

# TUNA RFMO AUTHORISED VESSEL LISTS: A Comparative Analysis to Identify Best Practices



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# Abstract

Authorised vessel lists are a fundamental part of any fisheries management system. They create a positive or white list of vessels that have been permitted by their flag State to be operating in that RFMO and for species under the RFMO's remit. The measures implemented by the RFMOs to create the authorised vessel list are designed to strengthen the flag State's exercise of its responsibility of for all vessels flying its flag, thereby supporting the basic tenet of international fisheries law — that is, flag State primacy.

Given the global nature of the industrialised tuna fishing fleet, RFMOs must expand the application of the measure such that it includes all vessels involved in tuna fisheries. Furthermore, it would be advantageous to harmonise the measures and to review the data fields to ensure that they are fit for purpose and an effective tool for undertaking monitoring, control and surveillance (MCS) by both on-water and aerial surveillance assets. One measure, for example, could be to require a recent colour photograph of the vessel. It is also important to ensure that Secretariats are empowered to remove any IUU-listed vessel and any vessel that does not have a complete set of minimum data fields. Steps to strengthen the authorised vessel list must also be integrated with other MCS and management measures to ensure that the entire management system operates efficiently.

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ISSF is a global coalition of scientists, the tuna industry and World Wildlife Fund (WWF) — the world's leading conservation organization — promoting science-based initiatives for the long-term conservation and sustainable use of tuna stocks, reducing bycatch and promoting ecosystem health. Helping global tuna fisheries meet sustainability criteria to achieve the Marine Stewardship Council certification standard — without conditions — is ISSF's ultimate objective. ISSF receives financial support from charitable foundations and industry sources.

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# Executive Summary

The International Seafood Sustainability Foundation (ISSF) commissioned the original review of tuna Regional Fisheries Management Organisations (t-RFMOs) authorised and active vessel lists in 2015 to provide analysis to inform the development of best practices in relation to this important monitoring, control and surveillance (MCS) tool. This updated version takes into account the latest versions of all five t-RFMO measures. Overall, the findings and recommendations in this version are not dissimilar to the original text.

The review finds that the purpose of the t-RFMO authorised vessels lists is primarily related to the creation of a positive list of vessels that are permitted to fish in the specific treaty area and for species covered by the treaty. In essence, the purpose of the authorised vessel list is to limit entry into the fishery to the vessels listed on the Authorised Vessel List. However, since the lists are not 'closed', they cannot, at this stage, be considered to be 'limiting the entry' into the fishery. Limited entry provides one of the most basic approaches to fisheries management.

Furthermore, although the purpose of the lists is to provide a positive list of authorised vessels, the review finds that not all authorised vessels flagged to RFMOs are required to be listed on the authorised vessel list, thereby limiting the utility of the measure as a positive list of vessels operating in the fisheries and therefore as a tool supporting monitoring, control and surveillance (MCS) and combatting illegal, unreported, and unregulated fishing (IUU). For example, the authorised vessel lists provide for the listing of specific sizes and types of vessels, and/or for vessels operating solely on the high seas. The result is that, although these vessels are legally operating by being flagged to a member of the RFMO, there are a range of vessels that are not required to be listed as being 'authorised' by the RFMO, whether public or not.

The review finds that the data requirements outlined in the t-RFMO authorised vessel list conservation measures are largely consistent. However, greater harmonisation of these data requirements by the t-RFMOs for their authorised vessel lists is likely to further support MCS activities, including in the identification of IUU fishing activities, both within a single region and globally. The review also suggests that the data requirements for the authorised vessel list should be fit for purpose — that they match the data required to achieve the purpose of the measure. For example, if the measure is for MCS purposes, then there is utility in requiring a recent colour photograph of the vessel from various angles and indicating the reason a vessel has been previously deleted from other authorised vessel lists.

The review considers merit in implementing an active vessel list, including enhancing its functionality or, where applicable, introducing a measure creating an active vessel list to enable verification of fleet capacity and monitoring the use of vessels listed on the list of authorised vessels. For t-RFMOs that have implemented an active vessel list, they have a secondary way to verify the compliance of members. In addition, those RFMOs use the active list to manage overall fishing capacity.

## Key Findings:

- 1 Not all tuna RFMO vessels are included on the relevant RFMO authorised vessel list.**
- 2 The data requirements must be reviewed to ensure that they are fit for purpose.**
- 3 Modifications to the list must include the reason for any previous deletions from other authorised vessel lists.**
- 4 An active vessel list may enable verification of fleet capacity and monitoring of a vessel's activity against reports received by the flag State.**

## Research Questions

These self-reflection questions are for readers to begin to examine how aspects of our recommendations may help to improve their work. The questions are not intended to be comprehensive or represent every recommendation in the agenda, but offer sample questions to inspire thinking about the gaps or strengths of the readers' work and where users of this agenda can expand efforts for more integrative resilience research and practice.

- **What is the purpose of the authorised vessel list?** Is it for science, including stock assessment, or MCS purposes? What information requirements need to be collected and reported by the flag State through their implementation of the measure?
- **Are the data requirements of the measure fit for purpose?** Are the information requirements in the measure fit for purpose? How can the data collected support real-time MCS activities? Are there other tools that should be included to ensure that there is sufficient information for each vessel on the authorised vessel list, e.g. recent colour photographs? Can all the relevant actors, beneficial owner, operator, and master be identified with the data available?
- **How can the authorised vessel list further support efforts to combat IUU fishing?** What should be included in databases accessed by MCS assets? What information needs to be publicly available to enable rapid identification of serial IUU offenders and/or flags of convenience?
- **Are there other functions for the authorised vessel list to support fisheries management?** Should the authorised vessel list move toward a closed registry of vessels authorised by the RFMO, thereby limiting the entry to the fishery?

# Authorised and Active Vessel Lists: An Overview

The 'authorised' and 'active' vessel lists of t-RFMOs underpin the legal operation of fishing vessels. The basic tenet of international fisheries law resides with the flag State. Given this, through implementing an authorised vessels list, for vessels included on the list, an RFMO is strengthening a flag State's ability to exercise its duties and responsibilities for all vessels flying its flag. Lodge et al (2007) highlights that vessel registrations are a fundamental tool from controlling the activities of vessels.

The 'Authorised' vessel list creates a positive list, or 'white list', of vessels that are permitted to fish in the respective RFMO convention area for species under the purview of the treaty. Critically, any vessel meeting the requirements for inclusion but not included on the relevant RFMO authorised vessel list is deemed to be unauthorised to fish for, retain onboard, transship, or land the species covered by the treaty. The authorised vessel list falls short of being a limited entry tool for the RFMO, though, as the authorised vessel list is generally not a closed list of vessels, and flag States are able to include as many vessels as they want for inclusion on the authorised vessel list.

In contrast, the 'Active' vessel list enables verification and/or cross-referencing of those vessels that were authorised to fish against those that conducted fishing activities in a given time frame, generally the previous 12 months. Together, the authorised and active fishing vessel lists provide a range of tools for both the flag State and the t-RFMO members. For example, these lists enable identification of unauthorised vessels fishing in the relevant RFMO treaty area. They also enable the cross-referencing of fishing effort or capacity against any previously agreed baseline in other conservation measures.

Unfortunately, the requirements of these lists are not applied consistently between the t-RFMOs, due in part to the differences in the objectives, purposes and uses of the lists. There are also fundamental differences in relation to the application of the authorised vessel list measures between the t-RFMOs. Specifically, there are differences related to certain vessel sizes, types and/or area of operation. This creates significant gaps in the ability of the lists to effectively monitor legal activities from illegal or unauthorised activities.

Another key aspect of the authorised vessel list that has previously been identified is the different forms of the data, many of which are not compatible. This has resulted in significant gaps that have continued to provide an enabling environment for unscrupulous operators to exploit, for example, through the use of flags of convenience — a well-known tactic of IUU operators. The international fisheries community continues to work toward remedying these gaps, including through the Consolidated List of Authorized Fishing Vessels, through the use of mandatory IMO numbers, and through civic organisation activities including the Oversea Ocean Monitor program (previously Project Eyes on the Sea) and the Global Fishing Watch. But despite the many reviews of authorised vessel lists highlighting the likely enhanced utility and benefits available to managers from the uniform authorised lists — including to combat IUU fishing — there is still work to be done at the t-RFMO level.

This technical paper reviews the CCSBT, IATTC, ICCAT, IOTC and WCPFC measures establishing authorised vessels lists and the relationship with any active vessel lists in each of these t-RFMOs (Table 1). Following the comparative analysis, recommendations and best practices for t-RFMO authorised vessel list measures have been identified. This paper is not an analysis of how the t-RFMOs are actually implementing their authorised vessel list measures, nor the degree to which RFMO members are complying with these measures, but simply of the authorised vessel list measures themselves.

Table 1: Applicable measures establishing the authorised vessel list for each t-RFMO

<p>CCSBT – <a href="http://ccsbt.org">ccsbt.org</a></p>	<p><b>Authorised Vessel Lists:</b>  <b>Resolution on a CCSBT Record of Vessels Authorised to Fish for Southern Bluefin Tuna</b>  Resolution on Establishing a Program for Transshipment by Large-Scale Fishing Vessels – carrier vessels   <b>Authorised Vessel List:</b> nil</p>
<p>IATTC – <a href="http://iattc.org">iattc.org</a></p>	<p><b>Authorised Vessel Lists:</b>  Antigua Convention Article XII, para 2(k) and Annex 1  <b>Res 18-06 Regional Vessel Register</b>  Res 12-07 Transshipments  Res 11-05 Establishment of a list of Longline Vessels &gt;24 meters authorised to operate in the EPO   <b>Active Vessel List:</b>  Paragraph 5 of Res 18-06 <u>Regional Vessel Register</u>  Res C-02-03 Capacity Management, in particular paragraphs 5 and 9, including Res C-15-02</p>
<p>ICCAT - <a href="http://iccat.int">iccat.int</a></p>	<p><b>Authorised Vessel Lists:</b>  Rec 08-10 Harmonisation of measurement of vessel length  Rec 09-09 Amending 3 Recommendations consistent with the 2009 Recommendation regarding establishment of an ICCAT record of vessels 20 metres LOA or greater authorised to operate in the CA  Paragraphs 6-11 of Rec 16-15 On a programme for transshipment  Paragraphs 27-29 of Rec 16-05 Mediterranean Swordfish vessels  <b>Rec 13-13 Authorised vessel list with Rec 14-10 Implementation of ICCAT vessel listing requirements</b>  Rec 13-14 Charter vessels  Paragraphs 51-53 of Rec 17-07 Bluefin in the Eastern Atlantic and Mediterranean  Paragraphs 26-31 of Rec 16-01 Multi-annual conservation and management program for tropical tunas  2017 Guidelines for information submission on the ICCAT Record of Vessels   <b>Active Vessel List:</b>  Paragraphs 32-33 of Rec 16-01 Multi-annual conservation and management program for tropical tunas</p>
<p>IOTC – <a href="http://iotc.org">iotc.org</a></p>	<p><b>Authorised Vessel Lists:</b>  Res 14/05 Concerning a Record of Licensed Foreign Fishing Vessels Fishing for IOTC Species in the IOTC Area of Competence and Access Agreement Information  Paras 5-9 of Res 17/06 On Establishing a Programme for Transshipment by Large-scale Fishing Vessels  <b>Res 15/04 Concerning the IOTC record of vessels authorised to operate in the IOTC Area</b>   <b>Active Vessel List:</b>  Res 10/08 Concerning a record of active vessels fishing for tunas and swordfish in the IOTC Area</p>
<p>WCPFC – <a href="http://wcpfc.int">wcpfc.int</a></p>	<p><b>Authorised Vessel Lists:</b>  WCPFC Convention Part V, Article 24, para 4 and 7, Annex IV  CMM 04-03 Marking and identification  CMM 13-04 Unique vessels identifiers  CMM 18-06 Record of fishing vessels and authorisation to fish  CMM 14-03 Standards, Specifications and Procedures for the record of fishing vessels  CMM 16-05 Charter Notification Scheme</p>

	<b>Active Vessel List:</b> Paragraphs 9, 10, 13 and 14 of CMM 17-05 Record of fishing vessels and authorisation to fish
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# Comparison of t-RFMO Authorised Vessel List Measures

Each of the t-RFMOs have adopted measures that create a record of fishing vessels. Each of these vessels on the list must have been duly authorised by a flag State member of the relevant t-RFMO to 1) fish in the t-RFMO area of competence (except CCSBT) and 2) to fish for species covered by the relevant treaty. It is this list of vessels that becomes the RFMO's authorised vessel list. Table 1 provides a list of the measures relevant to this discussion, with the primary measure shown in bold.

The content of the measures has either been negotiated as part of the treaty negotiations themselves, for example, as in IATTC and WCPFC, or in relation to the conservation measure itself, for example, in ICCAT and IOTC. The specific membership of the different t-RFMOs contributes to differences in the adopted conservation measure.

## Purpose of the Authorised Vessel List

Authorising vessels to fish is fundamental for flag State control. It not only forms the primary basis for enforcement of fisheries management decisions and regulations but can also be used to distinguish the rules that apply to specific vessels, and in some instances, e.g., a closed registry, provide a mechanism for limiting the entry into the fishery. In addition, depending of the nature of the data collected, the authorised vessel list may also provide critical information for scientists undertaking fishery stock assessments. For example, scientists can use information on the vessels' characteristics to estimate relative fishing effort which is useful in input-controlled fisheries.

Preambular language of measures establishes the scope of the measures' contents. IATTC, ICCAT and IOTC all reference the Food and Agriculture Organization of the United Nations (FAO) International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing<sup>1</sup>. Both the IATTC and WCPFC cite the relevant sections of their conventions texts, paragraph 2(k) and Annex 1 of the Antigua Convention and Part V of the WCPFC Convention, respectively. Furthermore, the ICCAT measure 13-13 cites the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas<sup>2</sup> (FAO Compliance Agreement). CCSBT alone refers to its IUU Listing measure and a need to take a comprehensive approach to combatting IUU fishing plus the need to overcome technical aspects of import States.

Although none of the t-RFMO measures explicitly articulate a purpose in the body of the measures, it is evident from the preambular language that each of the t-RFMOs have established their respective authorised vessels lists for

***Authorised vessel lists are the primary and fundamental tool for the control of a vessel activities.***

management, enforcement and compliance purposes and to aid in the identification of IUU fishing. That is, they have created a positive list of vessels that are permitted to be in the respective treaty area and fishing for species under the remit of that RFMO.

There are two further reasons for closely considering the purpose, or objective, of creating authorised vessel lists.

One, it relates directly to the scope and type of data collected and reported by flag States regarding their authorised vessels. Second, it relates directly to the type of vessels that are to be included on an RFMO's vessel record, which is

<sup>1</sup> Food and Agricultural Organisation of the United Nations (2001). *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*. Rome, Food and Agriculture Organization of the United Nations.

<sup>2</sup> Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas opened for signature 24 November 1993, entered into force 24 April 2003.

directly related to the definitions of key terms including in particular ‘fishing’. Each of these aspects is considered in turn below.

Minimum data collection requirements for vessels are outlined in two international treaties:

- (1) The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and management of Straddling Fish Stocks and Highly Migratory Fish Stocks<sup>3</sup> (UNFSA), and
- (2) The FAO High Seas Fishing Compliance Agreement.

The data requirements of these treaties are not the same. Article 4 of Annex 1 of UNFSA (Standard Requirements for the Collection and Sharing of Data) specifies the type of vessel data and information to be collected to enable standardisation between fleets regarding fishing power and for converting effort into a comparable unit. In contrast, the suggested data collection identified in Article IV, paragraphs 1-5, of the FAO High Seas Fishing Compliance Agreement is for the sole purpose of promoting compliance among States. The differences between the suggested data requirements of these two overarching frameworks, together with the summary of the data collection and reporting requirements of each of the five t-RFMOs, is provided in Table 4.

The second key point related to the relationship is between the authorised vessel list purpose and the definition of key terms. There is no uniformity in the definitions of terms such as ‘fishing’, ‘fishing vessel’, ‘fisheries support activities’ and ‘transshipment’. If, for example, there is a broad definition of ‘fishing vessel’ as is the case in the CCSBT, IATTC and WCPFC, then the authorised vessel list automatically applies to any vessel that is ‘...used or intended for use for the purpose of fishing, including support ships, carrier vessels and any other vessel directly involved in such fishing operations’ (Article (1)(e) of the WCPFC Convention). However, not all t-RFMOs have broad definitions: neither ICCAT nor IOTC have defined ‘fishing vessel’ in their treaties, nor the other terms listed above.

It is essential that t-RFMOs, together with their non-tuna RFMO counterparts, adopt **standard definitions for ‘fishing’, ‘fishing vessel’, ‘support’ or ‘supply vessel’, ‘transshipment’** (and possibly other terms) and that these terms be as inclusive as possible to support scientific analysis and improve MCS activities. The FAO definitions (or alternative agreed definitions) should be used and must be consistent with other international treaties. Suggested definitions are provided below:

- **‘fishing’** should include all activities including searching for, attracting, locating, catching, taking or harvesting of fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting fish;
- **‘fishing vessel’** would be any vessel, gears and/or craft used or intended for use for the purpose(s) of undertaking commercial fishing or fisheries related activities as defined above, including FADs, helicopters, etc;
- **‘fisheries support activities’** should be defined as relating to any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping, transporting of fish, or fish products, that have not been previously landed at a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea;

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<sup>3</sup> Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Seas of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, (1995), opened for signature 4 August 1995, United Nations Treaty Series 88 entered into force 11 December 2001.

- **‘transshipment’** should include any activity that enables a fishing vessel to remain at-sea and/or away from its home port or facilitating fishing operations including, but not limited to, the loading, transfer or offloading, of fish, fish products, supplies, fuel, machinery, FADs, or crew in-port or at-sea.

## Application of the Measure

Each t-RFMO has unique rules regarding the vessels that are to be included in the Record of Fishing Vessels. Key differences between the t-RFMOs relate to a specifying the size of the vessel (e.g., 20 metres length overall (LOA) in ICCAT), the spatial area (e.g., in WCPFC it does not apply to vessels operating exclusively inside their flag’s EEZ), or in the case of the IOTC, a combination of both a size and spatial restrictions, and the type (e.g., fishing vessel, carrier vessel, etc.). A summary of the application of each of the t-RFMO measures is provided in Table 3.

CCSBT revised its original measure in 2015 such that now members are to provide a list of all vessels authorised to fish for Southern Bluefin tuna. The CCSBT Convention defines "fishing" as meaning: "(i) the catching, taking or harvesting of fish, or any other activity which can reasonably be expected to result in the catching, taking or harvesting of fish; or (ii) any operation at sea in preparation for or in direct support of any activity described in sub-paragraph (i) above (Article 2(b)). Paragraph 2 of the measure clearly articulates that vessels not included on the CCSBT Authorised vessel list are not authorised to fish for, retain, transship or land SBT irrespective of their size. The CCBST transshipment measure specifically provides the mechanism for the authorisation of carrier vessel, although given the broad definition of ‘fishing’ it could be argued that the primary measure provides for the authorisation of carrier, supply and/or support vessels working with CCSBT fishing vessels.

In its primary measure (Rec. 13-13), ICCAT has implemented a size threshold of 20 metres LOA or greater such that only to large-scale fishing vessels operating in the Convention Area (that is, in the Atlantic Ocean and adjacent seas) are included in the record. Although Rec. 13-13 does stipulate that any vessel not in the record is not authorised to fish for, retain, transship or land tuna species, there is no definition of fishing vessel in the Convention, which may generate confusion as to the extent of the measures application to vessels less than 20 metres LOA. A further nine measures have been adopted by ICCAT to take account of the specific management arrangements for certain activities or species. These are Recommendations: 2013-14 for authorised charter vessels; 2016-01 for vessels fishing for tropical tunas; 2016-03 and 04 for vessels fishing for swordfish; 2016-06 and 07 for vessels fishing for albacore; and 2016-15 for authorisation of carrier vessels. Each of these measures make specific rules governing the authorisation of these vessels. Of note is that Recommendation 2017-07 for Atlantic Bluefin has implemented a broad definition of fishing vessels that includes vessels involved in the catching, processing, support, towing, transshipment and transport of Atlantic Bluefin tuna (paragraph 2(a)). To the author’s mind, it would be far simpler to have an overarching definition of what constitutes a fishing vessel, thereby capturing all relevant fishing vessels and enabling any specific authorisations to be displayed on a single searchable database.

IOTC’s measure (Res. 15-04) requires all vessels greater than 24 meters LOA in the Agreement Area (high seas and adjacent EEZs), plus all vessels less than 24 meters LOA that operate on the high seas, to be included on the IOTC authorised vessel list. The IOTC’s measure implements both a size and spatial exclusion. The authorised vessel list is restricted to all vessels on the high seas and only those vessels 24 meters and greater that operate in their flags EEZ. This means that there are thousands of small scale fishing vessels operating inside their flag EEZs, which is part of the Agreement area, that are not included on the IOTC authorised vessel list. The IOTC measure excludes many large-scale vessels that are just shorter than 24 meters LOA but operating on the high seas and within EEZs from the list. Of note is that the IOTC Resolution 15-04 provides a definition of ‘fishing vessels’, which includes auxiliary, supply and support vessels (paragraph 1), but that this only applies for the purpose this measure. Noting that artisanal vessels are not likely

to ever be included, it is still essential that the authorised vessel list captures all of the industrial and as much of the small scale commercial fleet as possible for both effective MCS and fisheries management.

As noted earlier, IATTC and WCPFC have broad definitions of vessel and fishing vessel, respectively. In practice all fishing, carrier, supply, and any other vessel involved in fishing operations are required to be included on the record of vessels. Although the definition of a fishing vessel is broadest in the WCPFC, this RFMO's Record of Fishing Vessels and Authorisations to Fish only applies to the high seas areas; members are required to maintain, but not report, a list of vessels authorised to operate solely within their flag EEZ. This is not the case of IATTC, where paragraph 1 of the measure requires that the Director maintain a list of vessels authorised in the Convention Area, which includes the EEZs inside 50N-50S and to 150W, meaning that IATTC has no spatial distinction. The approach taken by the WCPFC, while retaining the coastal State jurisdiction, is far less transparent than that of the IATTC approach and may have ramifications for both the MCS and scientific aspects of the fisheries management.

In summary, the ICCAT, IOTC and WCPFC authorised fishing vessels lists are incomplete. Not all vessels authorised to operate in the relevant RFMO's area of competence are included on that RFMO's authorised fishing vessels list (Table 2). The CCSBT and the IATTC measures appear to provide the most comprehensive list of vessels operating under the respective treaties. Both CCBST and IATTC require that members and cooperating non-contracting parties provide a list of all fishing vessels authorised to fish for SBT or IATTC species, respectively, and in the case of IATTC, within its area of competence. WCPFC provides for all vessels authorised to operate on the high seas and has a broader definition of fishing vessel than IATTC, ICCAT and IOTC, but it does not require any reporting of any vessels authorised to operate in its own flag EEZ. ICCAT and IOTC both have a number of applicable measures that create authorised vessels lists for specific types and sizes of vessels, but vessels less than 20 and 24 metres, respectively, are not included in list (Table 3).

Table 2: Applicable measures creating authorised vessel lists for different types of vessels.

<b>Vessel Type</b>	<b>CCSBT</b>	<b>IATTC</b>	<b>ICCAT</b>	<b>IOTC</b>	<b>WCPFC</b>
<b>Fishing</b>	Res. Record of Vessels Authorised to fish for SBT	Res. C-18-06 Res. C-11-05 for large-scale longline vessels	Rec. 13-13 Rec. 16-05 for Swordfish Rec. 17-07 for Atlantic Bluefin Rec. 16-01 for tropical tunas	Res. 15-04 Res. 14-05 for foreign fishing vessels Res. 10-08 active fishing for tuna and swordfish	CMM 18-06, CMM 04-03, CMM 14-03, applies to all vessel types
<b>Carrier / Transshipment</b>	Res. Establishing a Program for Transshipment by Large Scale Fishing Vessels	Res. C-14-01 Res. C-12-07	Rec. 16-15	Res. 17-06	
<b>Support / Supply</b>	Res. Establishing a Program for Transshipment by Large Scale Fishing Vessels	Res. C-14-01	Possibly through Rec 13-13	Res. 01-04 Res. 14-06	
<b>Charter / Foreign Flagged</b>	nil	Res. C-14-01	Rec. 13-14	Res. 14-05	CMM 16-05

All t-RFMOs stipulate that vessels not entered into the respective authorised vessel list are deemed unauthorised to fish for, retain onboard, transship, or land tuna and tuna-like species. This correlates directly to the identification of vessels as engaging in IUU fishing<sup>4</sup>. The WCPFC record of fishing vessels measure makes this very clear: (a) that it is the responsibility of the flag State to ensure its vessels are included on the WCPFC Record of Fishing, (b) that it must be done consistent with the requirements of the measure, (c) that any vessel found fishing that is not on the record is deemed to be not authorised to fish, etc, in the WCPFC area of competence, and (d) that such vessels shall be eligible to be considered for IUU listing (paragraph 17). Likewise, CCSBT highlights that flag States shall ensure that their vessels do not carry out IUU fishing, and that they take every possible action to prevent, deter and eliminate IUU fishing. But the measure does not go as far as to link unauthorised vessels with inclusion on the IUU fishing list. In contrast, other t-RFMOs only make this reference in the IUU vessel listing measure, but not in the record of fishing vessels measures themselves. Again, if the intention of the authorised vessels list is to create a positive list of vessels authorised to be fishing for highly migratory species (and/or species specific to the convention) in the treaty area, then it would be best to expand the application of the measure to include all vessels authorised irrespective of vessel type or size.

<sup>4</sup> The definition of IUU fishing is taken from the IPOA – IUU and reproduced at Appendix 1.

In relation to the area of application of the measures, it is important to understand which vessels are authorised to fish but that are operating solely within their own flag EEZ, and that such flag States be required to, at minimum, maintain a list of all authorised vessels operating solely within the EEZ, but ideally that this is also reported to the t-RFMO. Although that this could be difficult for some coastal States with a large small-scale fishing fleets, it must also be noted that to effectively manage fishing capacity, fishing effort and catch, it is imperative to have a clear understanding of the potential fishing mortality being applied to the stock from these fleets. To facilitate the expansion of the authorised vessel list to all vessels permitted to fish for highly migratory fisheries resources, including small-scale vessels, t-RFMOs may consider the utility of requiring minimum data fields for all vessels (national vessels, chartered and /or joint venture vessels) that are 1) permitted by flag State members to conduct fishing and support activities on the high seas; and 2) authorised/permitted to conduct fishing activities for species covered by the relevant t-RFMO wholly within their flag State's exclusive economic zone (EEZ) and/or archipelagic waters.

One grey issue is the inclusion of non-t-RFMO member vessels and non-cooperating non-members on a t-RFMOs authorised vessel list. The freedom of the high seas enables any flag State to fish on the high seas, but only members and cooperating non-contracting parties are bound by the decisions of the t-RFMO. In addition, those parties to LOSC and UNFSA are also duty bound to either join the relevant RFMO or cooperate with the rules of these organisations and not undermine the conservation and management of the relevant fisheries' resources. Each of the t-RFMOs measures calls for the inclusion of vessels under the flag of members and cooperating non-contracting parties; listing of non-cooperating non-members is not permissible. But there are many States that are not party to the LOSC, UNFSA or to the relevant RFMOs but can still fish on the high seas. Given this, it is even more essential that the t-RFMO's authorised vessel list is complete and includes all authorised vessels, particularly for the high seas.

Table 3: Comparison of the primary measure creating the authorised vessel list for the four t-RFMOs.

<p><b>CCSBT</b></p>	<p>General application:  <b>All vessels</b> (including support, carrier, and other vessels directly involved in fishing) authorised by a <b>contracting party, Member of the extended Commission or cooperating non-member</b> who are authorised to fish for SBT.  Restrictions:  The authorised vessel list <b>applies to all vessels authorised to fish in both EEZs and high seas</b>. That is, there are no vessel size or spatial restrictions.  Other Measures:  The general application applies <i>mutatis mutandis</i>,  <b>Res. Establishing a Program for Transshipment by Large-Scale Fishing Vessels</b> which creates the list of authorised carrier vessels.</p>
<p><b>IATTC</b></p>	<p>General application:  <b>All vessels</b> (including support, carrier, and other vessels directly involved in fishing) authorised by a <b>contracting party or cooperating non-contracting party</b> who are authorised to fish for tuna and tuna like species (as identified in Annex I of LOSC) in the IATTC Area of Competence (eastern Pacific Ocean).  Restrictions:  The authorised vessel list <b>applies to all vessels authorised to fish in both EEZs and high seas</b>. That is, there are no vessel size or spatial restrictions.  Other Measures:  The general application applies <i>mutatis mutandis</i>,  <b>CMM 11-05</b> create specific lists of longline vessels greater than 24 metres.  <b>CMM 12-07</b> outlines the requirements for the listing of all authorised carrier vessels.</p>
<p><b>ICCAT</b></p>	<p>General application:  All vessels <b>20m LOA or greater</b> authorised to fish for tuna and tuna like species (as defined in Annex I of LOSC) in the ICCAT Area of Competence (HS and EEZ).  Restrictions:  The authorised vessel list <b>does not apply to vessels less than 20 meters</b>. That is, there are vessel size restrictions – only applicable to vessels 20m LOA or greater.  <b>Flagged to a member or cooperating non-member</b> – there is no explicit reference to a requirement to be flagged to a contracting and/or cooperating non-contracting party, however this is implied.  Other Measures:  The general application applies <i>mutatis mutandis</i>, except for:  <b>Rec 2017-07 on Eastern Atlantic and Mediterranean Bluefin</b> tuna requires that the Commission maintain a record of all catching and all other fishing vessels (irrespective of size) authorised to fish actively or operate respectively for bluefin tuna in the eastern Atlantic and Mediterranean Sea.  <b>Rec 2016-05 on Mediterranean Swordfish</b> requires a record of all catching vessels authorized to fish actively for swordfish be reported by the 15<sup>th</sup> January annually.</p>

<b>IOTC</b>	<p>General application: All vessels (fishing, auxiliary, support and supply) <b>24 meters and greater and vessels less than 24 meters if fishing outside their own flag State's waters</b>, flagged to a member or cooperating non-member, <b>authorised to fish for tuna and tuna-like species</b> (as defined by Annex I of LOSC) in the IOTC Area of Competence (HS and EEZ).</p> <p>Restrictions: The authorised vessel list <b>does not apply to vessels less than 24 meters operating inside their flag EEZ</b>. That is, there are restrictions based on vessel size and spatially related to the area of operation – vessels less than 24 meters operating inside their own flags EEZ are not required to be included on the authorised vessel list, but some States include these vessels anyway.</p> <p>Other Measures: <b>CMM 14-05</b> on a <b>record of foreign flagged vessels and access agreements</b> requires the maintenance of a list of all foreign flagged vessels authorised by coastal States or those permitted under access arrangements. <b>CMM 17-06</b> on <b>transshipment by large-scale longline vessels</b> requires the establishment and maintenance of list of authorised carrier vessels authorised to receive tuna, tuna-like species and sharks in the IOTC Convention Area.</p>
<b>WCPFC</b>	<p>General application: <b>All vessels</b> flagged to a member or cooperating non-member and authorised to fish for WCPFC species (as per Annex I LOSC and other defined by the Commission) in the <b>high seas or in another coastal States EEZ</b> of the WCPFC Area of Competence.</p> <p>Restrictions: The WCPFC measure <b>only requires that vessels authorised to fish outside of their flag EEZ be included on the record</b>. That is, an EEZ spatial restriction applies – vessels fishing for highly migratory species solely within their own flags EEZ do not have to be listed on the WCPFC authorised vessel list. However, there is a <b>requirement for the flag State to retain a record of all their flag vessels authorised to fish for highly migratory species within the Convention Area</b> (Part A, paragraph 1(a)).</p> <p>Other Measures: <b>CMM 16-05</b> Charter notification Scheme requires that States entering into charter agreements register all vessels to be identified as chartered.</p>

## Data Requirements in the Primary Authorised Vessel List Measures

Table 4 provides a comparison of the data fields required in each of the t-RFMO primary authorised vessel list measures and also how they relate to the requirements set out in UNFSA and the FAO High Seas Fishing Compliance Agreement. There are 39 individual data fields across the UNFSA, the FAO High Seas Fishing Compliance Agreement and the four t-RFMO authorised vessel list measures.

The comparison highlights that there are **five data fields common to all t-RFMOs and the UNFSA and the FAO High Seas Fishing Compliance Agreement**. These are the: vessel name, vessel length, vessel tonnage (GRT or GT), fishing gear, and the international radio call sign.

There are **seven data field required by at least one of the t-RFMOs** but not required by either the UNFSA or the FAO High Seas Fishing Compliance Agreement. Note that not all of these requirements are required by all of the t-RFMOs.

These are: RFMO registration number, IMO/LR number, reason for deletion from the list, nationality of the master, photo of the vessel, nature of the authorisation, authorisation period (start and end dates).

There are **18 data fields that are required by two or more t-RFMOs, and one of either the UNFSA or FAO High Seas Fishing Compliance Agreement**. Particularly, with respect of the t-RFMOs, the requirement of these additional data fields has been agreed at the individual treaty level, so not all data fields are required by all of the t-RFMOs.

- |                                |                              |                                     |
|--------------------------------|------------------------------|-------------------------------------|
| ▪ vessel flag & flag State     | ▪ name of operators / master | ▪ vessel beam                       |
| ▪ national registration number | ▪ address of operator/master | ▪ hold capacity / carrying capacity |
| ▪ previous name                | ▪ the vessel type            | ▪ catch storage method              |
| ▪ previous flag                | ▪ construction material      | ▪ navigation & position fixing aids |
| ▪ names of owners              | ▪ location built             | ▪ communication equipment           |
| ▪ address of owners            | ▪ moulded depth              | ▪ crew size                         |

*There are **some outlying data fields that are only required by a single organisation**. UNFSA suggests disclosure of the construction material and navigation aids of vessels. **WCPFC alone specifies a further seven data fields for its authorised vessel list**. These are not required by either the UNFSA, the FAO High Seas Fishing Compliance Agreement or any of the other three t-RFMOs. WCPFC requires the collection and reporting of the master's nationality, vessel crew size, communication equipment and five data fields related to information on active charter arrangements. In total WCPFC has 36 data fields in its authorised vessel list measure. However, not all WCPFC data fields are minimum data fields that are required to be reported before the vessel can be listed on the WCPFC List of Authorised Vessels. In 2013, the WCPFC amended its measure creating a list of minimum data fields for which data must be provided for the vessel to be included on the authorised vessel list. These minimum data fields are within the existing list of data fields (data fields in Table 4 marked with an asterisk are not included as minimum data fields).*

In contrast to the 36 data fields required by WCPFC, **CCSBT and ICCAT collect data on 17 individual data fields**, but in the case of ICCAT, not all of these data fields are obligatory (some are voluntary data fields) nor are they all made available on the public authorised vessel database. The **IOTC requires 18 data fields** and **IATTC 25 data fields**; as outlined above, they are largely consistent between all four t-RFMOs. However, the number of data fields is not important if the data fields provide sufficient information to meet the intended purpose of the RFMO authorised vessel list.

If, as highlighted above, the purpose of adopting and implementing the authorised vessel list is to enable legal and illegal activities to be distinguished, then it is more important to consider the data required to effectively and efficiently identify vessels using surveillance assets and MCS tools, together with the data considered to be admissible in any legal proceedings. Moreover, the type of monitoring or surveillance asset being used for the MCS may also need to be considered. For example, inclusion of a photo of the vessel would assist most MCS assets to identify the target vessel, but moulded depth is not likely to be useful for MCS from an aerial surveillance asset. The same can be said for data fields on the authorised vessel list for scientific purposes. Careful consideration of the purpose of the authorised vessel list is important as it helps define the data fields for MCS purposes as distinct from those required for scientific purposes. Finally, the other relevant measures identified in Table 2 requires only a subset of the information collected by the primary measure that creates the t-RFMO's authorised vessel list.

Like with other measures, t-RFMOs should review, and amend as required, the data requirements in their authorised vessel list measures. The increasing complexity of tuna management, including measures applicable to certain vessel size classes or

related to spatial and/or temporal areas, and the ongoing prevalence of IUU fishing activities, may require specific data fields to facilitate effective and efficient MCS using a range of surveillance assets, tools and emerging technologies.

For example, it would be advantageous for t-RFMOs to collect and make available to MCS assets more detailed information on the nature of the national authorisation of vessels: does it prescribe a specific time interval for authorisation for specific species or gears? Are there spatial and/or temporal restrictions, or is the vessel permitted to transship at-sea and/or unload in prescribed ports? Notwithstanding flag State responsibility and primacy for the compliance of its vessels, in many instances multi-national MSC assets are being used to monitor the activity of fishing vessels on the high seas. To that end, the following additional data fields are suggested for inclusion in the t-RFMO authorised vessel list measures, as they provide further means for rapid verification by multi-national assets undertaking MCS activities of a vessel's compliance with t-RFMO measures:

- Specific details of the nature of the authorised activities provided under the flag State's authorisation, including any specific restrictions related to species, spatial, temporal or prescribed/prohibited activities (e.g., transshipment);
- Hold capacity and carrying capacity to verify reported landed catches;
- Navigation and position fixing aids to support efforts to identify the vessel;
- Recent (suggested they are within 6-12 months), high-resolution photographs of the vessel from the top, side and stern of the vessel<sup>5</sup>;
- The reasons for all previous deletions from any national or RFMO authorised vessel lists; and
- Where applicable, details of charter and joint venture arrangements, and including historical aspects of such arrangements to enable identified of the beneficial-owner of the vessel, including the name(s) and address(s) of the charterer, operator and the owner, the flag State, start and end dates of the charter. Understanding the details of the charter is essential in terms of understanding who is responsible for maintaining the vessel records.

To combat IUU fishing, it is important to be able to readily identify the beneficial owner of the vessel. Historically there have been cases where unscrupulous fishing vessels either use a flag of convenience or an owner of convenience, for example, the *FV Asian Rex*. In this case, the previous owner was presumed to have conducted IUU activities; however, the new owner was unaware of the ongoing investigation regarding the alleged IUU fishing activities, such that any penalty would have been brought against the new owner rather than against the old owner. In relation to the requirements of the authorised vessel list measures, it is important that this measure works in concert with other MCS measures, particularly the IUU fishing measures. To that end, it would be important to maintain historical information about the vessels ownership and flag, including these arrangements when under charter and/or joint venture or similar arrangement, together with the reasons for the removal/deletion from any national or RFMO authorised vessel list.

Of concern are the issues surrounding the 'authorisation period and/or start and end dates of authorisation'. Some flag States provide open-ended authorisations to vessels rather than specifying specific dates for the period of the authorisation. More effective flag State control and governance of fishing vessels would require a specific authorisation period for each vessel or all vessels in a specific fishery. There have been many instances in t-RFMOs where the vessel's authorisation to fish has expired while the vessel continues to fish. One way to resolve this issue is to mandate the specification of start/end dates for the authorisation to fish and to automatically remove all vessels from the authorised vessel list once the permit to fish has lapsed, as is the case in ICCAT. Unfortunately, in 2016 the IOTC decided to remove

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<sup>5</sup> There have been instances, for example Australian MCS in Antarctica, where crew onboard a vessel were altering the vessels identification information while at sea. Including a range of high resolution photographs from different vessel angles can be used to verify the identity of the vessel. In the Australian example, the previous vessel name was clearly visible beneath the newly painted name on the bow of the vessel.

all end dates from its authorised vessel list without removing the vessels from the list, resulting in a permanent authorisation to fish in the IOTC.

Finally, t-RFMO members may also consider reviewing data fields and classifying each of them regarding their purpose, scientific or related to MCS. In doing so, there may also be opportunities to refine the data requirements or to generate minimum data fields and secondary data fields for each purpose. For example, data fields such as nationality of the master (which may change regularly, generating either onus updates to the database and/or increasing false information for this field), moulded depth, and the date and location where the vessel was built may be considered secondary MSC data, which if available can provide opportunities for verification. Some national authorities have used these data fields historically for MCS and investigative/analytical purposes, and as such, any review and/or refinement of authorised vessel data fields needs to be carefully considered and assessed against a range of considerations.

Table 4: Required data fields for the t-RFMO measures compared with the United Nations Fish Stocks Agreement and the FAO High Seas Compliance Agreement (CA). The numbers represent the data fields from the UNFSA / CA; other fields have been added by specific t-RFMOs.

		UNFSA	CA	CCSBT	IATTC	ICCAT	IOTC	WCPFC
1	Name of fishing vessel	✓	✓	✓	✓	✓	✓	✓
2	Flag of Vessel & flag State	✓	-	✓ <sup>6</sup>	✓ <sup>6</sup>	- <sup>7</sup>	- <sup>7</sup>	✓
3	National registration number	-	✓	✓	✓	✓	✓	✓
	RFMO Registration number <sup>7</sup>	-	-	- <sup>8</sup>	✓	✓	✓	✓
	IMO/LR Number (if eligible)	-	-	✓	✓	✓	✓	✓
4	Previous name (if known)	-	✓	✓	✓	✓	✓	✓
5	Previous flag (if any)	-	✓	✓	✓	✓	✓	✓
	Reason for deletion off other lists	-	-	✓	-	✓	✓	✓*
6	Port of registration	✓	✓	-	✓	-	✓	✓
7	Name of owner(s)	-	✓	✓	✓	✓	✓	✓
8	Address of owner(s)	-	✓	✓	✓	✓	✓	✓
9	Name of operator(s)/ master(s)	-	✓	✓	✓	✓	✓	✓

<sup>6</sup> 'Flag State' is not a requirement of the measure, however, it is collected by virtue of the fact that the flag State provides the list of the vessels, plus the information is provided on the authorised vessel database.

<sup>7</sup> Automatically assigned by the t-RFMO; there may or may not be a specific requirement in the measure for this to be provided.

<sup>8</sup> Not specified: the measure calls for registration number(s) but does not define if this includes an RFMO registration number.

\* Denotes data fields that are not included as minimum data fields. all data fields are required to be provided by the flag State in respect of its vessels authorised to fish on the high seas, WCPFC has differentiated its data requirements to generate a list of minimum requirements for inclusion on the AFV.

10	Address of operator(s)/ master(s)	-	✓	✓	✓	✓	✓	✓
	Nationality of the master	-	-	-	-	-	-	✓*
11	Vessel type	✓	-	✓	✓	✓	✓	✓
12	Construction material	✓	-	-	-	-	-	-
13	Date / year built	✓	✓	-	✓	-	-	✓*
14	Location built	-	✓	-	✓	-	-	✓
15	Vessel length <sup>9</sup>	✓	✓	✓	✓	✓	✓	✓
16	Tonnage (GRT or GT)	✓	✓	✓	✓	✓	✓	✓
17	Moulded depth	-	✓	-	✓	-	-	✓*
18	Vessel beam	-	✓	-	✓	-	-	✓
19	Power of the main engines	✓	✓	-	✓	-	-	✓
20	Hold capacity/ carrying capacity (incl. freezer hold (capacity and number) & the fish hold capacity)	✓	-	-	✓	-	-	✓*
21	Catch storage method (e.g. brine, frozen, etc)	✓	-	-	✓	-	-	✓
22	Fishing gear(s)/ description fishing method(s), incl. type used/ authorisation	✓	✓	✓	✓	✓	✓	✓
23	Navigation aids & position fixing aids	✓	-	-	-	-	-	-
24	Communication equipment: type & number	✓	-	-	-	-	-	✓
25	International radio call sign	✓	✓	✓	✓	✓	✓	✓
26	Crew size	✓	-	-	-	-	-	✓
	Photo of the vessel	-	-	-	✓	-	-	✓
	Nature of the authorisation <sup>10</sup>	-	-	-	-	-	-	✓*
	Authorisation period and/or start & end dates	-	-	✓	-	✓	✓ <sup>11</sup>	✓
	Charter CMM flagged vessel or bunker vessel	-	-	-	-	12	-	✓
	If Chartered, the host CMM	-	-	-	-	-	-	✓
	Name	-	-	-	-	-	-	✓
	Address of charterer	-	-	-	-	-	-	✓
	Start/end dates of charter	-	-	-	-	-	-	✓*

## Modifications to the Authorised Vessel List

All t-RFMO authorised vessel list measures make provisions for modifications to this list, including addition or deletion of vessels and/or amendment to the data originally provided for a specific vessel, for which there are two key elements:

- CCSBT, IATTC, ICCAT, IOTC and WCPFC all **require flag States to provide details of historical deletions from other registries**, which would signify a removal of historical authorisations to fish by the flag State or other flag States. For example, voluntary relinquishment/non-renewing of the licence or that the vessel is no longer entitled to fly the flag of the member. For IATTC, this requirement is not made public but is required as part of the measure (paragraph 4).
- CCSBT, IATTC and IOTC simply require members to **'promptly notify' the Secretariat of any addition, deletion and/or modification to the original list**. IATTC and IOTC do not prescribe a reporting timeframe or whether this should be prior to the commencement of the fishing activity. In comparison, CCSBT provides that the report should be made 'at the time such changes occur'. Likewise, ICCAT requires that these changes are notified 'at the time the changes occur', and they cannot be greater than 30 days prior to the modifications taking effect. WCPFC requires that flag States provide **prior notification of any modifications, additions or deletions of information** regarding its authorised vessels. WCPFC prescribes that any information regarding modification of the authorised vessel list **must be provided a minimum of 72 hours**, but ideally within 15 days, **prior to the commencement of the vessel's fishing activities** (paragraph 7).

Again, if the purpose of the authorised vessel list is for the identification and verification of legal and illegal fishing vessels, then ensuring, at minimum, that all new fishing vessels are entered into the record and any modification to existing records are made prior to the re-commencement of fishing are paramount. Likewise, to effectively fight IUU fishing, understanding the reason for the amendment to the data could indirectly provide intelligence for other flag States about the behaviour of the operator and may provide insights as to the common ownership requirements of some RFMOs' IUU vessel listing measures<sup>13</sup>.

One critical aspect related to the modifications to the data held by the t-RFMO is that only the flag State can modify the data for each vessel flying its flag. This may not be an effective way of facilitating accuracy of data held for each vessel. For example, some vessels spend the majority of the year or years away from their home port, reducing the ability of the flag State to verify the information on the vessel. Importantly, there are alternative mechanisms whereby the vessel's data can be verified and/or updated, such as high-sea boarding and inspection regimes, port monitoring, or using emerging technologies such electronic reporting or electronic monitoring systems, or those being used through Oversea Ocean Monitor application and other similar initiatives. There may be a need to consider alternative regulations to enable the verification, and therefore updating, of a vessel's information by accredited personnel in key port States.

Likewise, if data can be verified using alternative means such as those identified above, then it is equally important that this information is provided directly to both the flag State and to the t-RFMO Secretariat. It is essential that this information is also used to update the t-RFMO authorised vessels list to ensure that the database remains as accurate as possible. To that end, it would be beneficial for t-RFMOs to make provisions for the Executive Secretary (or equivalent role) to

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<sup>9</sup> Length Overall (LOA) used in ICCAT, IOTC & WCPFC. WCPFC also allows other length types, but requires the length type to be specified. The unit of length is not specified in the IATTC measure requirements for flag States to report against.

<sup>10</sup> For example, the authorisation number, permitted species, area of operation, activities, name of the authorising authority.

<sup>11</sup> IOTC recently relinquished the need to specify an end date for the authorisations to fish issued by the flag State.

<sup>12</sup> This information is required under ICCATs Recommendation 13-14 On Vessel Chartering.

<sup>13</sup> See ISSF Technical Report 2014-10: Combating IUU Fishing: Continual Improvement and Best Practices for IUU Vessel Listing Measures in Tuna RFMOs.

either question the flag State regarding the vessel's information or to update the record with the new information accordingly. Furthermore, it would be beneficial for the Secretariat to be empowered with three additional tasks: 1) to query flag States when the minimum data requirements for its vessels are not met, and not commence listing of such vessels until after the minimum data requirements have been provided, and further noting that said vessel is not authorised to operate in the RFMO Area of Competence until so listed; 2) enable the automatic removal of any vessel that is listed on any RFMO IUU vessel list from the t-RFMO authorised vessel list; and 3) automatically include in the draft IUU vessel list any vessel that is removed from the RFMO RFV because it is listed on another RFMO IUU vessel list. To this end, both the ICCAT and WCPFC provide clear precedents enabling the Executive Secretary to automatically remove vessels from the Record of Authorised Vessels. In the ICCAT measure, there is provision for the Executive Secretary to remove any vessel for which the authorisation period has expired (paragraph 3). In 2015 the WCPFC Commission agreed that if the minimum data fields for the authorised vessel list were not complete by 30 June 2016, that the Secretariat is instructed to remove these vessels (paragraph 503 of the 2015 Commission report).

## **Publication of the Authorised Vessel List**

Consistent with their need for transparency, four of the five t-RFMOs specify that the authorised vessel list be publicly available including using electronic means and on the RFMO's website. IATTC does not specify this requirement explicitly but does however provide information on its authorised vessels on its website. Each of the t-RFMOs have two distinct pages regarding authorised vessel information:

- the primary page that provides summary information on vessels on the authorised vessel list, and
- the vessel specific page that provides additional data on each vessel.

For the most part, the information collected in accordance with the data fields listed in the t-RFMO authorised vessel list measure (that is the information provided by the flag State regarding its vessels against the data fields in the measure) is consistent with the information they make publicly available on the authorised vessel list page of their website. However, there is no assessment of the accuracy of this information. There is no way of knowing if there are inaccuracies, mistakes and/or inconsistencies within the t-RFMO vessel records due to either handling mistakes in transferring data, or due to errors with the records held by the flag State authorities or indeed from the vessel itself.

The data fields displayed on each of the t-RFMO websites are largely consistent, albeit it may be on the primary page or on each of the vessel-specific pages. Only minimal data fields for which data are required by the measure are not made publicly available on the website (Table 5). The difference may be related to balancing the confidentiality rules with the need for transparency. It is unclear to the author whether Commission members have access to a greater level of detail regarding individual vessels than what is displayed in on the t-RFMO's website due to the different data access levels under the specific confidentiality rules. However, advice has been received from IOTC that they include all data collected on the public database. This may also be the situation in the other t-RFMOs.

Table 5: Data collected in accordance with the t-RFMOs authorised vessel measure but not shown on the public electronic database.

CCSBT	IATTC	ICCAT	IOTC	WCPFC
Nil – all information shown in the database	Operators name Operators address Catch storage method Photo of the vessel Nature of the Authorisation	Reason for deletion	Reason for deletion IMO number Port of Registration (termed ‘Operating Port’) The last two are available on the downloadable file but not the database)	Operators address

Recognising the highly mobile and global nature of the tuna fishing fleet, it is essential for MCS purposes to be able to effectively and rapidly identify vessels. This includes determining the permissible activities for that vessel (e.g., transshipment) and what species to harvest, as well as any limitations and prohibitions on the vessel’s activities. Although this information can be obtained via the vessel’s flag State authority, near real-time access to this information is more likely to result in faster identification of non-compliance and IUU activities.

Establishing minimum MCS data fields to enable inclusion in the t-RFMO authorised vessel list (rather than currently requiring all data fields irrespective of the role in supporting MCS activities) is likely to enable more effective and efficient vessel identification, thereby enhancing the detection of possible non-compliant and/or IUU activities. Equally, effective MCS requires access to a certain level of data in order to facilitate verification of the vessel’s identity along with the legitimacy of the vessel’s activities and the species retained onboard relative to the permitted activities and/or areas of operation, etc. authorised by the flag State. In essence, the Consolidated List of Authorised Vessels (see below for further information) for the t-RFMOs should become the single location of information for MCS assets to refer to for information regarding the legitimate activities of vessels flagged to the t-RFMO members and cooperating non-contracting parties that are fishing on the high seas or, where relevant, inside EEZs.

It is important that sufficient information from the authorised vessel list is made publicly available so as to facilitate and support the identification of non-compliance and IUU activities. It would be prudent that t-RFMOs undertake a review of what information is made publicly available and provide a rationale for any limitations on this information. The data fields in t-RFMO authorised vessels lists are largely harmonious. Any future refinements regarding the data fields, particularly those related to MCS, should continue to facilitate global action against illegal fishing activities. Further harmonisation of these data fields is likely to support the detection of non-compliance by national, sub-regional and multilateral MCS activities. This is particularly important given the increased sharing of MCS assets between countries or at sub-regional levels for cross-jurisdiction surveillance and compliance activities. It highlights the need for the continued development of a single interactive online vessel database of all authorised vessels permitted to operate in a given area. However, any consolidated list of vessels across t-RFMOs, or globally, would need to be maintained in near real-time for it to be useful. The accuracy of the information in the database would also need to be maintained; currently maintaining the information is the sole responsibility of the flag State, but there is a need to consider utilising other sources of information to verify the accuracy of data held for each vessel. For example, port monitoring by key Port States could provide new pictures and verify the vessel’s hold capacity, and this information could be provided to the flag State and to the t-RFMO for inclusion in the vessel profile.

Work continues on the Consolidated List of Authorised Vessels (CLAV) project funded by the Global Environment Facility, the FAO and in partnership with the IOTC. The CLAV is a searchable online database that includes data on the physical attributes of the vessels that is collected through the t-RFMO authorised vessel lists. It includes vessel data for all five t-RFMOs. In its October 2018 Extended Monthly Report, the CLAV was able to highlight its value. Since its inception in 2015, there have been 5641 vessels removed from the list. These vessels were identified as duplicate records or where there was spurious information. Although it takes time to review the available information and seek clarification from the flag States, there is significant value in this platform. In addition, the CLAV is also highlighting the need for harmonisation of key vessel attributes such as length and tonnage. The report highlights the need to ensure that the flag State reports the vessel's length as Length Overall and tonnage in Gross Tonnage.

The 'Oversea Ocean Monitor', another online platform, uses cutting-edge technology developed under PEW's Project Eyes on the Seas. It combines satellite monitoring and imagery data with other information, such as fishing vessel databases and oceanographic data, to help authorities detect suspicious fishing activity. Unlike the CLAV, the Oversea Ocean Monitor application utilises data from multiple sources, including satellite data, enabling layering of multiple sources of data to monitor and track vessel movements. These are cross-referenced with the fishing vessel database maintained by Trygg Mat Tracking (TMT) that is built on a large number of public and private data sources. The Oversea Ocean Monitor application is also being used to support the 'fingerprinting' of vessels by collecting and verifying the physical attributes of individual vessels, which can then be updated in real-time to the database. New and emerging technologies like this continue to be developed, and it is important that future t-RFMO measures support the use of such technologies for MCS purposes. There is also Global Fishing Watch that utilises data from the Automatic Identification System (AIS) that is collected by satellites and terrestrial receivers to identify apparent fishing behavior based on the movement of vessels over time. Although AIS was established as a collision avoidance tool, is only mandatory on vessels greater than 300 gross tonnes (and therefore may have limited capacity for smaller fishing vessels), and can be easily manipulated, it nevertheless may provide a useful mechanism to cross reference with a vessel's VMS position data and certainly can be used by MCS assets conducting on-water or aerial surveillance.

Overall, there is likely to be benefit in identifying the data fields that provide the greatest support to MCS activities and finding way to facilitate the use of this data by MCS assets in near real-time. A single database of vessel information may be one way to support this outcome as well as harmonising the data fields. Improving and integrating the t-RFMO authorised and active vessel lists supports global action regarding the identification of legal and IUU fishing vessels. Database development and refinement will be ongoing work. But it would be beneficial to link the newly developed databases, such as the CLAV and Eye on the Seas, with the existing databases, for example, Marine Traffic (<http://marinetraffic.com>) and new initiatives such as Global Fishing Watch. It also is beneficial to work in collaboration and partnership with other international organisations, such as the International Maritime Organisation and HIS Fairplay, to further enhance the available data, provide greater detail on the vessels, and cover a greater proportion of the global fishing fleet.

## **Relationship with the t-RFMO Active Vessel Lists**

As previously noted, the authorised vessel list forms a positive register of vessels authorised or permitted to fish for tuna in the area of the specific t-RFMO. In contrast, there is no clear purpose of the 'active vessel list'. In fact, the purpose of the active vessel list differs between the t-RFMOs, as does the meaning of the term 'active' vessel. All t-RFMOs identify if the vessel was active in the RFMO, but not all t-RFMOs have separate or specific measures requiring such information to be reported. The approach taken by each of the t-RFMOs is outlined below.

## CCSBT

There is no additional measure for active vessels in CCSBT; the authorised vessel list measure requires that all vessels have the authorisation period specified. This information is also made publicly available on the CCSBT website. Although this enables an estimation of the number of vessels that are likely to be fishing for SBT, there is no clear way to understand if all, or only some, of the authorised vessels were active in the fishery in any one SBT season. Given that SBT is managed using a total allowable catch, it may not seem as critical. However, an active vessel list would help direct limited MCS resources, both on water and data verification, to those vessels that were actively operating, thereby cross-referencing the reported catches by vessel and flag State.

## IATTC

In the IATTC authorised vessel database, the vessels are identified as being 'authorised to fish' and separately as 'active'. In 2018 IATTC amended its primary Resolution that creates the record of fishing vessels (Resolution 18-06) to provide an explicit requirement for CPCs (members) to identify those vessels it had authorised that actively fished in the previous calendar year (paragraph 5). In addition, IATTC also retains the reference to 'active' vessel in relation to the management of fishing capacity. Under the IATTC Resolution C-02-03 Capacity Management, only members' flagged purse seine vessels, with their capacity, registered prior to 28 June 2002 can be included in the authorised vessel register, thereby forming a definitive positive list of purse seine vessels (paragraph 5). Paragraph 9 of the resolution allows flag States to give prior notification if the vessel will be 'inactive' for that fishing season and if so for that capacity to be substituted by another vessel such that the total capacity for that flag State remains within the predetermined limits. There is no requirement for reporting the active operation of vessels in IATTC, although this information is included in the vessel database.

## ICCAT

There is no specific ICCAT measure that provides for the submission of an active vessel list from members. However, paragraph 32 and 33 of Recommendation 16-01 stipulate that members are to report to the Executive Secretary the list of their flagged commercial fishing vessels that fished for tropical tunas (yellowfin, skipjack and bigeye tunas) by 31 July each year and that this is to be provided to the Compliance Committee for their review.

In relation to the 'active' vessel component of the authorised vessel database, the 'active' component refers to the current status of the vessel, that is, if the vessel is currently authorised to fish in the ICCAT area and for ICCAT species. Other than for tropical tunas, there is no assessment on whether the vessel actually used its authorisation to fish in a given year. For ICCAT, when a vessel is shown as being 'inactive', this means that the vessel is no longer authorised to fish under the ICCAT Convention, but the vessel can be re-activated if the vessel was to be re-authorised by an ICCAT member. Information is retained on all vessels for historical reference.

## IOTC

The IOTC has the most explicit rules pertaining to the 'active vessel list', prescribed in Resolution 10-08 Concerning a Record of Active Vessels Fishing in the IOTC Area of Competence. This resolution requires that flag States submit to the Secretariat by 15 February each year the list of vessels flying their flag that were active, and that used their authorisation to fish for IOTC species in the IOTC area of competence, in the previous year.

The IOTC active vessel list highlights those vessels that used their authorisation (or permit) to fish in the previous year and as such can only provide retrospective information about the vessels that used their authorisation to fish. It provides only a simple confirmation of either 'yes the vessel fished' or 'no the vessel did not fish', rather than making a significant contribution to understanding the nature of the fishing activities in the previous year.

## WCPFC

In WCPFC the notification of a vessel's activity is undertaken through operative paragraphs in the authorised vessel list measure. Paragraph 13 of CMM 2017-05 requires flag States to report whether the vessel (a) fished or (b) did not fish in the Convention area beyond their flag State's EEZ. Like IOTC, the WCPFC active vessel list provides a retrospective list of all vessels that used their authorisation/permit to fish versus those that did not use their authorisation to fish.

## UTILITY OF THE ACTIVE VESSEL LISTS

There are different approaches to the 'active' vessel list among the t-RFMOs. For all t-RFMOs, at least to some extent, the active vessel lists can be used to enable the t-RFMO to measure fishing capacity or catch for CCSBT as there is a clear link between the positive list of vessels (the authorisation vessel list) and if the vessels used their authorisation (whether it was active or in-active). Furthermore, there is potential for the active vessel list, when coupled with other MCS tools such in-port monitoring, observer coverage and/or high seas boarding and inspection, to be used as a retrospective tool to compare a flag State's authorised vessels versus those active in the t-RFMO. This would provide a mechanism to cross-reference the data reported by vessels and flag States. However, this would be an onerous task, and even if it is undertaken it may not generate action by parties.

In ICCAT, with the exception for tropical tuna species, the term 'active' vessel actually refers to the vessel's authorisation or permission to fish in the convention area and for the highly migratory species. As such, in ICCAT the active vessel list forms the positive list of vessels permitted to be fishing, but there is limited ability for ICCAT to make an assessment of fishing capacity.

## Other Issues for Consideration

Another issue of note for this discussion is that, with the exception of WCPFC's 2015 decision, there are **no ramifications for failing to provide all information for all data fields for vessels on the authorised vessel lists**. Like all other measures, as a contracting party to the specific t-RFMO, States are duty bound to implement the mandatory measures in their entirety. Given the importance of these measures as a mechanism to identify vessels on the positive list, it is critical that flag States provide data in accordance with the requirements of the measure. Although t-RFMOs may mark flag States as 'non-compliant' in their compliance assessment processes, the t-RFMOs have yet to implement incentives or punitive measures for flag States that fail to provide data for vessels flying its flag in accordance with the data fields prescribed in the relevant measure(s).

Moreover, a flag State's compliance with the data requirements of the authorised vessel list measure underpins its ability to assert flag State control of its vessels, a fundamental aspect of international fisheries law. There is some review of the compliance with the data requirements of the authorised vessel list in the compliance processes of some t-RFMOs, including providing some information on whether all data fields are provided or not. However, a detailed review of this information during compliance committee discussions, coupled with a clear requirement for flag States to meet the minimum requirements and the authority of the Executive Secretary to not list any vessels that do not meet these requirements, would add valuable rigor and transparency.

Another consideration for this discussion on authorised vessel lists is to **share the authorised vessel list data with non-tuna RFMOs operating in the same geographical location**. Irrespective of the fact that these RFMOs are mandated to manage different species — non-highly migratory straddling stocks and/or discrete high seas stocks — they also authorise vessels to conduct a range of fishing related activities. The issues associated with overlapping geographical mandates has been previously highlighted, but not resolved. Willock and Lack (2006) highlight issues between the vessels authorised by the Commission for the Conservation of Southern Bluefin Tuna, which were operating in the area of competence governed by the Commission for the Conservation of Antarctic Marine Living Resources. More recently, the 2014 IOTC Compliance Committee considered an alleged IUU case of a Cambodian-flagged carrier vessel operating in the IOTC Area of Competence. The vessel was transshipping food and other similar supplies, but it was argued that the activities of the vessel did not constitute transshipment under the IOTC definitions, again highlighting the need for consistent and rigorous definitions of key terms such as 'transshipment', 'fishing' and 'support/supply vessels'. Furthermore, the vessel was not authorised by the IOTC, and the vessel was flagged to Cambodia, which is not a member of either the IOTC or Southern Indian Ocean Fisheries Agreement (SIOFA), which shares, in part, the same geographical area of competence as the IOTC. In the CCSBT case, there was no clear primacy of which had the mandate as between the RFMOs. And in the second case, there was no easy way to verify if the vessel was permitted to operate in SIOFA, as this organisation has not yet established an authorised list of vessels and the vessel was not flagged or owned by a SIOFA party.

The issue of overlapping jurisdiction issues has been raised historically, including by the Ministerial Level Lead Task Force on IUU fishing on the High Seas (2006) and the Recommended Best Practices for RFMOs (Lodge *et al* 2007). These reports recommended the establishment of a global information system for fishing vessels. A single global database of fishing vessels, particularly for fishing vessels operating on the high seas, is likely to support MCS efforts. In light of the current actions in relation to the development of the CLAV for tuna, it would also be beneficial for vessels in non-tuna RFMOs to also be included on a single consolidated online database, for example, a Global Record of Fishing Vessels. Together with the physical attribute data of the vessels, the database could also hold details of the vessel's permits regarding allowable species and spatial restrictions together with permits for transshipment or to act as a carrier vessel for other vessels.

# Recommendations

As a result of this survey of tuna RFMO authorised vessel list measures, recommendations have been developed. There are two groups of recommendations; the first group are recommendations outlining the best practices for RFMO authorised vessel list measures. They seek to improve the existing t-RFMO measures establishing the authorised vessel lists. These best practices are considered essential for the measures and consequently for the effective use of the authorised vessel list within the management framework of the relevant RFMO. The second group of recommendations relates to the integration of the authorised vessel lists within the other t-RFMO measures, for example, related to the IUU fishing Vessel Lists, flag State compliance, etc. Ideally, all of these recommendations are actioned in the long term.

## Recommended Best Practices for Establishing Authorised Vessel Lists

### **Recommendation 1: Define the purpose of the authorised vessel list and the key terms.**

- Clearly articulate the purpose of the authorised vessel list in the measure. For example, “to create a positive/white list of all vessel authorised and fishing for highly migratory species/ tuna and tuna-like species”, using the definition of ‘fishing’ as outlined below.
- Also clearly state that vessels not included on the authorised vessel list are deemed not authorised to engage in fishing and fishing-related support activities inside the RFMO’s area of competence.
- Clearly define key terms related to the purpose of the measure. Key terms that must be defined in the measure include:
  - ‘fishing’ – ‘searching for, attracting, locating, catching, taking or harvesting of fish, or any activities that can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish’;
  - ‘fishing vessel’ – any vessel, gears and/or craft used or intended for use for the purpose(s) of undertaking commercial fishing or fisheries related activities as defined above, including FADs, helicopters, etc;
  - ‘fisheries support activities’ – any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping, transporting of fish, or fish products, that have not been previously landed at a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea;
  - ‘transshipment’ – any activity that enables a fishing vessel to remain at-sea and/or away from its home port or facilitating fishing operations including, but not limited to, the loading, transfer or offloading, of fish, fish products, supplies, fuel, machinery, FADs, or crew in-port or at-sea.

### **Recommendation 2: Ensure the measure applies to all fishing vessels irrespective of size or geographical area of operation.**

- Expand the application of the measure to all fishing vessels flagged to a member or cooperating non-member and authorised to commercially harvest highly migratory species outside of their own flag’s EEZ, that is on the high seas or in one or more coastal State’s waters. All vessels would include all harvesting, carrier, supply and support vessels that conduct work related to fisheries for highly migratory species.
  - For coastal States within the treaty’s area of competence, the measure must require these States to develop and maintain a list of their own flag vessels authorised as above, and that this report be made publicly available either on the t-RFMO website or a national government website.

### **Recommendation 3: Periodically review the authorised vessel list data fields to ensure that they are fit for purpose.**

- Review the information needed to meet the purpose of the measure, as distinct from non-essential information. In undertaking this review, the best practice would be to consult with subject-matter and technical experts, ensure consistency with other international fisheries law, and consider other work being progressed on this issue (e.g., the CLAV).
- Ensure that the measure clearly articulate the format for the data field and a description for all data fields to facilitate harmonised data submissions and compliance by flag States.
- Consider the utility of the following data fields:
  - Details of the nature of the authorised activities, including any specific restrictions related to species, spatial and/or temporal closures or activities (e.g., transshipment);
  - Hold capacity and carrying capacity to verify reported landed catches;
  - Navigation and position fixing aids to support efforts to identify the vessel;
  - Recent high-resolution photographs of the vessel from the top, side and stern of the vessel, suggest recent is within 6 months;
  - The vessel beam and construction material;
  - Require a mandated time period (start/end dates) for the authorisation to fish;
  - Nationality of the master;
  - The date and location where the vessel was built;
  - The reasons for previous deletions from any national or RFMO authorised vessel list, in the previous five years; and
  - If applicable, details of charter and joint venture arrangements and any historical information related to these arrangements, including the name and address of the charterer, operator and the owner, the flag State, start and end dates of the charter.

### **Recommendation 4: Require minimum data for inclusion of the vessel on the authorised vessel list, and authorise the Secretariat to remove any vessel for which the authorisation period has expired or that is on any IUU fishing vessel list.**

- Prioritise the full list of data fields into minimum and secondary requirements and require 100 percent compliance with these minimum standards before a vessel can be included on the authorised vessel list.
- Include the authorisation start and end dates as minimum data fields, and authorise the Secretariat to automatically remove all vessels from the list if the flag State's authorisation to fish has lapsed or expired, and notify the flag State of this action.
- Establish that non-compliance with the minimum data requirements of authorised vessel list measures is a serious compliance breach by a flag State, and ensure such non-compliance is assessed in detail and addressed using incentives followed by punitive measures for flag States that are persistently non-compliant or are non-compliant in consecutive years. Incentives for a first offence could include allowing inclusion on the t-RFMO authorised vessel list and providing additional time to submit the remaining information. Punitive measures for second or ongoing non-

compliance could include not posting on the Record of Authorised Vessels such that the vessel could be considered under the IUU vessel list measure.

**Recommendation 5: Any modifications to the authorised vessel list must be made prior to the vessel commencing fishing, must retain historical information and utilize the best available information.**

- All new vessels added to the authorised vessel list, and any modifications to the existing vessel data, must be made prior to the commencement of activity in the t-RFMO. It is recommended that all modifications are notified 45 days prior to the commencement of fishing.
- The measure must require that flag States describe the reasons for the removing or deleting the vessel from their national registry to facilitate efforts to combat IUU fishing.
- Historical information about the vessel's ownership and flag, including these arrangements when under charter and/or joint venture or similar arrangement, should be maintained in the database.
- Empower Secretariats to automatically remove any vessel from the authorised vessel list that has been listed on any RFMO IUU fishing vessel list, including non-highly migratory species RFMOs, and to include it on the draft IUU Vessel List for that RFMO.
- The measure must provide authority for the Secretariats to update a vessel's data, in consultation with the flag State, using data collected through official RFMO compliance activities such as the high-sea boarding and inspection regime and in-port monitoring.

**Recommendation 6: The RFMO authorised vessel list must be publicly available and contain all minimum data fields, particularly those required for MCS purposes.**

- The measure must make provision for the public display of all authorised vessel, together with all minimum data fields especially those required for MCS purposes.

**Recommendation 7: Use the active vessel list/notation to rapidly assess a vessel's activity status.**

- Using the existing, or a specific active fishing measure, t-RFMOs must provide a mechanism to identify whether a vessel is actively operating within the RFMO's area of competence. An active vessel list not only enables effective measurement of the fishing capacity, it also allows cross referencing the authorised vessel list data with the active vessel list data to identify any possible infractions.

## **Recommended Actions for Effective Implementation and Integration within the t-RFMO management system**

### **Recommendation 7: RFMO authorised vessel list measures, including the purpose, the data collected and its format, should be harmonized.**

- Using existing platforms, such as FAO COFI or Kobe, harmonise all the authorised vessel lists of all of the RFMOs globally. This would include the harmonisation of the purpose of the measure, the data fields themselves, the format of the data fields, and the information contained and displayed in the public database. Not only would this support the identification of legitimate fishing, but it would also support the identification of IUU fishing.
- As identified above, to ensure that the data being collected is fit for purpose, it would be advantageous to conduct a review of the data requirements for listing a vessel on the authorised vessel list, including seeking specific MCS expertise to ensure that the authorised vessel list works in concert with RFMO generally and other MCS measures generally, particularly the IUU measures.

### **Recommendation 8: Use all data sources to verify and update a vessel's data.**

- All RFMOs should provide a mechanism to cross reference and verify data held for a vessel in an authorised vessel list.
- In consultation with the flag State, RFMOs should provide a mechanism to use and report to other RFMOs information collected during high-sea boarding and inspections, in-port monitoring or other compliance programs to be used to verify and update a vessel's data (e.g., Lidar technology used in vessel inspections). The mechanism should also enable the utilisation of new and emerging technology that 'fingerprint' a vessel's identification, as an alternative means of verifying the data held in RFMO authorised vessel list databases.
- Consider the merits of linking newly developed databases with the existing databases to enhance the collection, collation and cross-referencing of available data, provide greater detail on vessels and to cover a greater proportion of the global fishing fleet.
- Include, to the greatest extent, possible information on spatial boundaries applicable to each vessel as a mechanism to facilitate the identification and verification of vessels authorised to be in a specific area, particularly when using aerial MCS assets.

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# Appendices

## Appendix 1 – Definition of IUU Fishing reproduced from the IPOA-IUU.

**'Illegal'** refers to:

- a. activities conducted by a national or foreign vessel in the waters under the jurisdiction of a State without the permission of that State or in contravention of its laws, or
- b. activities conducted by vessels flying the flag of States that are parties to a relevant RFMO but operate in contravention of the conservation and management measures adopted by that organisation and by which States are bound, or relevant provisions of the applicable international law, or
- c. activities in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant RFMO.

**'Unreported'** refers to:

- d. activities which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations, or
- e. activities undertaken in the area of competence of a relevant RFMO which have not been reported or have been misreported, in contravention of the reporting procedures of that organisation.

**'Unregulated'** refers to:

- a. activities in the area of application of a relevant RFMO that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organisation, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organisation, or
- b. activities in areas of fish stocks in relations to which there are no applicable conservation and management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.



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