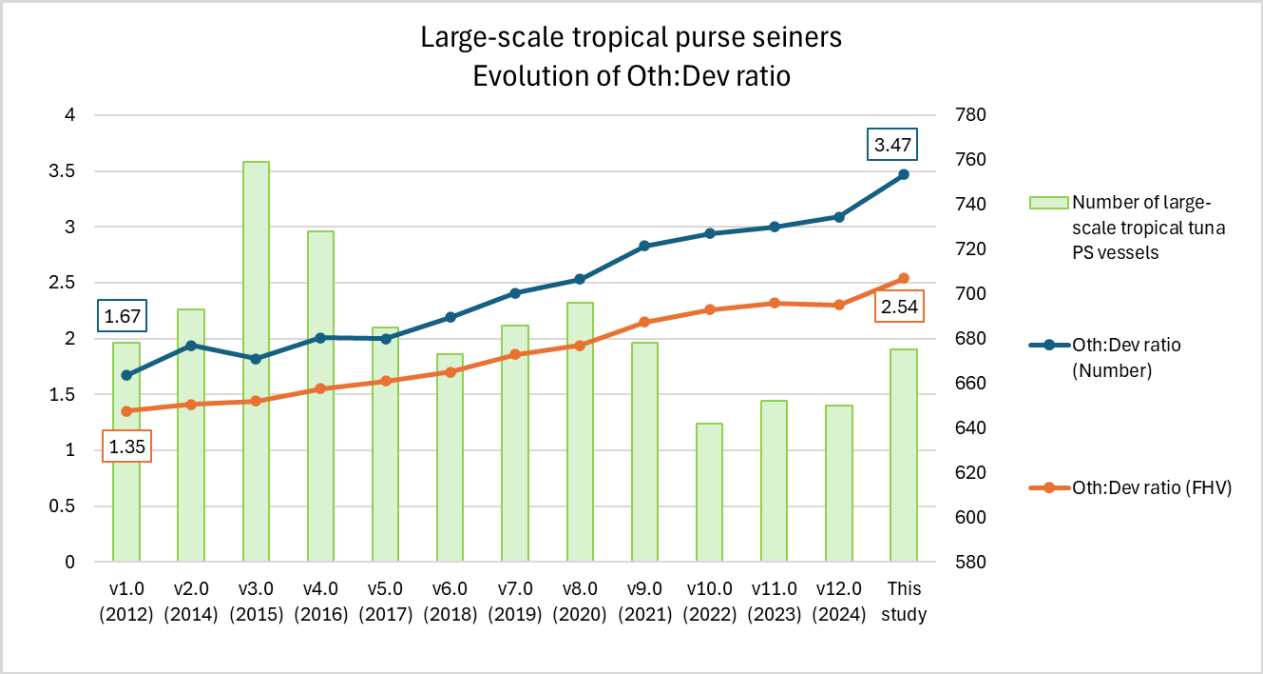

***Figure 2**. Trends in (1) the number of large-scale tropical tuna purse seine vessels (green bars, right axis), (2) the Other: Developed country ratio in number of vessels (blue line, left axis) and (3) the Other: Developed country ratio in FHV (orange line, left axis). The horizontal axis represents this and previous versions of this ISSF Technical Report.*

A considerable number of the large-scale tropical tuna purse seiners discussed in this section are registered in ISSF's Proactive Vessel Register (PVR). ISSF created the PVR to give vessel owners an opportunity to identify themselves as complying with ISSF's Conservation Measures and as active participants in meaningful tuna sustainability efforts. At the same time, the PVR provides validated information to tuna purchasers and interested stakeholders that reflects the positive steps each vessel is taking in implementing a series of commitments designed to improve tuna fishing

practices (more info is at https://iss-foundation.org/knowledge-tools/public-vessel-lists/proactive-vessel-register/). The number of large-scale PS vessels targeting tropical tuna that are registered in the PVR showed an overall growing trend since 2014. Specifically, 498 large scale purse seine vessels, with a combined FHV of 715,347 m^3 are now registered in the PVR; which represents 74% in number and an 83% in FHV of the total estimated of 675 large scale purse seine vessels fishing for tropical tunas.

3.5.1. CHANGES SINCE 2024

Justel-Rubio (2024) estimated that there were 650 large-scale vessels fishing for tropical tunas in June 2024. The estimate in June 2025 represents a higher value, at 675 such vessels. The number of large-scale purse seine vessels targeting tropical tuna fluctuates from year to year due to several factors like vessels that are no longer active (e.g. sunk or scrapped), construction of new vessels, etc. **Table 6** summarizes all changes that have taken place annually since 2014.

Forty-seven large-scale vessels built after 2012 have been added to the tuna RFMO tropical tuna authorized purse seine lists since June 2024 (**Table 6**), four of which were built in 2024 and seven in 2025 (**Table 7**). It may be worth noting that 33 of those 47 vessels are vessels flagged to Indonesia with a FHV above the 335 m^3 threshold we use to classify a vessel as large-scale, but below 600 m^3 FHV. There are also 10 large-scale purse seiners that were constructed prior to 2012 which were not listed in the RFMO Records in June 2024, likely because they have been inactive for some time while changing ownership or while undergoing repairs.

As shown in Section 3.2, there is considerable variability in the relationships between different vessel dimensions used to estimate FHV. This variability affects the classification of a vessel as large-scale or not in terms of FHV. Tuna RFMO records are updated regularly, which can lead to changes in reported dimensions or the inclusion of previously missing data. As a result, a number of vessels are reclassified as large-scale or not each year (**Table 6**). For instance, in this study, one vessel that was estimated to be large-scale in Justel-Rubio (2024) is no longer classified as such. Conversely, four vessels are now considered large-scale. Most of these reclassifications are due to newly available FHV values on IOTC's list of authorized vessels. These values now provide more accurate data for vessels that previously had estimated FHV values just above or below the 335 m^3 threshold.

In previous versions of this study, some vessels have been reclassified as targeting/not targeting tropical tuna and, hence, included/excluded from the analysis. However, no reclassifications of this type occurred during the 2025 update.

Several other factors explain the differences between the estimates in the previous snapshot (Justel-Rubio 2024) and this study. Thirty-six vessels either sank or somehow are no longer in the authorized vessels records of the RFMOs, and one vessel changed its gear type to purse seine. Additionally, eighteen vessels changed name and/or flag (**Table 6**).

Without Unique Vessel Identifiers (UVIs), it is difficult to track vessel flag/name changes. Fortunately, the situation has significantly improved since organizations like ISSF have been advocating for the use of UVIs such as the IMO number. The number of large-scale tropical tuna

purse seiners with publicly known IMO numbers increased from 12% in 2011 to 99% in 2025. The four tropical tuna RFMOs (IATTC, ICCAT, IOTC and WCPFC) now require mandatory use of UVIs, such as IMO numbers. Note that the IMO Ship Identification Number Scheme Resolution is part of a set of global norms aimed at the enhancement of maritime safety, pollution prevention and the prevention of maritime fraud, to which fishing vessels are also subject. Responsible fisheries should be expected to comply with all such Resolutions, despite their voluntary status, not simply as a means to obtain a unique vessel identifier.

Table 6. *Changes in numbers of large-scale tropical tuna vessels estimated in consecutive versions of the snapshot.*

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Vessels deleted												
Sank or no longer found in tRFMO records	39	23	40	72	19	18	16	21	38	14	22	36
No longer classified as Large	12	16	7	7	1	2	2	1	1	-	25	1
No longer classified as targeting tropical tunas	13	1	5	-	-	-	2	40	6	-	-	-
Duplicate records	3	-	-	-	-	-	-	-	-	-	-	-
Different vessel type	-	1	13	-	2	-	-	-	1	-	-	-
Total	**67**	**41**	**65**	**79**	**22**	**20**	**20**	**62**	**46**	**14**	**47**	**37**
Vessels added												
New in the RFMO records and built before 2012	24	46	2	15	7	9	9	8	5	10	9	10
New in the RFMO records and built in 2012 or after	24	33	30	12	1	9	12	27	4	10	20	47
New in the RFMO records (year unknown)	12	12	1	-	-	14	4	1	-	-	-	-
Now classified as Large	22	2	1	8	2	-	4	2	1	-	16	4
Now classified as targeting tropical tunas	-	14	-	-	-	1	1	5	-	4	-	-
Different vessel type	-	-	-	1	-	-	-	1	-	-	-	1
Total	**82**	**107**	**34**	**36**	**10**	**33**	**30**	**44**	**10**	**24**	**45**	**62**
Vessels changed flag and/or name												
Changed flag	49	24	19	13	8	16	27	19	9	13	12	14
(Of which changed flag and name)	(30)	(12)	(11)	(6)	(2)	(10)	(17)	(3)	(6)	(6)	(7)	(7)
Changed name only	11	10	6	10	4	13	8	3	9	1	6	4
Total	**60**	**34**	**25**	**23**	**12**	**29**	**35**	**22**	**18**	**14**	**18**	**18**
IMO#												
Percentage of vessels with IMO# (12% in 2011)	88%	87%	91%	95%	99%	97%	97%	98%	98%	99%	99%	99%

3.5.2. VESSELS CONSTRUCTED IN RECENT YEARS

The number of large-scale tropical tuna purse seine vessels constructed during the 2019-2025 period according to tRFMO records is summarized in **Table 7**.

Table 7. Large-scale tropical tuna purse seine vessels built in recent years (2019-2025) grouped by flag and development status of the flag states.

		2019	2020	2021	2022	2023	2024	2025	
Developed	Chinese Taipei		2		1	1			4
	Japan	2	1		1	2	1		7
	Korea, Rep.	2							2
	Spain			1					1
Other	China, P.R.		3		2				5
	Indonesia	3	7	10	14	7	1		42[5]
	Kiribati			1	2		1	3	7
	Marshall Islands				1				1
	Mauritius	1[6]							1
	Mexico					1			1
	Fed. States Micronesia		1	1		2	1		5
	Nauru							4	4
	Oman					1	1		2
	Panama	1		1					2
	Philippines	1				1			2
	Vanuatu		1						1
	Grand Total	**10**	**15**	**14**	**21**	**15**	**5**	**7**	**87**

[5] Average FHV = 421 m^3 (range: 338 m^3 - 586 m^3)

[6] This vessel was initially flagged to Panama

4. Conclusions

Using updated information available from both the tRFMOs and the supporting databases, we estimate that —in June 2025 — there were 2,106 purse seine vessels authorized to fish for tunas worldwide, with a combined FHV of over 1,190,000 cubic meters. This represents a 9% increase in the number of vessels since the previous snapshot report by Justel-Rubio (2024), due mainly to the relisting of several vessels on the tRFMO authorized vessels lists, presumably after being temporarily inactive; as well as to some newly constructed vessels being now registered to a tRFMO. Restricting the list to large-scale vessels, defined here as ≥335 m^3 FHV, reduces the number of purse seiners to 864, with a combined FHV of about 965,000 m^3.

Focusing on large-scale purse seine vessels that target tropical tunas brings the number down to 675 vessels with about 865,000 m^3 of combined FHV. Over three times as many of these vessels are flagged to developing countries than are flagged to developed countries. A large proportion of these vessels (74% in number, 83% in FHV) are registered in ISSF's Proactive Vessel Register. About 12% of these vessels are authorized to fish in two or more RFMOs. Although this percentage has decreased from about 20-25% in previous years, there remains significant potential mobility of these fleets at a global level. We recommend that RFMOs consider extending their authorized vessel records to include information about the RFMO area in which each individual vessel is active each year. This will facilitate the monitoring of active fishing capacity by region.

A comparison with last year estimates (Justel-Rubio 2024), using updated data, shows that, once more, there were numerous changes in tRFMO authorized vessel records (**Table 6**). One vessel with a different gear type was converted into a purse seiner. Several vessels that appeared on the records in 2024 can no longer be found. Other (older) vessels that were not on the records are now listed, and some vessels have been reclassified as being large or not large using vessel size data that was not previously available. The quality of the data in tRFMO records has been undoubtedly improving in recent years, but there are still substantial gaps and opportunities for improvement. We recommend that tRFMO members exercise greater quality control of the vessel data they submit to the tRFMOs for the vessel records and that tRFMOs adopt vessel registry requirements that include quality control mechanisms.

Since Justel-Rubio (2024), 47 large-scale purse seine vessels constructed between 2012 and June 2025 have been added to the tRFMO records, four of which were built in 2024 and seven in 2025. More than half of these newly constructed vessels are flagged to Indonesia and have a FHV close to the 335 m^3 threshold.

Recommendations

This study resulted in four recommendations:

Recommendation 1:

- Vessel owners, irrespective of vessel types and sizes (i.e. not only large-scale purse seine vessels), apply for IMO numbers, given the utility of using IMO numbers as Unique Vessel Identifiers and, hence, as a powerful tool to combat Illegal Unreported and Unregulated (IUU) fishing.

Recommendation 2:

- Owners of vessels with an IMO number communicate to IHS-Maritime any changes to their vessel details, to ensure all vessel information is up to date in the vessel's profile on IHS-Maritime's online database[7].

Recommendation 3:

- Tuna RFMO members exercise greater quality control of the vessel data they submit to the tRFMOs for the vessel records and tRFMOs adopt vessel registry requirements that include quality control mechanisms.

Recommendation 4:

- All tRFMOs maintain not only lists of vessels authorized to operate in the Convention Areas, but also maintain lists of vessels that are actively fishing in the Convention Areas each year, to make it possible to estimate active capacity by region in any given year (e.g. by including a requirement to provide a copy of the relevant permit/license to substantiate an actively fishing notification).

Authorized Vessel Lists Recommendations

For more recommendations specific to tRFMO Lists of Authorized Vessels, please consult our latest report on "Tuna RFMO Authorised Vessel Lists: A Comparative Analysis to Identify Best Practices" on the **ISSF Best Practices Reports page**.

[7] See https://imonumbers.lrfairplay.com/Home/Help:
If your vessel is NOT In Service yet send an E-mail to: ship.imo@ihs.com
If the ship is In Service then send an E mail to maritime.ships@ihs.com

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Appendix 1. Glossary

FCC. Fish Carrying Capacity. The amount of fish, in tonnes, that a vessel can carry. This is related to the size of the fish wells. However, the actual tonnage carried may vary depending on the size of the fish and how they are stored. FCC is often measured as the maximum landings observed for a given vessel.

FHV. Fish Hold Volume: The total measured cubic content of the fish wells, in cubic meters.

GRT. Gross Register Tonnage: The total measured cubic content of the permanently enclosed spaces of a vessel, with some allowances or deductions for exempt spaces such as living quarters (1 gross register ton = 100 ft3 = 2.83 m3).

GT. Gross Tonnage: The volume of all ship's enclosed spaces (from keel to funnel) measured to the outside of the hull framing.

LBP. Length between perpendiculars: The length of a vessel (loaded) along the waterline from the forward surface of the stem, or main bow perpendicular member, to the after surface of the sternpost, or main stern perpendicular member.

LOA. Length overall: The maximum length of a vessel from the two points on the hull measured perpendicular to the waterline.

RGL. Registered length: The length of the vessel as registered with the national authorities. Different countries have different requirements, so RGL could be LOA, LBP, or other measurements.

Appendix 2. Relationships between vessel attributes

1. Gross Tonnage vs LOA

A) GRT VS LOA

The relationship between GRT (tonnes) and LOA (m) estimated using a MLE approach followed a function of the form (**Figure 1a**):

$GRT = 0.0497*LOA^{2.3382}$ $\hat{\sigma}_*^2 = 1045.15$ $\varphi = -3466.65$ ($n=510$, $R^2=0.80$)

There is considerable variability in the relationship, especially for the larger vessels.

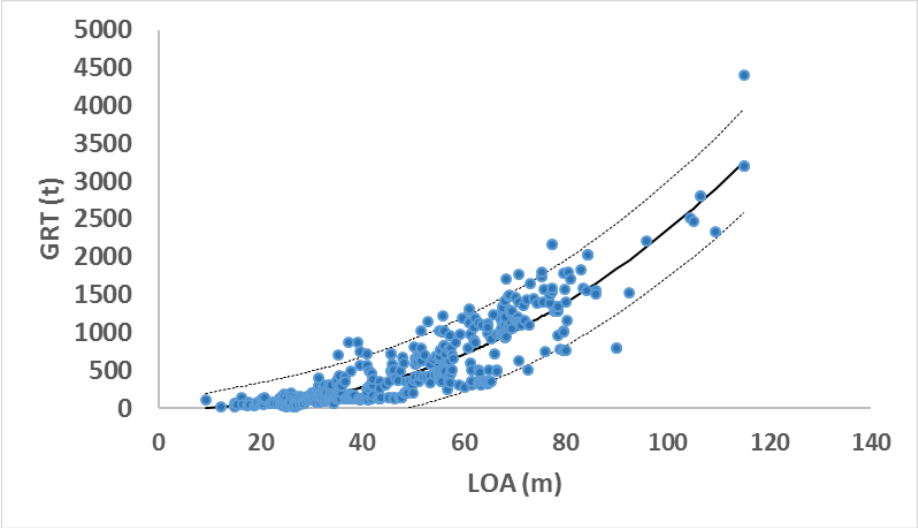

***Figure 1a**. Relationship between GRT (tonnes) and LOA (m) and 95% confidence intervals.*

B) GT VS LOA

The relationship between GT (tonnes) and LOA (m) estimated using a MLE approach followed a function of the form (**Figure 1b**):

$GT = 0.0380*LOA^{2.4789}$ $\hat{\sigma}_*^2 = 624.26$ $\varphi = -6125.12$ ($n=942$, $R^2=0.97$)

LOA is more strongly correlated to GT than it is to GRT.

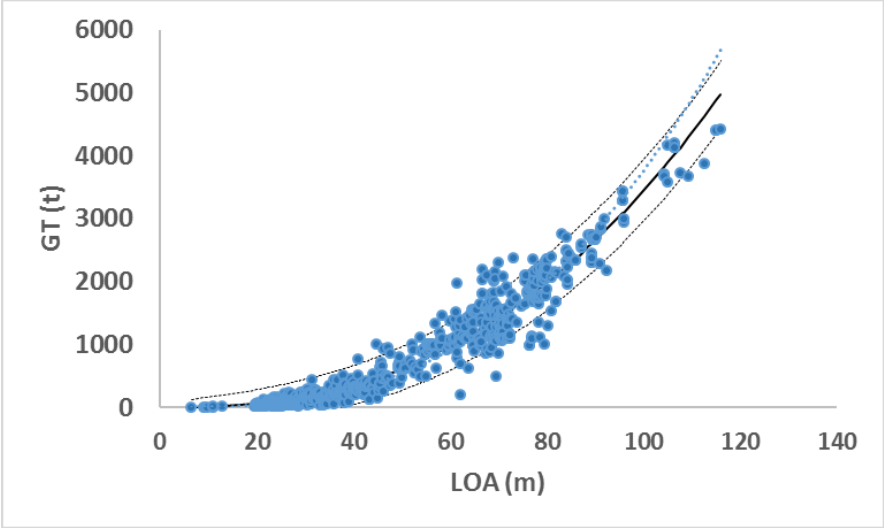

***Figure 1b**. Relationship between GT (tonnes) and LOA (m) and 95% confidence intervals.*

2. FHV vs FCC

The relationship between FHV (m^3) and FCC (tonnes) estimated using a MLE approach on the subset of IATTC vessels for which FHV values were verified was linear (**Figure 2**):

FHV=1.2839*FCC $\hat{\sigma}_*^2$ = 19.83 φ = -1679.53 (n=277, R^2=0.95)

Fish Carrying Capacity and Fish Hold Volume are highly correlated.

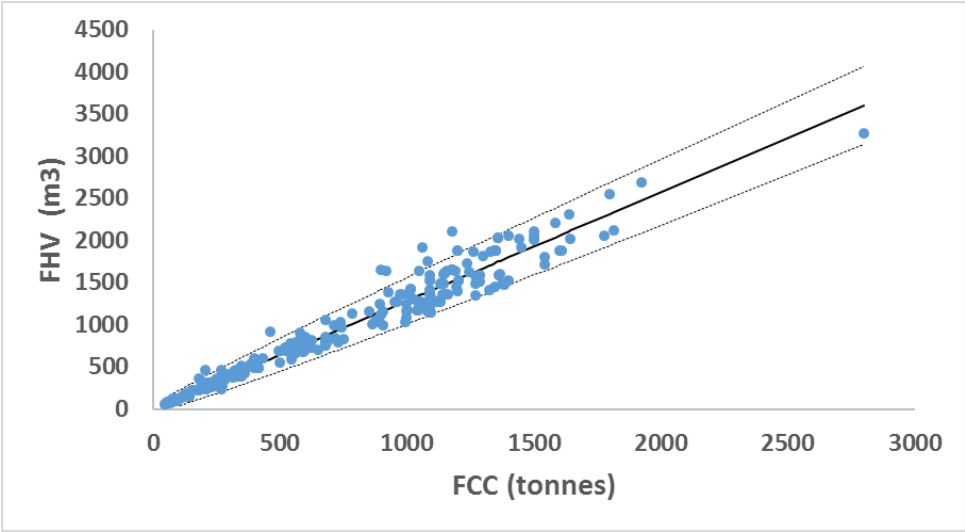

***Figure 2**. Relationship between FHV (m^3) and FCC (tonnes) and 95% confidence intervals.*

3. FHV vs LOA

The relationship between FHV (m^3) and LOA (m) estimated using a MLE approach on the subset of IATTC vessels for which FHV values were verified followed a power function of the form (**Figure 3**):

$FHV = 0.3043*LOA^{1.9806}$ $\quad \hat{\sigma}_*^2 = 688.13$ $\quad \varphi = -1727.30$ $\quad (n=259, R^2=0.89)$

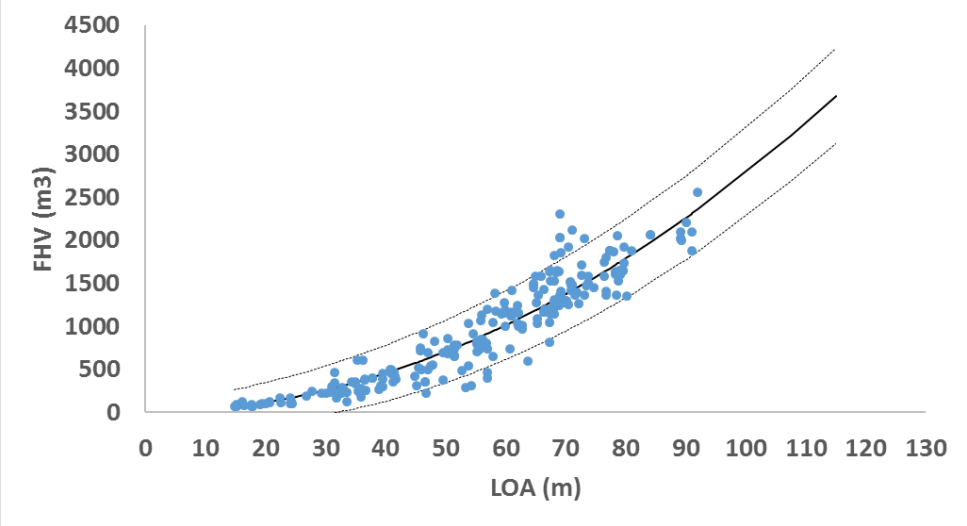

Figure 3. Relationship between FHV (m^3) and LOA (m) and 95% confidence intervals.

Appendix 3. Version log

VERSION	DATE	TECHNICAL[8] REPORT	AUTHORS
1.0	01/2012	2012-01	Víctor Restrepo and Francesca Forrestal
2.0	04/2014	2014-07	Ana Justel-Rubio and Víctor Restrepo
3.0	05/2014	2015-05	Ana Justel-Rubio and Víctor Restrepo
4.0	07/2016	2016-12	Ana Justel-Rubio and Víctor Restrepo
5.0	08/2017	2017-05	Ana Justel-Rubio, Lorena Recio and Víctor Restrepo
6.0	06/2018	2018-17	Ana Justel-Rubio, Lorena Recio and Víctor Restrepo
7.0	07/2019	2019-09	Ana Justel-Rubio and Lorena Recio
8.0	06/2020	2020-14	Ana Justel-Rubio and Lorena Recio
9.0	07/2021	2021-12	Ana Justel-Rubio and Lorena Recio
10.0	07/2022	2022-14	Ana Justel-Rubio and Lorena Recio
11.0	06/2023	2023-04	Ana Justel-Rubio and Lorena Recio
12.0	06/2024	2024-05	Ana Justel-Rubio
13.0	06/2025	2025-09	Ana Justel-Rubio

[8] Earlier versions of the report can be requested by e-mail (info@iss-foundation.org)

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