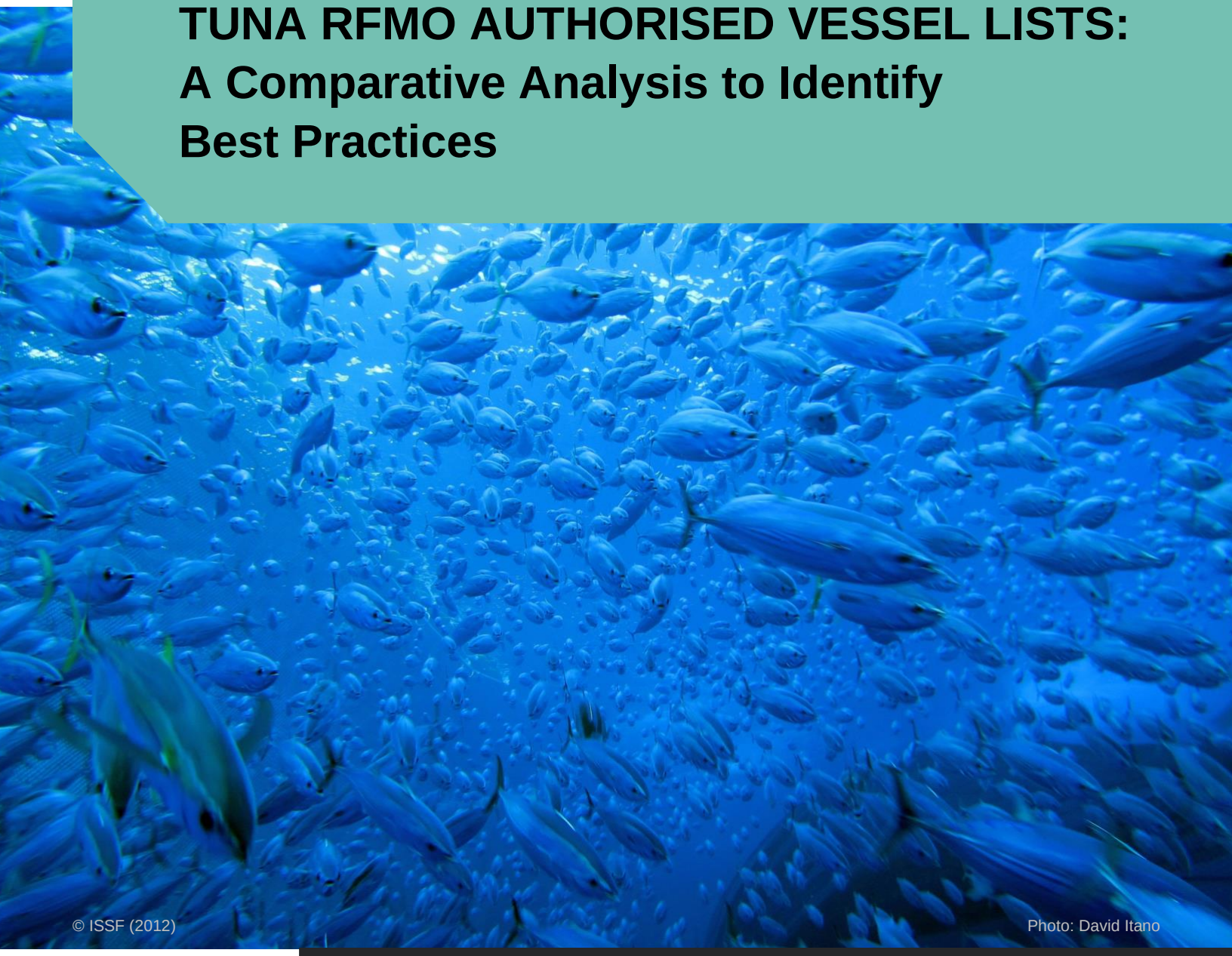
ISSF Technical Report 2023-07

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 a robust fisheries management system. They create a of vessels that have been permitted by their flag State to be operating in that RFMO and for species under the RFMO's remit, they are also known as 'positive' or 'white' list. RFMOs create authorised vessel lists to strengthen the flag State's exercise of its responsibility for all vessels flying its flag, thereby supporting the basic tenet of international fisheries law, flag State primacy.

Given the global nature of the industrialised tuna fishing fleet, tuna RFMOs must expand the application of the measure such that it includes all vessels involved in tuna fisheries. It would be advantageous to harmonise RFMO measures to review the data fields to ensure that they are fit for purpose as an effective tool for undertaking monitoring, control and surveillance (MCS) by both on-water and/or aerial surveillance assets. It is also important to ensure that Secretariats are empowered to remove IUU-listed vessels and any vessel that does not have a complete set of minimum data fields. Strong and fit for purpose authorised fishing measures must also integrate and work in concert with other MCS and management measures to ensure that the management system is robust and operates efficiently.

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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 progress in all five t-RFMOs. Overall, the findings and recommendations in this version are not dissimilar to the original review.

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 restrict 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 in a fisheries management context. However, the AFV could be used to limit entry — providing one of the most basic fisheries management tools.

Critically, 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. Further, only one tuna RFMO, ICCAT, is able to remove vessels from its authorized vessel list if the flag State authorization has expired.

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 outcomes, including in the identification of IUU fishing activities, both within a single region and globally. Reviewing the authorised vessel list data requirements should be undertaken to ensure that the data remain fit for purpose. Data requirements should 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. But in doing so it should include 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

Key Findings:

1. **Not all fishing vessels are included on the relevant t-RFMO authorised vessel list – all vessels should be included.**
2. **RFMO Secretariats should be able to remove vessels from its authorized vessel list if the flag State authorization has expired.**
3. **The data requirements must be reviewed to ensure that they are fit for purpose ad achieve that purpose.**
4. **Modifications to the list must include the reason for any previous deletions from other authorised vessel lists.**
5. **An active vessel list may enable verification of fleet capacity and monitoring of a vessel's activity against reports received by the flag State.**

a secondary way to verify the compliance of members. In addition, those RFMOs can use the active list to manage overall fishing capacity.

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. They are 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?
- **How can the authorised vessel list to support fisheries management outcomes?** Can the authorised vessel list become a closed registry of vessels authorised by the RFMO, thereby limiting the entry to the fishery?

Overview of Authorised and Active Vessel Lists

The basic tenet of international fisheries law resides with the flag State. The flag State authorises its vessels to operate in certain areas and/or for specific species. As such, the 'authorised' and 'active' vessel lists of t-RFMOs underpin the legal operation of fishing vessels and are a fundamental tool from controlling the activities of vessels (Lodge et al 2007).

The 'Authorised' vessel list creates a positive 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 that is 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 fisheries management 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 with those that conducted fishing activities in a given time frame, generally the previous 12 months.

Together, the authorised and active fishing vessel lists are tools for both the flag State and the t-RFMO. 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 gap of the authorised vessel list are the different data formats for the same 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. 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. Following the comparative analysis, best practices and recommendations for t-RFMO authorised vessel list measures are presented. Importantly, 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.

Comparison of t-RFMO Authorised Vessel List Measures

Each of the five t-RFMOs have adopted measures that create a record of fishing vessels that have been duly authorised by a flag State member of the relevant t-RFMO. The flag State authorisation permits the vessel to: 1) fish in the t-RFMO area of competence (except CCSBT), and 2) to fish for species covered by the relevant treaty. This list of members authorised vessels becomes the t-RFMO's Authorised Fishing Vessel List (AFV).

Table 1 provides a list of the measures relevant to this discussion, with the primary measure shown in bold.

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

CCSBT – ccsbt.org	**Authorised Vessel Lists**: **Resolution on a CCSBT Record of Vessels Authorised to Fish for Southern Bluefin Tuna (updated 2019)** Resolution on Establishing a Program for Transshipment by Large-Scale Fishing Vessels – carrier vessels (updated 2017) **Authorised Vessel List:** nil
IATTC – iattc.org	**Authorised Vessel Lists**: Antigua Convention Article XII, para 2(k) and Annex 1 **Res 18-06 Regional Vessel Register** Res 12-07 Transshipments Res 11-05 Establishment of a list of Longline Vessels >24 meters authorised to operate in the EPO **Active Vessel List**: Paragraph 5 of Res 18-06 Regional Vessel Register Res C-02-03 Capacity Management, in particular paragraphs 5 and 9, including Res C-15-02
ICCAT - iccat.int	**Authorised Vessel Lists**: 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 21-15 On Transhipment Paragraphs 27-29 of Rec 16-05 Mediterranean Swordfish vessels **Rec 21-14 Amending Rec. 13-13 Concerning the Establishment of an ICCAT Record of Vessels 20 metres in Length Overall or Greater Authorized to Operate in the Convention Area** Rec 13-14 Charter vessels Paragraphs 48-55 of Rec 21-08 Bluefin in the Eastern Atlantic and Mediterranean Paragraphs 42-47 of Rec 21-01 Multi-annual conservation and management program for tropical tuna **Active Vessel List**: Paragraphs 48-49 of Rec 21-01 Multi-annual conservation and management program for tropical tunas

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IOTC – iotc.org	**Authorised Vessel Lists**: 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 Res 21/02 On Establishing a Programme for Transhipment by Large-scale Fishing Vessels **Res 19/04 Concerning the IOTC record of vessels authorised to operate in the IOTC Area** **Active Vessel List**: Res 10/08 Concerning a record of active vessels fishing for tunas and swordfish in the IOTC Area
WCPFC – wcpfc.int	**Authorised Vessel Lists**: 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 21-04 Charter Notification Scheme **Active Vessel List:** Paragraphs 9, 10, 13 and 14 of CMM 18-06 Record of fishing vessels and authorisation to fish

Purpose of the Authorised Vessel List

Authorising vessels to fish is a fundamental tenet of 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 types vessels. 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' content. 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[1]. 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[2] (FAO Compliance Agreement). CCSBT alone refers to its IUU fishing 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 management, enforcement and/or 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.

[1] 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.

[2] 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.

There are two reasons for closely considering the purpose, or objective, of creating authorised vessel lists. One, it defines the scope and type of data collected and reported by flag States regarding their authorised vessels. Second, it correlates to the type of vessels that are to be included on an RFMO's vessel record, and is directly linked to the definition of 'fishing'. Each of these aspects is considered in turn below.

Minimum data collection requirements for AFV 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 Stocks3 (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 discussed below and summarised 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. This can create potential application issues where measures do not apply universally to all fishing vessels.

The best practice of the t-RFMOs is to 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:

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

- **'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

[3] 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.

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'** 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 RFV. 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 2.

Table 3 identifies the different measures used to create the AFVs for the different types of vessels or activities.

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. 21-14), ICCAT has implemented a size threshold of 20 metres LOA or greater such that only these "large-scale fishing vessels" authorized to operate in the Convention Area (that is, in the Atlantic Ocean and adjacent seas) are included in the record. Although Rec. 21-14 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 (Table 1). Each of these measures make specific rules governing the authorisation of these vessels. Of note is that Recommendation 2017-08 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.

IOTC's measure (Res. 19-04) 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. 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 larger-scale vessels and operating on the high seas and within EEZs from the list. Of note is that the IOTC Resolution 19-04 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' – it is not universally applied in all IOTC measures. 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 WPCFC, this RFMO's RFV 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 WPCFC, 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 purposes.

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 3). 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 2).

Best practices of the t-RFMOs is a comprehensive definition of key terms, including fishing and fishing vessel that are applied universally for all of the RFMOs measures. Single overarching definitions would then support a single management measure that creates a list of any and all vessels authorised by the members to operate in the RFMO.

Second, the best practice is to require that coastal States maintain a list of their flag vessels operating exclusively within their EEZ. It may not be a requirement for that list to be provided to the Secretariat, but it remains important that the RFMO verify which vessels are operating legally from any vessel operating illegally.

Third, all flag States should have to meet the minimum data requirements before a vessel can be included on the RFMO RFV. The minimum data fields should actively support the easy identification of the vessel again to distinguish between legal and IUU vessels.

Fourth, only vessels from flag States that are members of the RFMO should be permitted to be included on the RFV. This pertains to not only the fishing vessels, but the supply, support, carriers and ideally bunker vessels. The activities of all of these vessels need to be subject to flag States controls and the RFMO members need to be in a position to hold the activities of the vessels to the relevant flag State jurisdiction.

Table 2: Comparison of the primary measure creating the authorised vessel list for the four t-RFMOs

CCSBT	General application: **All vessels** (including support, carrier, and other vessels directly involved in fishing) authorised by a **contracting party, Member of the extended Commission or cooperating non-member** who are authorised to fish for SBT. Restrictions: The authorised vessel list **applies to all vessels authorised to fish in both EEZs and high seas**. There are no vessel size or spatial restrictions. Other Measures: The general application applies *mutatis mutandis.* **Res. Establishing a Program for Transhipment by Large-Scale Fishing Vessels** which creates the list of authorised carrier vessels.

IATTC	General application: **All vessels** (including support, carrier, and other vessels directly involved in fishing) authorised by a **contracting party or cooperating non-contracting party** 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 **applies to all vessels authorised to fish in both EEZs and high seas**. There are no vessel size or spatial restrictions. Other Measures: The general application applies *mutatis mutandis.* **C-11-05** create specific lists of longline vessels greater than 24 metres. **C-12-07** outlines the requirements for the listing of all authorised carrier vessels.
ICCAT	General application: All vessels **20m LOA or greater** authorised to fish for tuna and tuna like species (as defined in Annex I of LOSC) in the ICCAT Area of Competence. Restrictions: The authorised vessel list **does not apply to vessels less than 20 meters.** That is, there are vessel size restrictions – only applicable to vessels 20m LOA or greater. **Flagged to a member or cooperating non-member** – 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 *mutatis mutandis*, except for: **Rec 2021-08** on **Eastern Atlantic and Mediterranean Bluefin** 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. **Rec 2016-05** on **Mediterranean Swordfish** requires a record of all catching vessels authorized to fish actively for swordfish reported by 15th January annually.
IOTC	General application: All vessels (fishing, auxiliary, support and supply) **24 meters and greater** and **vessels less than 24 meters if fishing outside their own flag State's waters**, flagged to a member or cooperating non-member, **authorised to fish for tuna** and tuna-like species (as defined by Annex I of LOSC) in the IOTC Area of Competence (HS and EEZ). Restrictions: The authorised vessel list **does not apply to vessels less than 24 meters operating inside their flag EEZ**. 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. Other Measures: **CMM 19-05** on a **record of foreign flagged vessels and access agreements** requires the maintenance of a list of all foreign flagged vessels authorised by coastal States or those permitted under access arrangements. **CMM 23-05** on **transhipment by large-scale longline vessels** 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.
WCPFC	General application: **All vessels** 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 **high seas or in another coastal States EEZ** of the WCPFC Area of Competence. Restrictions: The WCPFC measure **only requires that vessels authorised to fish outside of their flag EEZ be included on the record**. 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 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** (Part A, paragraph 1(a)). Other Measures: **CMM 21-04** Charter notification Scheme requires that States entering into charter agreements register all vessels to be identified as chartered.

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[4]. 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.

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 should 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.

[4] The definition of IUU fishing is taken from the IPOA – IUU and reproduced at Appendix 1.

Table 3: Applicable measures creating authorised vessel lists for different types of vessels.

Vessel Type	CCSBT	IATTC	ICCAT	IOTC	WCPFC
Fishing	Res. Record of Vessels Authorised to fish for SBT	Res. C-18-06 Res. C-11-05 for large-scale longline vessels	Rec. 21-14 Rec. 16-05 for Swordfish Rec. 21-08 for Atlantic Bluefin Rec. 21-01 for tropical tunas	Res. 19-04 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
Carrier / Transshipment	Res. Establishing a Program for Transshipment by Large Scale Fishing Vessels	Res. C-14-01 Res. C-12-07	Rec. 21-15	Res. 23-05	
Support / Supply	Res. Establishing a Program for Transshipment by Large Scale Fishing Vessels	Res. C-14-01	Possibly through Rec 13-13	Res. 01-04 Res. 21-06	
Charter / Foreign Flagged	nil	nil	Rec. 13-14	Res. 14-05	CMM 21-04

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 five t-RFMO authorised vessel list measures. Key points are:

- **Five data fields common to all t-RFMOs and the UNFSA and the FAO High Seas Fishing Compliance Agreement**: vessel name, length, and tonnage (GRT or GT), fishing gear, and the international radio call sign.
- **Eight data fields are 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: 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).
- **Eighteen 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
- National registration number
- Previous name
- Previous flag
- Names of owners
- Address of owners
- Name of operators / master
- Address of operator/master
- The vessel type
- Construction material
- Location built
- Moulded depth
- Vessel beam
- Hold capacity / carrying capacity
- Catch storage method
- Navigation & position fixing aids
- Communication equipment
- Crew size

- **Some 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**. **In 2019, the IOTC added a specific requirement to identify the beneficial owner, if it is different from the owner/operator, this is not specified in the other organisations**. 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).
- As highlighted above, the purpose of adopting and implementing the authorised vessel list is to distinguish legal and illegal activities. As such it is important to consider how the required data effectively and efficiently identify vessels using surveillance assets and MCS tools, plus how the data is used 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.

The other measures identified in Table 2 that create authorised lists of other types of vessels only require a subset of the information collected by the primary RFV measure. Having multiple measures to create RFVs creates inconsistent data on the vessels authorised by the t-RFMO and does not support effective MCS. It is essential that all vessels are able to be rapidly identified by MCS assets, RFMO members and the Secretariat.

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 may be advantageous for t-RFMOs to consider what information is required by MCS assets to support the identification of irregular activities or IUU behaviour.

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[5];
- The reasons for all previous deletions from any national or RFMO authorised vessel lists; and
- Where applicable, details of charter, access 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, for example, is essential in terms of understanding who is responsible for the vessels, including its 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 and remains listed on the RFMO's authorized vessel list. One way to resolve this issue is to mandate the specification of start/end dates for the authorisation to fish and to provide that the RFMO Secretariat can automatically remove all vessels from the authorised vessel list once the permit to fish has lapsed, as is the case in ICCAT.

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

[5] 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.

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.

The review highlights that the best practices in relation to the data fields is to review the data fields to ensure that they remain fit for purpose and are harmonised between the t-RFMOs. Consider adding the following data fields, such as details of the vessels authorisations, hold and carrying capacity, navigation and position fixing aids, recent (6-12 months) high resolution colour photographs of the vessel from various angles to aid identification of the vessel, the reason for previous deletions from other vessel registries, and where applicable details of the charter arrangements. The RFV measure should also require the start and end authorisation dates and that the flag State has complete data for all minimum data fields prior to the vessel being included on the RFV. Finally, the RFMO should maintaining historical information on the vessels is also considered a best practice as it supports understanding of longer term activities of the vessel, including IUU listing and its flagging history.

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	✓	-	✓[6]	✓[6]	-[7]	-[7]	✓
3	National registration number	-	✓	✓	✓	✓	✓	✓
	RFMO Registration number[7]	-	-	-[8]	✓	✓	✓	✓
	IMO/LR Number (if eligible)[9]	-	-	✓	✓	✓	✓	✓
4	Previous name (if known)	-	✓	✓	✓	✓	✓	✓
5	Previous flag (if any)	-	✓	✓	✓	✓	✓	✓

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[6] 'Flag State' is not a requirement of the measure, however, it is collected by virtue of the fact that the flat State provides the list of the vessels, plus the information is provided on the authorised vessel database.

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

[8] Not specified: the measure calls for registration number(s) but does not define if this includes an RFMO registration number.

[9] The threshold for which IHS will grant an IMO number has changed and now "all motorized inboard fishing vessels of less than 100 GT down to a size limit of 12 metres in length overall (LOA) that are authorized to operate outside waters under national jurisdiction" are eligible to receive an IMO number. ICCAT, IOTC, WCPFC and IATTC have amended their authorized vessel record requirements to be aligned with this threshold.

		UNFSA	CA	CCSBT	IATTC	ICCAT	IOTC	WCPFC
	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)	-	✓	✓	✓	✓	✓	✓
10	Address of operator(s)/ master(s)	-	✓	✓	✓	✓	✓	✓
	Name and Address of beneficial owner (if different from the owner/operator above)	-	-	-	-	-	✓	-
	Nationality of the master	-	-	-	-	-	-	✓*
11	Vessel type	✓	-	✓	✓	✓	✓	✓
12	Construction material	✓	-	-	-	-	-	-
13	Date / year built	✓	✓	-	✓	-	-	✓*
14	Location built	-	✓	-	✓	-	-	✓
15	Vessel length[10]	✓	✓	✓	✓	✓	✓	✓
16	Tonnage (GRT or GT)	✓	✓	✓	✓	✓	✓	✓
17	Moulded depth	-	✓	-	✓	-	-	✓*
18	Vessel beam	-	✓	-	✓	-	-	✓
19	Power of the main engines	✓	✓	-	✓	-	-	✓
20	Hold/ carrying capacity (incl. freezer hold & the fish hold capacity)	✓	-	-	✓	-	✓	✓*
21	Catch storage method (e.g. brine, frozen)	✓	-	-	✓	-	-	✓
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[11]	-	-	-	-	-	✓	✓*
	Authorisation period and/or start & end dates	-	-	✓	-	✓	✓	✓
	Charter CMM flagged vessel or bunker vessel	-	-	-	-	[12]	-	✓
	If Chartered, the host CMM	-	-	-	-	-	-	✓
	Name of charterer	-	-	-	-	-	-	✓
	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 provide details of historical deletions from other registries**, that signifies the 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 that flag. 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).

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 Overseas Ocean Monitor application and other similar initiatives. There may be a need to consider alterative 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 either question the flag State regarding the vessel's information or to update the record with the new correctly documented and verified information, for example collected through port States inspections, 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, not list these vessels until after the minimum data requirements have been provided by the flag State, and highlight that the vessel is not authorised to operate in the RFMO Area of Competence until it is included on the RFV;

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* 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] 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.

[11] For example, the authorisation number, permitted species, area of operation, activities, name of the authorising authority.

[12] This information is required under ICCATs Recommendation 13-14 On Vessel Chartering.

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).

Overall, the t-RFMO best practices are 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 and that all minimum data requirements are provided prior to listing the vessel on the RFV. 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[13]. In terms of improvements to the RFV measures, the role of the t-RFMO Secretariat should be enhanced. Secretariat should be empowered to support flag States provide the request data for their vessels and to independently verify and cross-reference the data held for the vessels.

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 by the RFV measure is consistent with the information they make publicly available on the authorised vessel list page of their website. 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 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, 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.

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

[13] See ISSF Technical Report 2014-10: Combating IUU Fishing: Continual Improvement and Best Practices for IUU Vessel Listing Measures in Tuna RFMOS.

vessel identification, thereby enhancing the detection of possible non-compliant and/or IUU activities. Concomitantly, effective MCS requires access to a certain level of data 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.

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 IUU 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.

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. 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 flag State report the vessels length as Length Overall and tonnage in Gross Tonnage. The Consolidated List of Authorised Vessels for the t-RFMOs could 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. But it is currently built on t-RFMO data which relies on information from flag States. 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.

The 'Oversea Ocean Monitor', another online platform, uses technology developed under PEW's Project Eyes on the Seas that 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 data 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.

In addition, Global Fishing Watch utilises data from the Automatic Identification System (AIS) that is collected by satellites and terrestrial receivers to identify apparent fishing behaviour 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 is a useful mechanism to cross-reference with a vessel's VMS position data, or in combination with other data that can be used to

identify a vessel's position or provide an indicator of its activities, and it can be used by MCS authorities in assessing risks or conducting on-water and/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.

The best practices in the t-RFMO are to publish harmonised data on each of the vessels listed on the RFV in a public facing database and to require that this information is maintained. To further enhance the utility of the RFV databases, it is suggested that the information in the databases be made available to MCS authorities/assets for use in on water/aerial surveillance activities. It is also recommended that information from third parties be utilised to verify and/or update the information held in the RFMOs RFV database to ensure that the most accurate data is maintained for each vessel. This is likely to be critical for distant water longline fishing fleets that can spend years at sea and away from flag State ports and authorities. Finally, it is recommended that the t-RFMOs continue to support the development of a single searchable database, such as the CLAV. The CLAV has already proven its worth by cross-referencing and verifying data held by the t-RFMOs for the global tuna fishing fleet and continues to support transparency of the fleet.

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**
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

Relationship between Active and Authorised 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 who 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, ICCAT's Recommendation for a Multi-annual conservation and management program for tropical tunas stipulates 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. CMM 2018-06 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 is 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

A key issue is that, with the exception of WCPFC, 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, member 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 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. 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 to strengthen the t-RFMO RFV measures 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 that were operating in the area of competence governed by the Commission for the Conservation of Antarctic Marine Living Resources. In 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 was not authorised by the IOTC, and was flagged to Cambodia who is not a member of either the IOTC, CCSBT or the Southern Indian Ocean Fisheries Agreement (SIOFA), which shares 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 for SIOFA, there was no easy way to verify if the vessel was permitted to operate in that RFMO as SIOFA had yet established an authorised list of vessels and the vessel was not flagged or owned by a SIOFA party. The result was that one IOTC member was able to successfully argue that the vessel did not constitute transshipment under the IOTC definitions and the vessel was not included on the IOTC IUU vessel list. This again highlights the need for consistent and rigorous definitions of key terms such as 'transshipment', 'fishing' and 'support/supply vessels' and the need to share information with other RFMOs.

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

There are two groups of recommendations: the best practices for RFMO RFV measures and integration of the authorised vessel lists within the other t-RFMO measures. These recommendations seek to strengthen the existing t-RFMO measures establishing the authorised vessel lists and integrate the RFV with other MCS measures to ensure efficient and functional fisheries management system.

Recommended Best Practices for Establishing Authorised Vessel Lists

Recommendation 1: Define the purpose of the authorised vessel list and key terms: fishing, fishing vessel, fisheries support activities, transshipment. Clearly articulate that any vessel not included on the RFV is not authorised to engage in fishing for the species under the remit of the RFMO.

Recommendation 2: Ensure the measure applies to all fishing vessels irrespective of size or geographical area of operation and carrier vessels (if not covered by another measure that established a record for carrier vessels authorized to engage in transshipment activities). Require that all vessels on the authorized records be flagged to a member of that specific RFMO and require IMO numbers for all vessels, including carriers, that can obtain them.

Recommendation 3: Distant water States maintain a list of authorised vessels that operate outside of their EEZ — and under what agreement, if those vessels operate in another State's EEZ — and make this information publicly available on a government website.

Recommendation 4: Coastal States maintain a list of authorised vessels that operate exclusively inside their EEZ — and under what type of agreement if they are foreign-flagged or chartered — and make this information publicly available on a government website.

Recommendation 5: Require that all vessels on the authorized records provide the start/end date of its authorisation to fish, and mandate that the RFMO Secretariat can automatically remove any vessels from the authorised vessel list if the permit to fish has lapsed or expired.

Recommendation 6: Periodically review the authorised vessel list data fields to ensure that they are fit for purpose and have clear data formats.

Recommendation 7: 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
- 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
- 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 8: Require 100 percent compliance with minimum data fields, including start and end authorisation period, before inclusion of the vessel on the RFV 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.

Recommendation 9: Articulate that non-compliance with the minimum RFV data requirements is a serious compliance breach by a flag State, ensure identified non-compliance is subject to incentives or punitive measures where there is persistent non-compliance.

Recommendation 10: Modifications to the RFV must be made prior to the vessel commencing fishing (suggest 45 days prior to the commencement of fishing), the reasons for deletion from other RFVs should be required and all historical information, particularly related to ownership and flagging, should be retained in the database.

Recommendation 11: Permit updated information and verification of RFV data to be provided by third parties, such as port States, and MCS assets to ensure the most accurate information is available for all vessels. Provide authority to 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 12: Empower Secretariats to automatically not include and/or remove a vessel from the RFV 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.

Recommendation 13: The RFMO authorised vessel list must be publicly available and contain all minimum data fields, particularly those required for MCS purposes.

Recommendation 14: Use the active vessel list or notation of a vessels actions to rapidly assess a vessel's activity status.

Recommendations for Integration with the t-RFMO management system

Recommendation 1: RFMO authorised vessel list measures, including the purpose, the data collected and its format, should be harmonized.

Recommendation 2: Establish RFMO mechanisms, in conjunction with the flag State, to use all available data sources to verify and update a vessel's data for example data from high-sea boarding and inspections, in-port monitoring or other compliance programs. 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.

Recommendation 3: Consider the merit 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.

Bibliography

Jara, F. and F. Fiorellato (2018). The Consoldated List of Authorised Vessels: Monthly Extended Report of the CLAV June 2018.

High Seas Task Force (2006). *Closing the Net: Stopping Illegal Fishin on the High Seas*, Governments of Australia, Canada, Chile, Nambia, New Zealand and the United Kingdom, WWF, IUCN and the Earth Institute at Colombia University.

Lodge, M. W., Anderson, D., Lobach, T., Munro, G., Sainsbury. K., Willock, A. (2007). Recommended Best Practices for Regional Fisheries Management Organisations. London, Chatham House.

Willock, A. and M. Lack (2006). Follow the Leader: Learning from Experience and Best Practice in Regional Fisheries Management Organisations, WWF International and TRAFFIC International.

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