
ANALYSIS ON PROBLEMS AND POSSIBLE SOLUTIONS ON THE IMPLEMENTATION OF RESOLUTION 19/04

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1. BACKGROUND

To effectively combat IUU fishing activities conducted by large scale tuna fishing vessels in the IOTC area of competence, the IOTC Record of Authorised Vessels (RAV) was initially established by the Commission's Resolution 02/05, which became effective in July 2003. The Resolution has since undergone various amendments with the purpose of strengthening it, with the latest version in the form of Resolution 19/04 to include new attributes that are key to correctly identify vessels and their owners. The IOTC Compliance Committee at its 18th Session in 2021 (CoC18), in its assessment of compliance, noted a significant decrease with the reporting obligations relating to Resolution 19/04. It further noted that this was attributed greatly in part to a misinterpretation of paragraph 3(l) of the Resolution. The Compliance Committee made a recommendation which clarified the misinterpretation and further recommended that the paragraph be amended along the lines of its clarifications, in a future amendment of the Resolution. Despite the clarifications provided by the CoC18, the IOTC Working Party on the Implementation of Conservation and Management Measures (WPICMM) reported little progress on the provision of information on Beneficial Ownership and Company. More recently, the 19th Session of the IOTC Compliance Committee (CoC19) again noted the overall decrease in compliance rates with Resolution 19/04 and further noted that again this is attributed to the new reporting requirements of Resolution 19/04. Within this context, the CoC19 made the following recommendation (para.22 CoC19 report):

The CoC19 **RECOMMENDED** that the IOTC Secretariat provide within six months an analysis highlighting problems and possible solutions on the implementation of Resolution 19/04 to guide CPCs on its possible review.

2. METHODOLOGY

The methodology used to conduct the analysis herein described, is based in the quantitative assessment of the information available in the IOTC Record of Authorised Vessels (RAV) on 03 June 2022. This analysis seeks to identify any shortcomings or problems that CPCs may have in fulfilling existing data reporting requirements and propose possible solutions. To this end, the study will assess the level of completeness of vessel data from an overall perspective (Annex I, Table 1) and with reference to the applicable data requirements at the moment of their submission (Annex I, Table 2). The former seeks to provide a clear picture of the current overall status of affairs of the system, whilst the latter, has a twofold objective: on one side, to increase understanding in vessel record update patterns and status, and; on the other side, to assess their level of compliance and exceptions applied at the moment of submission.

For the purpose of the study, the vessel records considered, refer to all currently recorded fishing vessels, including support vessels authorised to operate in the IOTC Area. Carrier vessels would be therefore included, although with an important caveat. Since the present analysis focuses on

Resolution 19/04, only carrier vessels flagged by CPCs and not participating in the Regional Observer Programme (Resolution 21/02) were included in the analysis.

As previously stated, for the second assessment the date of the last update would be factored as well, to assess the data completeness against the data requirements applicable at the time of the submission. For this, Table 1, below, shows from which moment on, mandatory data requirements became effective and are therefore assessed:

Table 1: initial dates from when mandatory data requirements became effective

CMM	Effective from	Data fields
Resolution 01/02	2001	<ul style="list-style-type: none"> • Vessel name, register Number, • Vessel Type, length, GT • Previous flag(s) (if any) • IRCS (if any) • Name and address of owner and/or charter, and/or operator
Resolution 13/02	14/11/13	<ul style="list-style-type: none"> • IMO Number (if any) • Previous flag(s) (if any) • Previous details of deletion from other registries (if any) • Port of registration • Gear(s) used • Time period(s) authorised for fishing and/or transhiping
Resolution 14/04	01/01/16	<ul style="list-style-type: none"> • IMO number (vessels eligible included all non-wooden fishing vessels above 24 m of LOA)
Resolution 19/04	29/10/19	<ul style="list-style-type: none"> • Name and address of beneficial owner if known and different from vessel owner/operator or indicate non-availability • Name and address of company operating the vessel and company registration number (if any) • Colour starboard, portside and bow photographs (Vessels authorized to operate beyond the EEZ)
	01/01/20	<ul style="list-style-type: none"> • IMO Number (Fishing vessels < 100 GT and ≥ 12 m of LOA)
	01/01/22	<ul style="list-style-type: none"> • Colour starboard, portside and bow photographs (Vessels not authorized to operate outside the EEZ of the flag CPC) • Total volume of fish hold(s) in m³

To conduct the aforementioned analyse the following assumptions were made:

- Due that CPCs should provide the IMO number of their vessels if eligible, not eligible vessel records with IMO numbers were not computed in the level of completeness for this data field. Conversely, vessels reported erroneously as not eligible were computed.
- The completeness rate of any given CPC was calculated as the arithmetic mean of all applicable mandatory data requirements for that CPC.
- Vessel records with authorization periods expired, but not deleted from the RAV, are also considered within the analysis.
- Photographs of the external markings were not considered as a separate independent data requirement.

3. ANALYSIS OF RESULTS

3.1. Data completeness levels for all vessel records in the RAV (Annex I, Table 1)

On 3 June 2022, the IOTC RAV accounted for a total of 6,022 fishing vessels and 46 carrier vessels flagged to 22 CPCs. These figures exclude 50 carrier vessels flagged to one Cooperating Non-Contracting Party (CNCP) and two non-Members (Liberia, Panama and Singapore, respectively), and 37 carrier vessels flagged to five Members (Indonesia, Japan, Republic of Korea, Maldives and Malaysia), which were authorized to conduct at-sea transhipments in the IOTC area. The total number of vessels comprised 2,050 (34%) vessels of length overall (LOA) of 24m or above, and 4,018 (66%) vessels of length overall of less than 24m.

3.1.1. General results:

The number of vessel records fully compliant with existing data requirements by 3 June 2022, were 225 (4%), and were primarily submitted by the European Union (73), Indonesia (57) and China (45), Figure 1. Incomplete vessel records comprised 12 (44%) data fields fully provided and common to all records, and 15 (56%) data fields missing to a lesser or greater extent. Annex I, Table 1, shows overall data completeness rates for missing mandatory data fields by CPC.

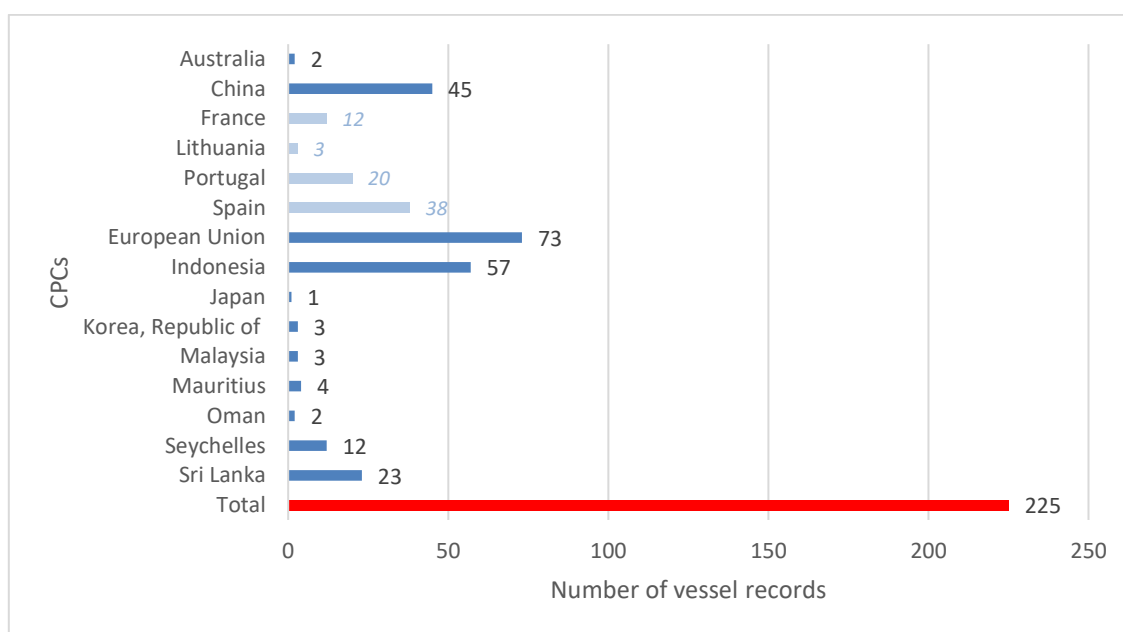


Figure 1: Number of vessel records compliant with all data requirements

Vessel attributes with lowest levels of submission matched to a great extent latest incorporated data requirements introduced by Resolution 19/04, and corresponded to photographs (bow (18%), portside (20%), starboard (20%)) and fish hold(s) volume (27%), IMO numbers (29%), company details (40%) and beneficial owner details (46%), as per Figure 2.

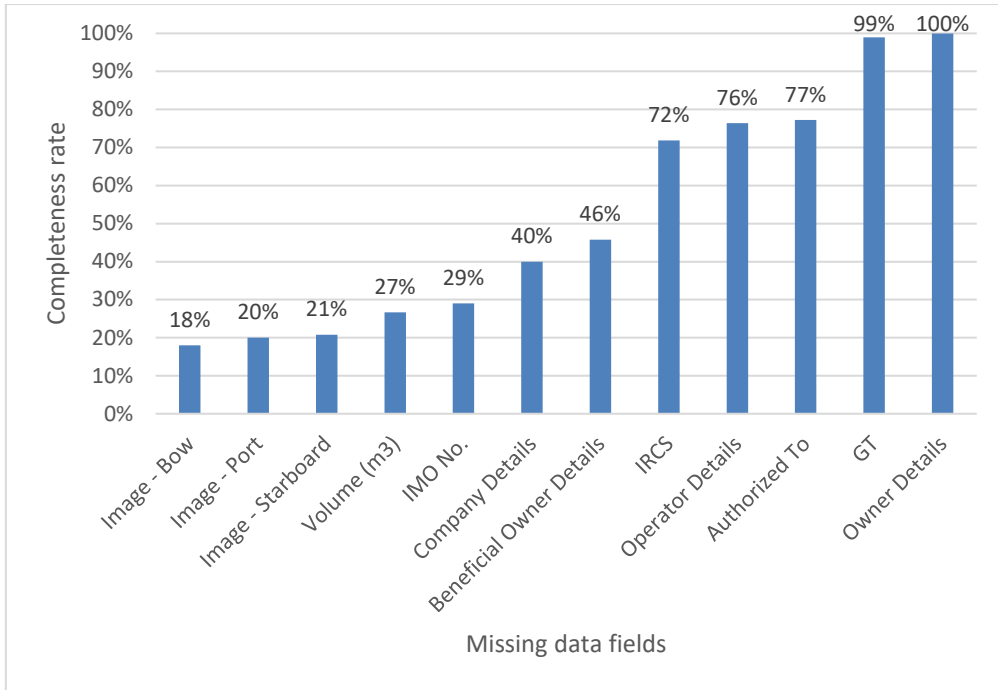


Figure 2: completeness rates for the missing data fields

From a CPC perspective, individual completeness rates for all data fields, illustrate that although no CPC is fully compliant with all mandatory data requirements, certain CPCs, such as the European Union (98%), Mauritius (97%), Malaysia (94%) and Seychelles (94%) were very close to it. CPCs with the largest fleets, such as Sri Lanka (73%), Iran (56%) and Maldives (70%), which alone account for 76% of the vessels in the RAV, are among those with lower completeness levels. Ranking, which is led by the Philippines (49%) and Iran (56%), followed by Liberia (62%), Madagascar (65%) and South Africa (66%), as per Figure 3.

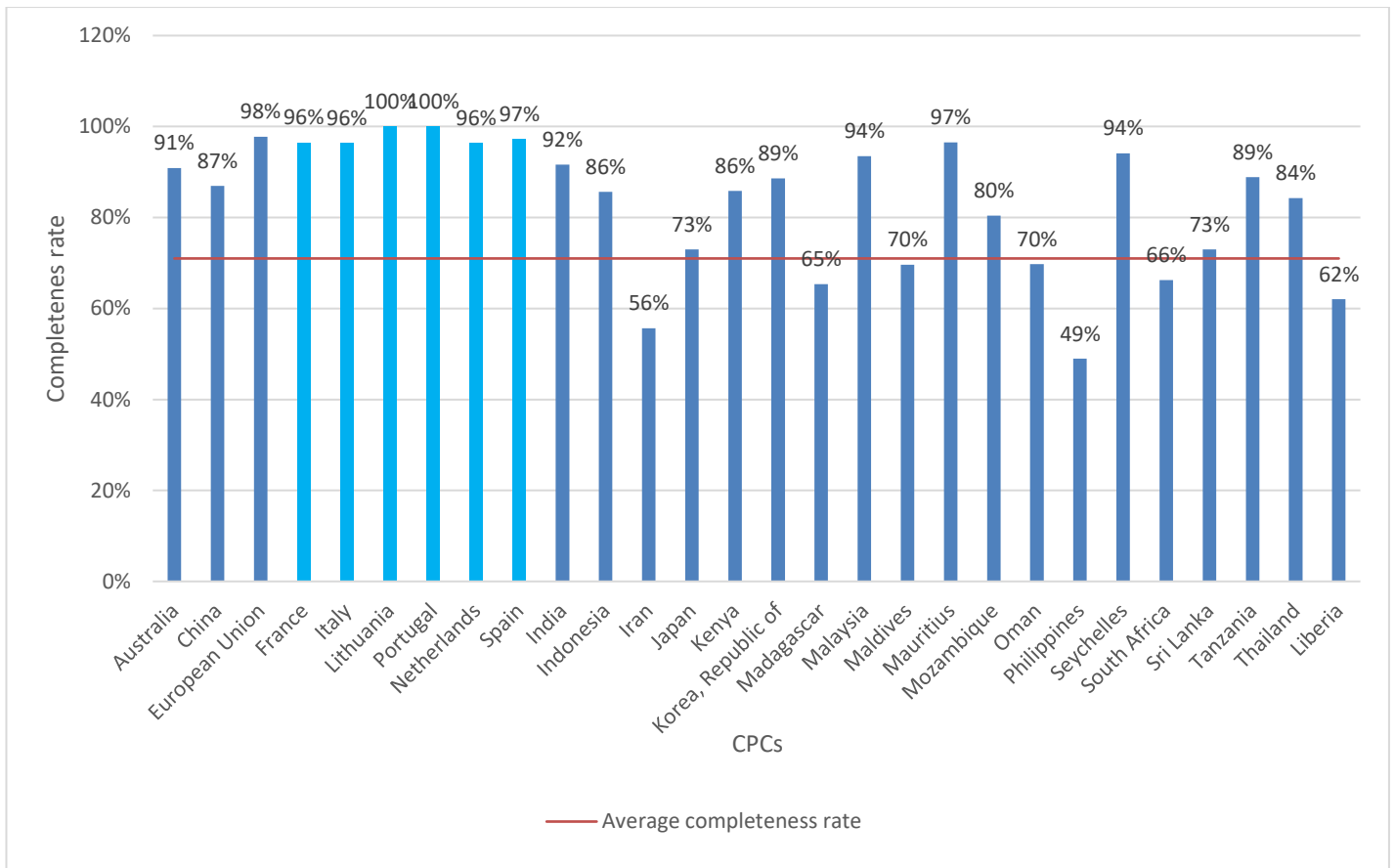


Figure 3: completeness rates by individual CPC

3.1.2. Results per data field

- i) Vessel photographs: as mentioned, this requirement presented the lowest completeness rates (bow 18%, portside 20% and starboard 21%). Only one CPC, Thailand, had provided photographs for all their vessels. Conversely, Iran, Madagascar, Philippines and South Africa had not provided any vessel image. The fraction of vessel records with at least one of the photographs clearly showing at a minimum one of the vessel external markings drops the completeness rate for images down to 14%.
- ii) Fish hold(s) volume: presented very low completeness rates (27%). Only India, Malaysia and Thailand provided fish hold volume information for all their vessel records. In contrast, Iran, Kenya, Madagascar, Maldives, Mozambique, Philippines, South Africa and Liberia had not provided it for any of their vessel records.
- iii) Company details: showed low completeness rates (40%). Company detail rates in Annex I, Table1, express CPCs completeness in relation to company name, address and registration number fields altogether. Company fields submitted as “not available¹” were computed as fully provided and represented 80% of the total. About 78% of companies reported as “not available” corresponded to vessel records below 24 m. Additionally, the 55% of vessel records with companies other than “not available”, matched the

¹ Recorded as “not available” in the IOTC RAV database

information provided for owners. Concerning the level of provision by CPCs, Iran, Madagascar, Mozambique, Philippines, South Africa, Thailand and Liberia had not provided any company details.

Table 2: number of vessel records that provided company details.

CPCs	Company			
	Name	Address	Registration No.	Not available ²
Australia	62 (100%)	62 (100%)	62 (100%)	20 (32%)
China	86 (65%)	86 (65%)	86 (65%)	
European Union	115 (100)	115 (100)	113 (98%)	
<i>France</i>	<i>36 (100%)</i>	<i>36 (100%)</i>	<i>34 (94%)</i>	
<i>Italy</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	
<i>Lithuania</i>	<i>3 (100%)</i>	<i>3 (100%)</i>	<i>3 (100%)</i>	
<i>Netherlands</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	
<i>Portugal</i>	<i>20 (100%)</i>	<i>20 (100%)</i>	<i>20 (100%)</i>	
<i>Spain</i>	<i>54 (100%)</i>	<i>54 (100%)</i>	<i>54 (100%)</i>	
India	4 (100%)	4 (100%)	4 (100%)	4 (100%)
Indonesia	459 (81%)	458 (81%)	229 (41%)	229 (100%)
Iran	0 (0%)	0 (0%)	0 (0%)	
Japan	180 (98%)	180 (98%)	1 (1%)	
Kenya	6 (100%)	6 (100%)	4 (67%)	
Korea, Republic of	79 (92%)	79 (92%)	75 (87%)	
Madagascar	0 (0%)	0 (0%)	0 (0%)	
Malaysia	20 (100%)	20 (100%)	20 (100%)	
Maldives	499 (49%)	494 (48%)	494 (48%)	483 (98%)
Mauritius	15 (100%)	15 (100%)	15 (100%)	
Mozambique	24 (100%)	24 (100%)	0 (0%)	
Oman	6 (50%)	6 (50%)	2 (17%)	2 (100%)
Philippines	0 (0%)	0 (0%)	0 (0%)	
Seychelles	86 (99%)	86 (99%)	71 (82%)	1 (1%)
South Africa	0 (0%)	0 (0%)	0 (0%)	
Sri Lanka	1,272 (55%)	1,272 (55%)	1,246 (54%)	1,201 (96%)
Tanzania	3 (100%)	3 (100%)	1 (33%)	
Thailand	3 (38%)	3 (38%)	0 (0%)	
Liberia	0 (0%)	0 (0%)	0 (0%)	
Total	2,919 (48%)	2,913 (48%)	2,423 (40%)	1,940 (80%)

- iv) Owner details: the completeness levels for owner details in Annex I, Table 1 (100%), reflect the percentage of vessel records by CPC that possessed data on both name and

² Percentages for “not available” are calculated with reference to the total number of vessel records (2,423) with company name, address and registration number provided.

address. Although reflected as fully provided, Liberia had not submitted all owner details for 3 (25%) of its vessels.

- v) Operator details: the completeness levels for operator details in Annex I, Table 1 (76%), reflect the percentage of vessel records by CPC that possessed data on both name and address. Operator details were missing from 8 CPCs. Lowest submission rates were led by Philippines (4%), Maldives (49%) and Sri Lanka (65%).
- vi) Beneficial owner details: similarly, the completeness levels for beneficial owner details in Annex I, Table 1 (46%), reflect the percentage of vessel records by CPC that possessed data on both name and address. Beneficial owner details submitted as “not available” were computed as fully provided representing 11% of the total. The 80% of vessel records with beneficial owners other than “not available”, matched the information provided for owners. Around 69% of beneficial owner information provided corresponded to data on natural persons with most vessels flagged under Sri Lanka (45%), Maldives (17%) and Indonesia (6%). The level of completeness for beneficial owner was low (46%) with only 7 CPCs fully compliant. Iran, Madagascar, Philippines and South Africa were non-compliant with a 0% rate.

Table 3: number of vessel records that provided beneficial owner details.

CPCs	Beneficial Owner		
	Name	Address	Not available ³
Australia	62 (100%)	62 (100%)	61 (98%)*
China	86 (65%)	86 (65%)	
European Union	115 (100%)	115 (100%)	
<i>France</i>	<i>36 (100%)</i>	<i>36 (100%)</i>	<i>36 (100%)</i>
<i>Italy</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	<i>1 (100%)</i>
<i>Lithuania</i>	<i>3 (100%)</i>	<i>3 (100%)</i>	
<i>Netherlands</i>	<i>1 (100%)</i>	<i>1 (100%)</i>	<i>1 (100%)</i>
<i>Portugal</i>	<i>20 (100%)</i>	<i>20 (100%)</i>	<i>20 (100%)</i>
<i>Spain</i>	<i>54 (100%)</i>	<i>54 (100%)</i>	
India	4 (100%)	4 (100%)	
Indonesia	468 (83%)	468 (83%)	149 (32%)
Iran	0 (0%)	0 (0%)	
Japan	24 (13%)	24 (13%)	23 (96%)
Kenya	6 (100%)	6 (100%)	1 (17%)
Korea, Republic of	75 (87%)	75 (87%)	1 (1%)
Madagascar	0 (0%)	0 (0%)	
Malaysia	13 (65%)	13 (65%)	13 (100%)
Maldives	499 (49%)	497 (48%)	
Mauritius	15 (100%)	15 (100%)	5 (33%)
Mozambique	24 (100%)	24 (100%)	
Oman	6 (50%)	6 (50%)	2 (33%)

³ Percentages for “not available” are calculated with reference to the total number of vessel records (2,775) with both beneficial owner name and address provided.

CPCs	Beneficial Owner		
	Name	Address	Not available ³
Philippines	0 (0%)	0 (0%)	
Seychelles	86 (99%)	86 (99%)	1 (1%)
South Africa	0 (0%)	0 (0%)	
Sri Lanka	1,289 (56%)	1,288 (56%)	
Tanzania	3 (100%)	3 (100%)	1 (33%)
Thailand	3 (38%)	3 (38%)	
Liberia	0 (0%)	0 (0%)	
Total	2,778 (46%)	2,775 (46%)	315 (11%)

- vii) IMO Number: presented one of the lowest completeness levels (29%). From the 22 CPCs with vessels in the RAV, half were fully compliant and one (Madagascar) did not have any eligible vessel. Iran (1%), Sri Lanka (2%) and Philippines (4%) represented the CPCs with lowest completeness levels for IMO number. With regards to Maldives and Sri Lanka, it was detected that small eligible vessels, operating on the high seas, were incorrectly reported as not eligible⁴.
- viii) IRCS: presented moderate completeness levels (72%). This vessel identifier was provided fully by 17 CPCs. Iran due to its fleet size and low rates of IRCS provision (1%), in conjunction with Sri Lanka (83%) contributed the most to the decline of IRCS completeness level. Vessel records without IRCS were to a great extent (67%) small vessels below 24 m that operated in the high seas. The number of records where IRCS was reported as “not available” was 12.
- ix) Authorised to: presented moderate levels of completeness (77%). Data field fully provided by all CPCs with the exceptions of India (0%), Iran (0%), Philippines (4%) and China (89%). At the moment of the assessment 23% of the vessel records had not provided an end date for the period of authorization and 17% had their authorization period expired since June 2020.
- x) GT: almost fully provided (99%) by all CPCs with the exceptions of India (0%), Philippines (7%), Japan (97%) and Indonesia (99%).

⁴ [IMO Resolution A.1117\(30\)](#): “the Scheme applies to ships of 100 gross tonnage and above, including fishing vessels of steel and non-steel hull construction; passenger ships of less than 100 gross tonnage, high-speed passenger craft and mobile offshore drilling units engaged on international voyages (SOLAS regulation V/19-1); and to all motorized inboard fishing vessels of less than 100 gross tonnage down to a size limit of 12 metres in length overall (LOA) authorized to operate outside waters under the national jurisdiction of the flag State (...).”

3.2. Data completeness levels for all vessel records in the RAV in respect to applicable requirements at the moment of their submission (Annex I, Table 2)

3.2.1. General results:

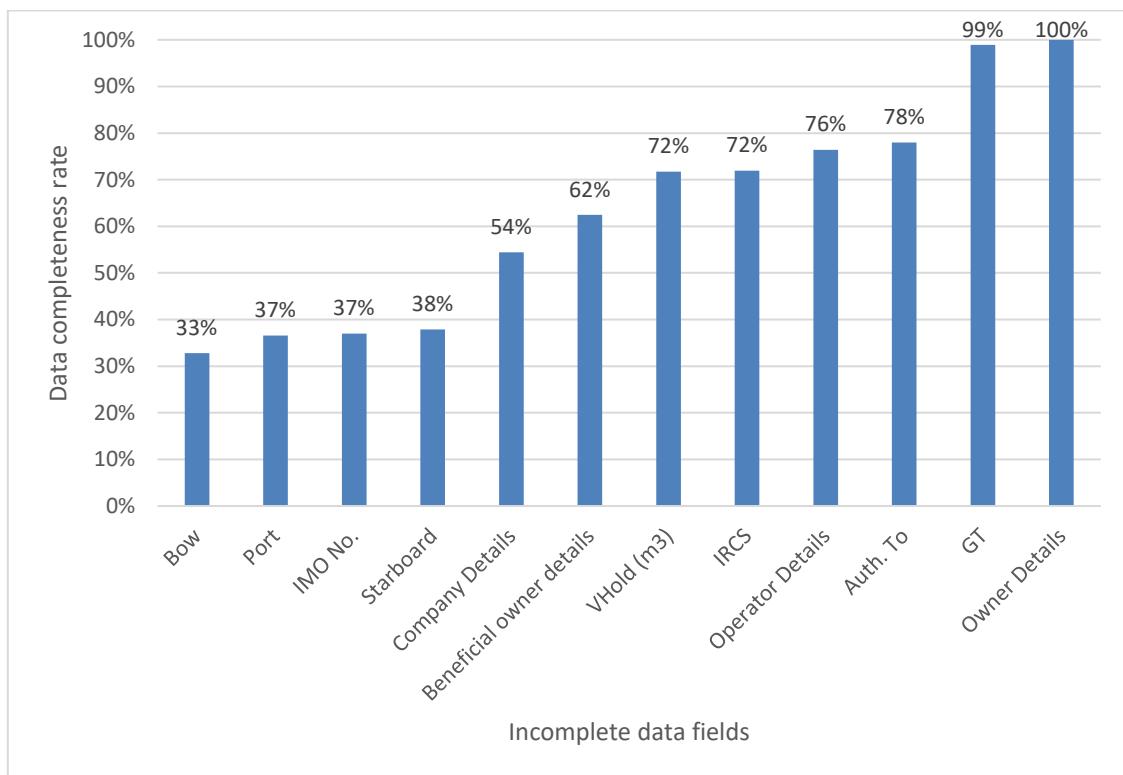
The assessment of vessel records data completeness against data requirements applicable at the moment of their submission reflects low rates of vessel record update. As per Table 4, a total of 1,722 (28%) and 3,955 (65%) vessel records were pending of update prior to the entry into force of Resolution 19/04 and its latest data requirements effective from 01/01/2022, respectively. Translated into CPCs, Philippines with the oldest fleet in the RAV (2009), jointly with Madagascar (2019) and South Africa (2019) had not updated any of their records to comply with Resolution 19/04. Slightly ahead, Iran with one single vessel record update in 2020, completes the list of most outdated fleets. In terms of CPCs' update behavior, Table 4 illustrates that the more defaulting CPCs did not update their vessels' records systematically after new data requirements entered into force. Instead, CPCs provided batches of vessel record updates through time.

Table 4: number of last updated vessel records per year

CPCs	2009	2010	2011	2012	2015	2016	2017	2018	2019	2020	2021	2022	Total
Australia												62	62
China		4			14		1	7	1	19	9	78	133
European Union											79	35	114
<i>France</i>											11	25	36
<i>Italy</i>											1		1
<i>Lithuania</i>											3		3
<i>Portugal</i>											20		20
<i>Spain</i>											44	10	54
India												4	4
Indonesia							7	50	29	3	291	185	565
Iran			6		1,257	4		43		1			1,311
Japan									1	150	17	16	184
Kenya											5	1	6
Korea, Republic of					1			2	1	52	6	24	86
Madagascar					3				5				8
Malaysia											11	9	20
Maldives						21	58	64	70	157	309	346	1,025
Mauritius												15	15
Mozambique												24	24
Netherlands											1		1
Oman						5					3	4	12
Philippines	50			1	1	1	2						55
Seychelles										1	15	71	87
South Africa								31	2				33
Sri Lanka										823	252	1,225	2,300
Tanzania												3	3
Thailand												8	8

CPCs	2009	2010	2011	2012	2015	2016	2017	2018	2019	2020	2021	2022	Total
Liberia									2	6	1	3	12
Total	50	4	6	1	1,276	31	68	197	111	1,212	999	2,113	6,068

Concerning missing mandatory fields (Figure 4), the assessment shows moderate variations on their completeness levels compared to the aforementioned overall assessment (Figure 2). More specifically, although completeness levels for the oldest data requirements, such as GT, IRCS, Authorised to and Operator Details, present little variation, new data requirements instead, such as photographs, fish hold volume, company and beneficial owner details experienced a substantial increase. This not only indicates that old, outdated vessel records pull down completeness levels, but also that new updated vessel records were far from being fully compliant with new applicable data requirements.



**IMO Number completeness rate for vessels < 100 GT & ≥ 12 m of LOA is of 11% and for vessels > 100 GT is of 68%.*

Figure 4: level of completeness for the missing mandatory data fields identified

When analyzing the trend of data completeness rates against vessel record submissions over time (Figures 5 and 6), three different periods can be distinguished. The first period, would cover CPCs' initial submissions from the entry into force of Resolution 19/04 until the second quarter of 2021, the second period, the last semester of 2021, and the third one, the first semester of 2022.

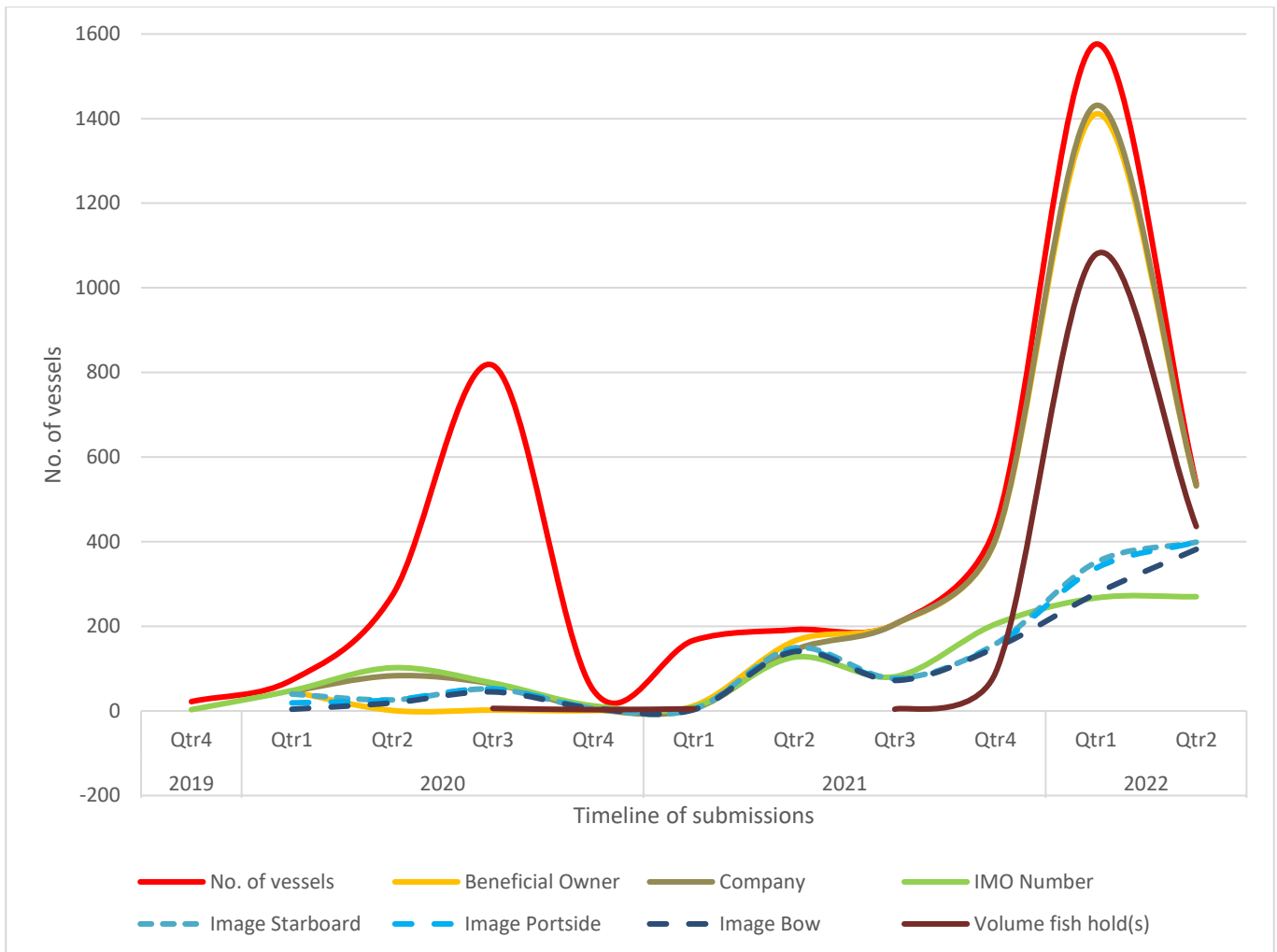


Figure 5: submission of new data requirements since entry into force of Resolution 19/04

The first period was characterized by low data completeness levels until the beginning of the second period, which was marked by their general increase, albeit to varying degrees, depending on the data field observed. The upward trend observed during the second period, moderately declined at the beginning of the third period, to eventually rise up again for all new attributes at its end. When putting it into context, the variations and trends described can be explained by a fluctuating degree of implementation of paragraph 5 of Resolution 19/04 on the obligation of not including into the RAV any vessel record with mandatory data fields missing. The decline on CPCs compliance with Resolution 19/04 observed during the meetings of CoC18 and S25, led to its more rigorous application at the end of the first semester of 2021, later temporarily softened to assimilate and process the bulk of update requests received at the beginning of 2022, coinciding with the date of effectiveness of latest new data requirements.

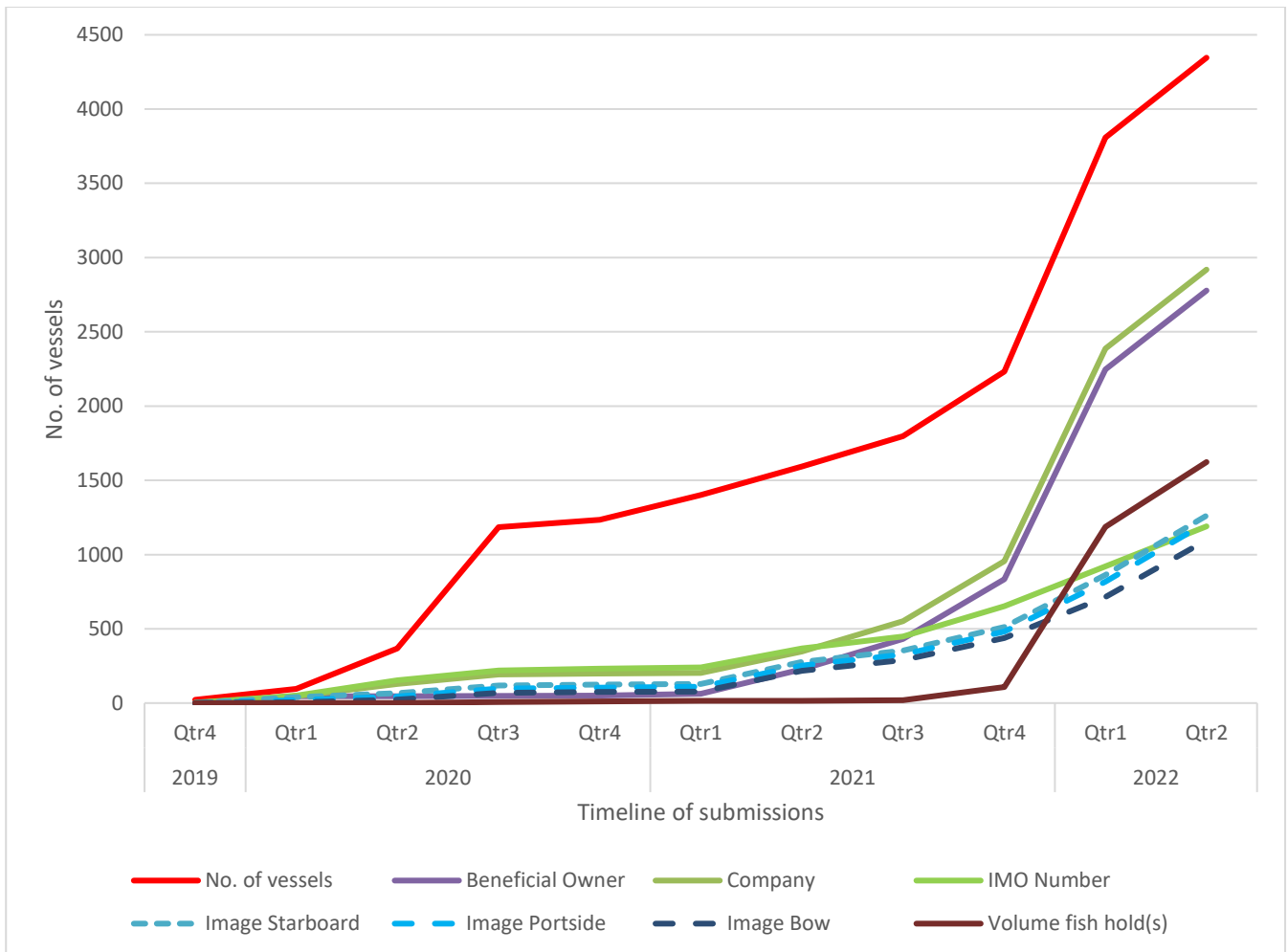


Figure 6: cumulative submission of new data requirements since entry into force of Resolution 19/04

3.2.2. Results per data field

- i) Beneficial owner and company details: these data fields, reflected closely the trend described previously. Their level of completeness on the first period went from about 13% up to 93% by the end of the second period, it decreased to 91% at the beginning of the third period and rise up at its end to 99%. From a closer look to the type of data provided, the enhanced submission of company details, was observed to respond mostly to the reporting of companies as “not available”. Indeed, from the second period referred to, company information reported as “not available” scaled up to 1,942 vessel records, of which 70% were provided in 2022. In contrast, the number of vessel records with information on beneficial owner reported as “not available” during 2022, was of 6%.
- ii) Vessel photographs: although they had followed the same trend described above, their data completeness rates were far less pronounced compared to beneficial owner and company details. Less marked levels of submission could be attributed in great extent to difficulties experienced by the CPCs⁵, the rejection of blurred or low-resolution images

⁵ Sri Lanka reported exceptional circumstances such as power outages, followed by server crashes that made impossible the submission of vessel photographs to the IOTC Secretariat.

and the consequent acceptance of vessel records with at least one valid photograph to enable vessel update while awaiting for valid additional images.

- iii) Fish hold volume: despite the first records of vessels with fish hold volume data appeared in 2020, it was not until the second quarter of 2022 that most vessel records included information on it. As result, the completeness level of this data field increased over time up to a moderate rate (72%).
- iv) IMO number: low completeness rate (37%) essentially caused by small vessels below 100 GT and above 12 m length that operate beyond their waters of national jurisdiction. The 67% of all eligible vessels without an IMO number correspond to one single CPC alone, Sri Lanka. During the assessment it was observed that certain CPCs, such as Maldives and Sri Lanka, consistently and erroneously reported many vessels as not eligible for IMO numbers.

Table 5: IMO number completeness rates per data requirement.

CPCs	IMO No.		
	> 100 GT	< 100 GT ≥ 12 m	Total
Australia	100%	100%	100%
China	100%	N.A.	100%
European Union	100%	100%	100%
<i>France</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Italy</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>
<i>Lithuania</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>
<i>Portugal</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Netherlands</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>
<i>Spain</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
India	100%	N.A.	100%
Indonesia	86%	80%	85%
Iran	17%	0%	2%
Japan	100%	N.A.	100%
Kenya	100%	100%	100%
Korea, Republic of	100%	N.A.	100%
Madagascar	N.A.	N.A.	N.A.
Malaysia	100%	100%	100%
Maldives	1%	1%	1%
Mauritius	93%	N.A.	93%
Mozambique	100%	N.A.	100%
Oman	100%	25%	50%
Philippines	67%	N.A.	67%
Seychelles	100%	100%	100%
South Africa	92%	78%	86%
Sri Lanka	78%	1%	2%
Tanzania	100%	N.A.	100%
Thailand	100%	N.A.	100%

CPCs	IMO No.		
	> 100 GT	< 100 GT ≥ 12 m	Total
Liberia	92%	N.A.	92%
Total	68%	11%	37%

- v) Authorisation to: In addition to the 1,382 (23%) vessel records without an end date of authorization, there exist 1,041 (17%) vessel records, whose authorization had expired and had not been updated for the last two previous years. Sri Lanka, Maldives and Indonesia with 700 (12%), 214 (4%) and 91 (1%) vessel records respectively, represent the fleets with the largest number of records with expired authorization periods.

Table 6: number of vessel records with “authorization to” data field not provided or expired since July 2020.

CPCs	Authorisation	
	Expired from 01/07/2020	“Authorisation to” Not provided
China	15 (≈0%)	14 (≈0%)
Indonesia	91 (1%)	0
India	0	4 (≈0%)
Iran	0	1,311 (22%)
Japan	2 (≈0%)	0
Korea, Republic of	2 (≈0%)	0
Madagascar	8 (≈0%)	0
Maldives	214 (4%)	0
Oman	6 (≈0%)	0
Philippines	2 (≈0%)	53 (1%)
South Africa	1 (≈0%)	0
Sri Lanka	700 (12%)	0
Total	1,041 (17%)	1,384 (23%)

The preservation of long outdated vessel records with no authorization to dates in the RAV, has been observed to drag down all data completeness levels significantly (Figure 7). When compared to data completeness levels for all vessel records in the RAV in respect to applicable requirements at the moment of their submission (Annex I, Table 2), the increase is lower for new data requirements. The latter most probable due to a lack of update and especially, the non-provision of data on the volume of fish holds.

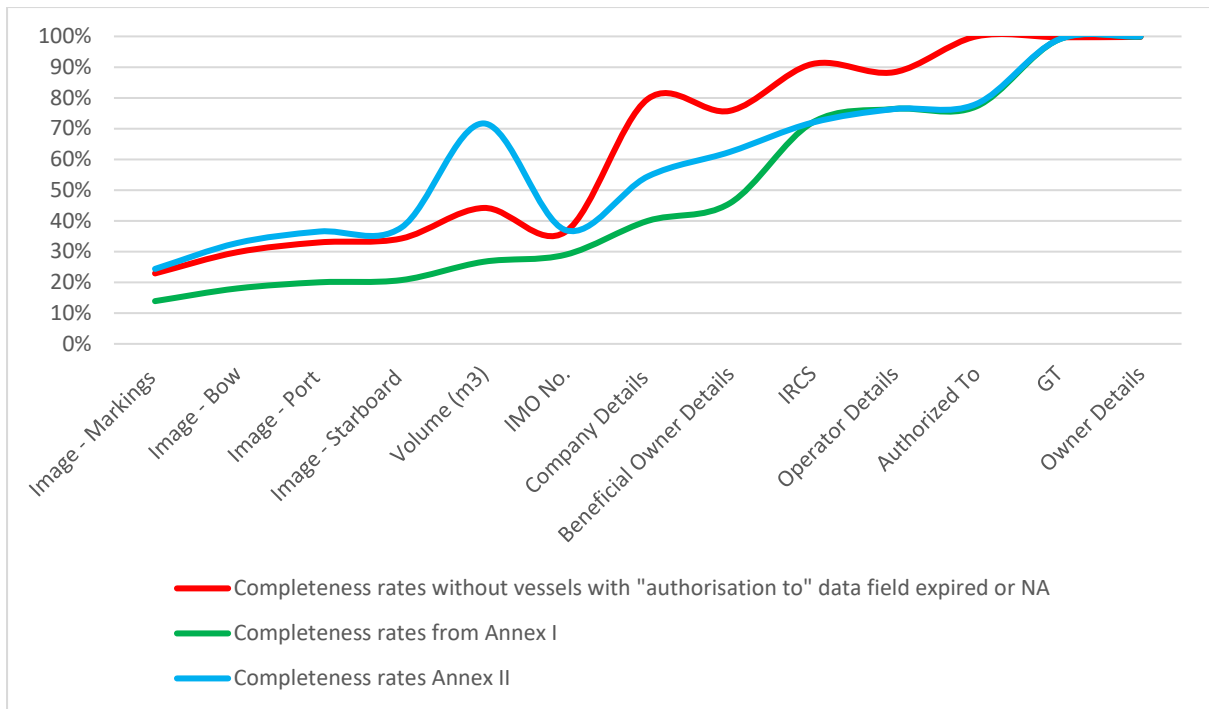


Figure 7: comparative completeness rates without records with incomplete authorization periods or expired since July 2020

- vi) IRCS: lack of completeness attributed to a great extent to old records from Iran (76%) and new recent records from Sri Lanka (23%). For the latter, Sri Lanka indicates that they have requested IRCS but have still not received them.
- vii) GT: lack of completeness attributed in great extent to old records from the Philippines (78%), last submitted in 2009.

4. PROBLEMS ENCOUNTERED

From the observed results it can be concluded that:

1. The number of vessel records fully compliant with all mandatory data requirements was very low, specially for the newest applicable data requirements.
2. The rate of update remained generally low, declining overall data completeness levels. Many CPCs failed to comply with new mandatory data requirements when they become applicable. The preference would seem that they delay their submission to coincide with updates of authorization periods, which are normally done for a few vessels at a time.
3. Some CPCs, such as Madagascar, the Philippines and South Africa, followed closely by Iran had not updated their fleets since the entry into force of Resolution 19/04. These fleets alone, with CPCs with large fleets and low completeness levels, such as Sri Lanka and Maldives, were responsible of the plummet in the overall completeness rates for some data fields, e.g., for the IMO number, fish hold volume and IRCS.
4. A significant number of non-up-to-date vessel records with their “authorization to” date not specified or expired for at least the last two years was observed. The presence of expired records, indicating that they have not been updated recently or deregistered from the RAV, not only decreases data completeness levels (Figure 7) but also may distort any analysis derived from the RAV and may create loss of credibility.
5. The soften implementation of Paragraph 5 of Resolution 19/04, partially due to exceptional circumstances and difficulties on the implementation of new data requirements by CPCs and partially to the limited capacity of the IOTC Secretariat to process the large amount of vessel record update requests received during the first quarter of 2022, resulted on reduced completeness levels.
6. Despite the relative increase on the submission of beneficial owner and company details from mid-2021, beneficial owner was essentially reported as identical to owner details, and company as not available. As consequence, a non negligible number of beneficial owner details were referred to legal entities and not natural persons. The underlying causes of CPCs reluctance to report data on legal persons and companies may be due to legal impediments grounded on the fact that they refer to personal and sensitive data, often subjected to data confidentiality rules and therefore protected by national laws.
7. A total of six CPCs had not provided the IRCS data field for some of their vessels in the record. Due to the mandatory use of IRCS for vessel marking⁶, it constitutes a fundamental data field to identify vessels.

⁶ Paragraph 18 of Resolution 19/04 states that “CPCs shall ensure that its fishing vessels authorised to fish in the IOTC area of competence are marked in such a way that they can be readily identified with generally accepted standards such as the FAO Standard Specification for the Marking and Identification of Fishing vessels”

5. POSSIBLE SOLUTIONS

1. For existing vessel records with their authorization expired or not specified, in follow-up to the recommendations of the Compliance Committee (para.22 of the CoC19), the IOTC Secretariat should remove from the current RAV those vessels whose periods of authorisation have elapsed over two years.
2. For new data reporting requirements, future amendments of Resolution 19/04 may need to specify that CPCs should update all their vessel records information contained within the RAV at the moment they become effective. Moreover, granting the IOTC Secretariat with a more proactive mandate could contribute to ensure maximum data completeness levels and to detect possible hindrances, by means of increased communication with Members to inform them what records are missing mandatory data fields.
3. Implementation of the RAV online will facilitate data upload and update by means of a more streamlined process and user-friendly interface for vessel record update. The RAV online will also help to alleviate the burden on the IOTC Secretariat, giving flag State Members greater responsibility and control of their data.
4. It was observed that a more rigorous application of paragraph 5 of Resolution 19/04 had positive effects on the completeness levels of vessel records. With special attention to exceptional circumstances that may apply to different CPCs, the IOTC Secretariat should put its focus on systematically implementing this obligation.
5.
 - i. With the aim of better understanding the root causes of low submission levels related to company and beneficial owner details, CPCs could be requested to clarify any impediments for the submission and disclosure of data related to the legal entities or persons accountable for the vessels. Based on the feedback received, it would be possible to determine whether there are any legal impediments that render both data requirement impossible for CPCs to comply with, and therefore, whether future amendments of Resolution 19/04 should include them or not as data requirements.
 - ii. If beneficial owner is kept it would be necessary to provide a definition internationally accepted, such as the OECD's definition, as currently a large portion of the information available in the RAV are misleading and identifies a legal entity rather than a natural person.

Annex I

Table 1. Data completeness levels for all vessel records in the RAV

CPCs	No. vessels	<24	24+	IMO No.	IRCS	GT	Volume (m3)	Authorized To	Images				Owner Details	Operator Details	Beneficial Owner Details	Company Details
									Starboard	Port	Bow	Markings				
Australia	62	48	14	93%	97%	98%	92%	100%	32%	27%	15%	8%	100%	100%	100%	100%
China	133	0	133	100%	99%	100%	47%	89%	77%	73%	59%	42%	100%	90%	65%	65%
European Union	115	21	94	100%	100%	100%	86%	100%	89%	88%	76%	23%	100%	100%	100%	100%
<i>France</i>	<i>36</i>	<i>20</i>	<i>16</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>92%</i>	<i>100%</i>	<i>94%</i>	<i>92%</i>	<i>44%</i>	<i>58%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>94%</i>
<i>Italy</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Lithuania</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>33%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Portugal</i>	<i>20</i>	<i>1</i>	<i>19</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Netherlands</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Spain</i>	<i>54</i>	<i>0</i>	<i>54</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>78%</i>	<i>100%</i>	<i>80%</i>	<i>81%</i>	<i>85%</i>	<i>7%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
India	4	0	4	100%	100%	0%	100%	0%	100%	75%	100%	100%	100%	100%	100%	100%
Indonesia	565	160	405	86%	99%	99%	28%	100%	74%	73%	72%	72%	100%	96%	83%	41%
Iran	1311	815	496	1%	1%	100%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%
Japan	184	0	184	100%	100%	97%	14%	100%	45%	45%	42%	33%	100%	100%	13%	1%
Kenya	6	0	6	100%	100%	100%	0%	100%	50%	17%	50%	0%	100%	100%	100%	67%
Korea, Republic of	86	0	86	100%	100%	100%	21%	100%	76%	44%	16%	9%	100%	100%	87%	87%
Madagascar	8	8	0	N.A.	100%	100%	0%	100%	0%	0%	0%	0%	100%	100%	0%	0%
Malaysia	20	0	20	100%	100%	100%	100%	100%	85%	55%	55%	80%	100%	100%	65%	100%
Maldives	1025	614	411	21%	100%	100%	0%	100%	7%	8%	6%	3%	100%	49%	48%	48%
Mauritius	15	0	15	93%	100%	100%	93%	100%	80%	87%	53%	80%	100%	100%	100%	100%
Mozambique	24	23	1	100%	100%	100%	0%	100%	58%	75%	38%	13%	100%	100%	100%	0%
Oman	12	8	4	50%	83%	100%	25%	100%	25%	25%	25%	25%	100%	50%	50%	17%
Philippines	55	0	55	4%	100%	7%	0%	4%	0%	0%	0%	0%	100%	4%	0%	0%
Seychelles	87	23	64	100%	100%	100%	66%	100%	92%	89%	54%	77%	100%	99%	99%	82%

CPCs	No. vessels	<24	24+	IMO No.	IRCS	GT	Volume (m3)	Authorized To	Images				Owner Details	Operator Details	Beneficial Owner Details	Company Details
									Starboard	Port	Bow	Markings				
South Africa	33	21	12	89%	100%	100%	0%	100%	0%	0%	0%	0%	100%	100%	0%	0%
Sri Lanka	2300	2277	23	2%	83%	100%	48%	100%	11%	11%	12%	6%	100%	65%	56%	54%
Tanzania	3	0	3	100%	100%	100%	67%	100%	100%	100%	33%	100%	100%	100%	100%	33%
Thailand	8	0	8	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	38%	0%
Liberia	12	0	12	92%	100%	100%	0%	100%	17%	8%	8%	17%	50%	75%	0%	0%
Total	6068	4018	2050	29%	72%	99%	27%	77%	21%	20%	18%	14%	100%	76%	46%	40%

Note₁: data fields with 100% completeness , are excluded from this table.

Note₂: In accordance to Resolution 19/04, CPCs should provide details about owners, operators and beneficial owners that include name and address. Similarly, in respect of the company, the Resolution establishes that in addition to name and address, the company registration number should also be provided. The percentages above are for vessel records complying with all respective details for owners, operators, beneficial owners and companies.

Table 2. Data completeness levels for all vessel records in the RAV in respect to applicable requirements at the moment of their submission

CPCs	No. vessels	<24	24+	FV	CV	IMO No.	IRCS	GT	V _{Hold} (m ³)	Auth. To	Images				Owner Details	Operator Details	Beneficial owner details	Company Details
											Starboard	Port	Bow	Markings				
Australia	62	48	14	62	0	100%	97%	98%	92%	100%	32%	27%	15%	8%	100%	100%	100%	100%
China	133	0	133	127	6	100%	99%	100%	78%	92%	95%	91%	73%	52%	100%	90%	80%	80%
European Union	115	21	94	110	5	100%	100%	100%	71%	100%	89%	89%	77%	21%	100%	100%	100%	98%
<i>France</i>	<i>36</i>	<i>20</i>	<i>16</i>	<i>36</i>	<i>0</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>88%</i>	<i>100%</i>	<i>97%</i>	<i>97%</i>	<i>47%</i>	<i>59%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>94%</i>
<i>Italy</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Lithuania</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>0</i>	<i>3</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Portugal</i>	<i>20</i>	<i>1</i>	<i>19</i>	<i>20</i>	<i>0</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Netherlands</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>N.A.</i>	<i>100%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>0%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Spain</i>	<i>54</i>	<i>0</i>	<i>54</i>	<i>53</i>	<i>1</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>30%</i>	<i>100%</i>	<i>80%</i>	<i>81%</i>	<i>85%</i>	<i>7%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
India	4	0	4	4	0	100%	100%	0%	100%	0%	100%	75%	100%	100%	100%	100%	100%	100%
Indonesia	565	160	405	565	0	85%	99%	99%	85%	100%	85%	85%	84%	83%	100%	96%	92%	45%
Iran	1311	815	496	1310	1	2%	1%	100%	N.A.	0%	0%	0%	0%	0%	100%	100%	0%	0%
Japan	184	0	184	183	1	100%	100%	97%	44%	100%	45%	45%	42%	33%	100%	100%	13%	1%
Kenya	6	0	6	6	0	100%	100%	100%	0%	100%	50%	17%	50%	133%	100%	100%	100%	67%
Korea, Republic of	86	0	86	74	12	100%	100%	100%	58%	100%	78%	46%	17%	2%	100%	100%	90%	90%
Liberia	12	0	12	0	12	92%	100%	100%	0%	100%	17%	8%	8%	1175%	50%	75%	0%	0%
Madagascar	8	8	0	8	0	N.A.	100%	100%	N.A.	100%	N.A.	N.A.	N.A.	N.A.	100%	100%	N.A.	N.A.
Malaysia	20	0	20	20	0	100%	100%	100%	100%	100%	85%	38%	62%	85%	100%	100%	65%	100%
Maldives	1025	614	411	1021	4	1%	100%	100%	0%	100%	18%	20%	14%	6%	100%	49%	56%	55%
Mauritius	15	0	15	15	0	93%	100%	100%	93%	100%	80%	87%	53%	80%	100%	100%	100%	100%
Mozambique	24	23	1	24	0	100%	100%	100%	0%	100%	58%	75%	38%	13%	100%	100%	100%	0%
Oman	12	8	4	12	0	50%	100%	100%	75%	100%	43%	43%	43%	43%	100%	50%	86%	29%
Philippines	55	0	55	55	0	67%	100%	7%	N.A.	50%	N.A.	N.A.	N.A.	N.A.	100%	4%	N.A.	N.A.
Seychelles	87	23	64	87	0	100%	100%	100%	80%	100%	93%	93%	53%	79%	100%	99%	99%	82%
South Africa	33	21	12	33	0	86%	100%	100%	N.A.	100%	N.A.	N.A.	N.A.	N.A.	100%	100%	N.A.	N.A.
Sri Lanka	2300	2277	23	2300	0	2%	83%	100%	89%	100%	16%	16%	18%	0%	100%	65%	56%	54%
Tanzania	3	0	3	3	0	100%	100%	100%	67%	100%	100%	100%	0%	100%	100%	100%	100%	33%

CPCs	No. vessels	<24	24+	FV	CV	IMO No.	IRCS	GT	V _{Hold} (m ³)	Auth. To	Images				Owner Details	Operator Details	Beneficial owner details	Company Details
											Starboard	Port	Bow	Markings				
Thailand	8	0	8	3	5	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	38%	0%	
Total	6068	4018	2050	6022	46	37%	72%	99%	72%	78%	38%	37%	33%	24%	100%	76%	62%	54%

Note₁: data fields with 100% completeness, are excluded from this table.

Note₂: In accordance to Resolution 19/04, CPCs should provide details about owners, operators and beneficial owners that include name and address. Similarly, in respect of the company, the Resolution establishes that in addition to name and address, the company registration number should also be provided. The percentages above are for vessel records complying with all respective details for owners, operators, beneficial owners and companies.