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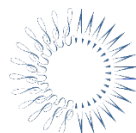
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THE 1989 FAO STANDARD SPECIFICATIONS FOR THE MARKING AND IDENTIFICATION OF FISHING VESSELS: USE AND OPTIONS FOR REVIEW



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THE 1989 FAO STANDARD SPECIFICATIONS FOR THE MARKING AND IDENTIFICATION OF FISHING VESSELS: USE AND OPTIONS FOR REVIEW

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PREPARATION OF THIS DOCUMENT

Purpose

Thirty-three years since the endorsement of the Food and Agriculture Organization of the United Nations (FAO) Standard Specifications for the Marking and Identification of Fishing Vessels (FAO, 1989a), the world of fisheries looks rather different. There are about 4.6 million fishing vessels in the world of which 2.86 million are motorized (FAO, 2020a). The larger vessels often have complex operations that incorporate a number of jurisdictions in respect to the flag or country of registry, the citizenship of the owners, operators and crew, the locations and countries where they operate, the countries linked to any support or supply vessels that they use and the processing and consumer countries within the fish supply chain. On the other hand, smaller craft may operate close to home and fall within only one jurisdiction. A variety of national, regional and international fishing vessel identification and marking schemes are in place.

Significant technological, societal and environmental developments, an increase in demand¹ and a race to fish have caused fish stocks to decline with the fraction of fish stocks that are within biologically sustainable levels decreasing from 90 percent in 1974 to 65.8 percent in 2017. Progress to improve this situation is uneven, with fisheries with well-developed management systems showing a decrease in fishing pressure while those with less-developed management systems showing increasing fishing pressure. A growing societal interest in reversing this negative trend has led to technological developments that support better fisheries management, such as vessel tracking through vessel monitoring systems (VMSs), alongside demands for greater transparency and tools to support traceability such as catch documentation schemes (CDSs) and private sector sourcing standards.

The purpose of the study underpinning this report, was to assess the relevance of the FAO Standard Specifications and consider if they require an update and if so, to what extent.

This study was carried out by Nordenfjeldske Development Services (NFDS) under a contract with The Pew Charitable Trusts and upon request and in collaboration with FAO's Fishing Technology and Operations Team (NFIFO) and Global and Regional Processes Team (NFIFP). This circular has been prepared to serve as a session background document for the thirty-fifth session of the FAO Committee on Fisheries (COFI) (5-9 September 2022) to support deliberations on the possible need to update the 1989 FAO Standard Specifications and to identify the appropriate process to do so.

Approach

For this circular NFDS reviewed the frameworks and practices used by distant water fishing nations (DWFNs), States with a significant number of nationally operating vessels that fish for export, and regional fisheries bodies (see Chapter 2). A review of literature provides an overview of key updates since 1989 on the status and issues related to fishing vessel marking and identification (see Chapter 3). The final Chapter provides an analysis of the three aspects of vessel identification and marking – identifiers, markings and vessels – and considers if the FAO Standard Specifications adequately address these for current needs, providing a rationale and options for an update of this global standard (see Chapter 4).

The analysis took a mainly qualitative approach, with a summary assessment of the current national legislative frameworks and provisions related to vessel marking and identification for key fishing nations and thirteen regional fisheries management organizations (RFMOs). A comparative study of their compatibility, complementarity, fleet coverage, and the degree of adoption of the FAO Standard Specifications was made.

¹ In per capita terms, fish consumption rose from 9.0 kg (live weight equivalent) in 1961 to 20.3 kg in 2017, at an average of 1.5 percent per year (FAO, 2020a).

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ACRONYMS AND ABBREVIATIONS

ABNJ	areas beyond national jurisdiction
AIS	automatic identification system
C188	Work in Fishing Convention (ILO)
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CDS	catch documentation scheme
CMM	conservation and management measure
COFI	Committee on Fisheries (FAO)
CPC	contracting party
CTA	Cape Town Agreement (IMO)
DWF	distant water fishing
DWFN	distant water fishing nation
EEZ	exclusive economic zone
FAO	Food and Agriculture Organization of the United Nations
FFA	Pacific Islands Forum Fisheries Agency
GFCM	General Fisheries Commission for the Mediterranean
GRT	gross registered tons
GT	gross tonnage
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ILO	International Labour Organization
IMEI	international mobile equipment identity of the United Nations
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
IRCS	international radio call sign
ITU	International Telecommunications Union
IUU	illegal, unreported and unregulated (fishing)
LOA	length overall
LPG	liquefied petroleum gas
m	meters
MCS	monitoring, control and surveillance
MMSI	maritime mobile service identity
MTC	minimum terms and conditions
NAFO	North-West Atlantic Fisheries Organization
NEAFC	North-East Atlantic Fisheries Commission
NFDS	Nordenfjeldske Development Services
NPFC	North Pacific Fisheries Commission
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing

RFB	regional fisheries body
RFMO	regional fisheries management organization
SDG	sustainable development goal
SADC	Southern African Development Community
SEAFO	South East Atlantic Fisheries Organisation
SIOFA	Southern Indian Ocean Fisheries Agreement
SOLAS	International Convention for the Safety of Life at Sea
SPRFMO	South Pacific Regional Fisheries Management Organisation
SSF	small-scale fisheries
SWIOFC	Southwest Indian Ocean Fisheries Commission
T-RFMO	Tuna-RFMO
UVI	unique vessel identifier
VMS	vessel monitoring system
WCPFC	Western and Central Pacific Fisheries Commission

EXECUTIVE SUMMARY

The marking of fishing vessels with systematic identifiers is important for their identification, to support the global efforts to promote sustainable fisheries and to combat illegal, unreported and unregulated (IUU) fishing. For this reason, the FAO Standard Specifications for the Marking and Identification of Fishing Vessels were endorsed in 1989 as a voluntary instrument providing a standardized system for the identification of fishing vessels operating, or likely to operate, in waters of another State.

Since that time, global developments have had an impact on the usefulness of the FAO Standard Specifications, specifically the increased use of the International Maritime Organization (IMO) number as a unique vessel identifier (UVI) and the establishment of the FAO's Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record). In recent decades the pressure on fisheries ecosystems increased, the global demand for fish grew, and IUU fishing and associated crimes drew more attention. Fishing vessels are essential to fisheries operations. Identifying vessels and linking their identification to records, registers and other fishery information is key.

The above developments and challenges have called to question the usefulness of the FAO Standard Specifications and invite a renewed international effort to harmonize vessel identification and marking.

In this report, chapter one provides background to the development of the FAO Standard Specifications and explains the purpose and approach taken in the preparation of this report.

Chapter two assesses the level of adoption of the FAO Standard Specifications nationally, regionally and internationally. National level fisheries specific legislation and broader maritime legislation was reviewed for 24 States, selected to include most global large scale fishing vessels and geographic representation. The most common requirement for a vessel identifier was for a national identifier, required in 92 percent of the reviewed States. The international radio call sign (IRCS), which underpins the FAO Standard Specifications scheme, was only required by 46 percent of the States. An express obligation to mark the IMO number on fishing vessels was only found in the legislation of one reviewed State making it the least common identifier required to be physically displayed. The findings for reviewed States showed that while commonalities exist, there is limited harmonization on this subject in national legislation.

However, this is to some degree, off-set by regional fisheries management organizations (RFMOs) provisions. Ten of the 13 reviewed RFMOs directly or indirectly implemented the FAO Standard Specifications for vessels operating within their jurisdictions. Twelve have requirements for vessels to have IMO numbers. Other regional fisheries bodies (RFBs) that do not issue binding measures also have significant impact on State practices, and (potentially) influence national uptake of the FAO Standard Specifications and the development and adoption of binding instruments under other organisations.

Chapter three provides a review of literature relating to fishing vessel marking and identification and gives an overview of key updates since 1989, identifying the main areas of progress in respect to vessel identity, vessel tracking, the coverage of different vessel types and catch traceability.

Chapter four considers the rationale for a globally harmonized fishing vessel marking and identification scheme, and the arguments supporting a review and update of the FAO Standard Specifications. The analysis of the identifiers and the markings of the vessels supports an update of purpose, scope and basis for global guidelines:

- A modern purpose could address the target of sustainable development goal (SDG) 14 by promoting legal, safe and fair fisheries in line with the FAO, IMO and International Labour Organization (ILO) binding international fisheries instruments, and to promote the sustainability of fish stocks and fisheries, and reducing IUU and destructive fishing practices.
- A modern scope could be for the global identification and marking guidelines to include all fishing vessels by encouraging: the uptake and marking of the IMO numbers on all vessels over 100 GT; the uptake and marking of the IMO numbers on all vessels of between 12 m and 100 GT that have an international element in the vessels' authority, operations or supply chain of

the catch. All vessels with only national authority, operations and supply chain of the catch between 12 m and 100 GT, and all vessels under 12 m are to be allocated and marked with a national identifier.

- The basis for the global scheme could be to have global guidelines that promote ownership of vessel marking and identification at the appropriate level – national, regional or international – using suitable and inter-linked mechanisms, and vessel identifiers drawn from the IMO number, the national identifier, the IRCS, the port of registry and the vessel name, marked correctly for the different vessel types. The global guidelines should be coherent with existing instruments of the United Nations, especially the FAO, and align with alternative methods of identifying vessels.

To address limitations and gaps and provide practical options for a coherent and comprehensive updated global scheme, it is suggested to include guidelines for alignment between national, regional and international fishing vessel records and registers:

- The Global Record offers a global established database that is the most suitable mechanism to compile and maintain information about fishing vessels which have an international aspect to their authority, operations or the supply chain of their catch. The IMO number is the required UVI, and this should be marked on the fishing vessel in line with the guidelines, other identifiers may also be used and marked. The Global Record is maintained by the FAO ensuring high accessibility to information by all States and actors.
- Regional records and registers, embedded in regional organisations, may include vessels relevant to the region, including from a coastal, flag or, port State perspective. These vessels may be included also in the Global Record and national records and registers. A combination of identifiers will be required for identification and marking, including the IMO number and national identifiers.
- National records and registers are established and maintained by national authorities and may include decentralised local records or registers. Their purpose is to maintain information on all national fishing vessels and crafts and also on non-national vessels that are licenced to operate in their waters or that use their ports.

Options for facilitating the implementation of the global scheme are outlined.

The main conclusion of this study is that the identification and marking of fishing vessels and the compiling and maintaining of this information in accessible national, regional and global records and registers, is key for effective implementation of international fisheries instruments. However, due to global developments there are challenges with implementation of the 1989 FAO Standard Specifications; therefore an update of these and a process to achieve it is proposed.

1. INTRODUCTION

Fishing vessel identification and marking is key for effective fisheries management and monitoring vessel compliance. Clear marking with recognisable vessel identifiers enables authorities – national and foreign alike – to link a vessel to its identity and to its operational and historical information, underpinning fishing vessel records and registers. In addition, fishing vessel identification and marking has benefits such as facilitating safety at sea by enabling physical identification and communications between vessels to support search and rescue operations, and enabling fisheries catch and effort information to be recorded linked to a specific vessel to contribute to fisheries stock assessment and the traceability of fish and fishery products.

The need for a global standard system to harmonize the marking and identification of fishing vessels was first identified at the fifteenth session of the FAO Committee on Fisheries (COFI), in 1983, and resulted in the endorsement, in 1989, of the FAO Standard Specifications for the Marking and Identification of Fishing Vessels (FAO, 1989a) as a voluntary guideline.

In 1987, the IMO ship identification numbering scheme was introduced, to enhance maritime safety and prevent maritime fraud. Initially, the scheme did not include fishing vessels but in recent years, international efforts towards combating IUU fishing have, among others, led to the progressive extension of the scheme to include fishing vessels down to a size limit of 12 m of length overall (LOA) and above. This allows, on a voluntary basis, the application of unequivocal identification numbers that remain unchanged throughout a vessel's lifetime to all eligible vessels involved in fishing operations.

Other important developments linked to vessel identification have included the establishment and operation of the FAO's Global Record, widespread ratification of the 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing (PSMA) and technological developments with satellite-based tracking and communication. A united approach by the FAO, the IMO and the ILO is also being forged, based on a framework of international instruments aiming to promote legal, safe and fair fisheries. The three treaties at the forefront of this approach are the: FAO PSMA, the IMO Cape Town Agreement (CTA) and the ILO Work in Fishing Convention No. 188 (C188).

The past three decades have also seen a change in how fisheries are viewed. The understanding of the diverse benefits that fisheries provide has grown and so has the appreciation of the interrelatedness of global challenges and the pressures and threats these put on fisheries ecosystems. For example, growing demand for fish to satisfy food and nutrition needs, increasing negative impacts of climate change at the land-ocean interface, unbalanced competition generated through harmful subsidies, pressure from unsustainable blue growth and the threat of IUU fishing and associated crimes. Addressing these pressures is at the heart of SDG 14 – life below water – which highlights the need for effective and sustainable management of marine resources in response to these multidimensional challenges. Fishing vessels are essential to fisheries operations all over the world. Being able to readily identify them and to link this identification to records, registers and fishery information is key to enabling a coherent response to SDG 14.

The above developments and challenges reduce the usefulness of the 1989 FAO Standard Specifications for effective fisheries management, and call for a renewed international effort to harmonize vessel identification and markings.

The 1989 FAO Standard Specifications

It was at the fifteenth session of COFI, in October 1983 (FAO, 1983) that the standardization of marking for fishing vessels was first raised as an issue that needed addressing. The following year, in July 1984, the FAO World Conference on Fisheries Management and Development reiterated this (FAO, 1984). This recognition led, in March 1985, to an Expert Consultation held in Nova Scotia, Canada (FAO, 1985a).

The Consultation concluded that due to the global diversity in the types of marks and identifications in use, fishing vessels should be appropriately marked for their identification to aid fisheries management

and safety at sea. It recommended, that: *‘The International Telecommunications Union (ITU) Radio Call Sign (IRCS) should be used as the basis for the standard system of identification of fishing vessels which are operating, or are likely to operate, in waters of States other than those of the flag State. For those fishing vessels that are not fitted with radio equipment, the character(s) allocated by the ITU to the flag State followed by appropriate identification mark(s) assigned by the flag State, should be used, if possible. This recommendation is without prejudice to international conventions, national practices or requirements.’* These recommendations were considered by the sixteenth session of COFI, in April 1985, with the Committee recommending for further studies and consultation to take place (FAO, 1985b).

In June 1986, a second Expert Consultation was convened in Rome tasked to prepare draft standard specifications for the identification and marking of fishing vessels (FAO, 1986). These were developed based on four requirements:

- 1) The use of an established international system from which the identity and nationality of vessels can be readily determined, irrespective of size and tonnage, and for which a register is maintained on a worldwide basis;
- 2) they are without prejudice to international conventions, national and bilateral practices;
- 3) their implementation and maintenance will be at minimum cost to Governments and fishing vessel owners; and
- 4) they facilitate marine search and rescue operations.

The resultant draft standard specifications were considered by the seventeenth session of the COFI, in May 1987. The Committee supported the concept of a uniform system for the marking of fishing vessels and considered the draft specifications, a good basis for implementing such a system. Whilst noting that some States required time to review the proposed marking system, the Committee recommended that the matter be further considered by both COFI and the FAO Council.

At the eighteenth session of COFI, in April 1989, the results of intersessional consultations were provided, and they indicated that 41 FAO Member States, for the most part, found that the standards satisfied national requirements (FAO, 1989b). Following one technical amendment, the Committee endorsed the ‘FAO Standard Specifications for the Marking and Identification of Fishing Vessels’ as voluntary guidelines.

The Standard Specifications’ purpose is to aid fisheries management and safety at sea through the appropriate marking of fishing vessels to support their identification. The system is based on the IRCS which has the advantage that it facilitates radio communications with the fishing vessel, something of importance for safety at sea. A ‘vessel’ includes any vessel intending to fish or engage in fishing or ancillary activities in waters of States other than those of the flag State. The scheme proposes that fishing vessels are only marked with the IRCS, the vessel name, the port of registry and a national identifier² when required, it includes details for the location, size and colour of markings and proposed that the flag State maintain a register of fishing vessels. The scheme provided an alternative marking procedure for vessels without an IRCS, which identified the flag State and a national identifier. The scheme only considered physical marking of fishing vessels for identification and did not provide guidance on other aspects of identification.

² The term national identifier is used throughout his report, it incorporates the concept of a national number.

2. USE

The FAO Standard Specifications aim to guide and inform the development of national and regional legislation for vessel marking and identification to support global harmonisation. This chapter considers the scope and scale of the application of the Standard Specifications within selected national and regional frameworks to assess the level of harmonisation that has been achieved.

National frameworks

Methodology

The objective in reviewing the national legislative frameworks was to assess the level of adoption of the FAO Standard Specifications by firstly assessing if vessel markings are required through national legislation and if so, which identifiers are required, and secondly to find requirements for using these identifiers to mark fishing vessels. This was achieved by selecting 24 States for the review.³ The selection was made to ensure that most global large scale fishing vessels were included and that a variety of fishing vessel types, from diverse fisheries with ample geographic representation were included.

Four major DWFN were reviewed – China, Japan, South Korea and Spain – which together accounted for over 90 percent of global distance water fishing fleet. Other States were selected to give representation of smaller and medium sized vessels, including those supplying local and export markets. Trade (Observatory of Economic Complexity, 2020) and automatic identification system (AIS) data were used to identify the export-oriented fisheries while online information and geographic representation were used to provide representation of local market-oriented fisheries.

The review of national legislation, including fisheries specific legislation and broader maritime legislation was based on available documents in force at the time of the review (see table 4 in the Annex for legislation consulted). Access to these documents was achieved through the FAO database of legislation (FAOLEX) (FAO, 2022), the IMO database of legislation (IMO, 2022), online searches and direct requests. All marking requirements applicable to fishing vessels were noted and recorded. National, as well as provincial legislation was reviewed and in the case of Spain's review, European Union level regulations were considered. For the 24 States combined 115 documents had direct or indirect (cross-referencing to other documents) relevance to fishing vessel marking.

It is noted that, while it was not within the scope of this study to review procedures, the requirement for fishing vessels to have identifiers and to mark them, may be enforced through procedures despite not being in the text of legislation. For example, registration or licensing documentation may require a fishing vessel to be marked in a specific manner, which may relate to the FAO Standard Specifications. If there is no requirement for the marking of fishing vessels in such procedures, there may be a requirement to have the identifiers, even if the marking is not specified, for example through mandatory fields in forms required for registration or licensing.

National requirements for which indicators should be marked on fishing vessels

Fishing vessels can be marked using different identifiers. In the FAO Standard Specifications four identifiers are permitted: the IRCS, the vessel name, a national identifier and the port of registration or home port. For each of the 24 States, legislation was reviewed to identify which of these four identifiers and the IMO number, were required to be marked on fishing vessels.

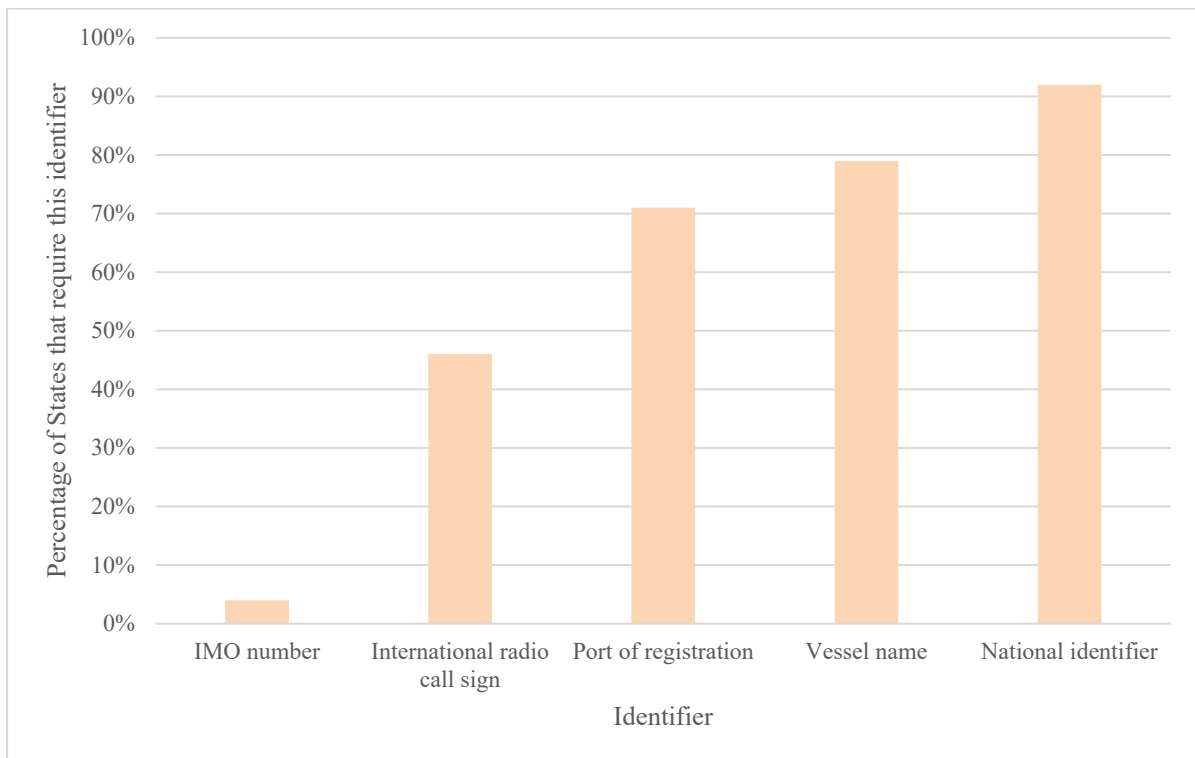
The most common requirement for an identification marking on a fishing vessel was for a national identifier, which almost all (92 percent) of the reviewed States required. The vessel's name appeared in 79 percent, the port of registration or home port in 71 percent, and the IRCS in 46 percent of the national legislations. An express obligation to mark the IMO number was only found in the legislation of one State, Norway, making it the least common identifier required to be physically displayed. Table 5 in the Annex provides a summary by State of which identifiers are required for fishing vessels in national legislation, while Table 1 and Figure 1 provide an amalgamated overview of the findings.

³ Spain was reviewed as a member of the European Union, including thus a review of the European legislation. In reviewing China, Taiwan (Province of China) was included as well.

Table 1. Number and percentage of States requiring identifiers to be marked on fishing vessels

Identifier	Reference in FAO Standard Specifications	Number	Percentage
		of reviewed States requiring this identifier to be marked on fishing vessels	
IRCS	2.1.2 – vessels shall be marked with their IRCS	11	46%
Vessel name	2.1.5 – the vessel name	19	79%
National identifier	2.1.3 – vessels to which an IRCS has not been assigned ... shall be marked with the licence or registration number assigned by flag State	22	92%
Port of registration	2.1.5 – port of registry as required by international practice or national legislation	17	71%
IMO number	Not included	1	4%

Figure 1. Percentage of reviewed States requiring key identifiers to be marked on fishing vessels



National requirements for the location and dimension of markings on fishing vessels

For the States that required any of the four identifiers permitted in the Standard Specification to be marked on their fishing vessels, the requirements for how these should be marked on the fishing vessel, in terms of locations and dimensions, were reviewed and compared to the Standard Specifications. The details by State are provided in tables 6 and 7 in the Annex. Table 2 and Figures 2 and 3 provide an amalgamated overview. Requirements for marking that were in line with the FAO Standard Specifications are marked in green, those that do not reflect the FAO Standard Specifications are marked in red, and when no specifications for making are included they are marked in grey.

Table 2. Coherence of location and dimension marking requirements to the Standard Specifications

Identifier	No. of reviewed States requiring identifier*	Reflect FAO Standard Specifications		Do not reflect FAO Standard Specifications		Do not provide detail on	
		Location	Dimensions	Location	Dimensions	Location	Dimensions
IRCS	11	7	6	3	4	1	1
Vessel name	19			14	13	5	6
National identifier	22	2	3	18	15	2	4
Port of registration	17			14	12	3	5

*Of the 24 States assessed this number of States required that the indicator is marked

Figure 2. Percentage coherence for location marking with Standard Specifications

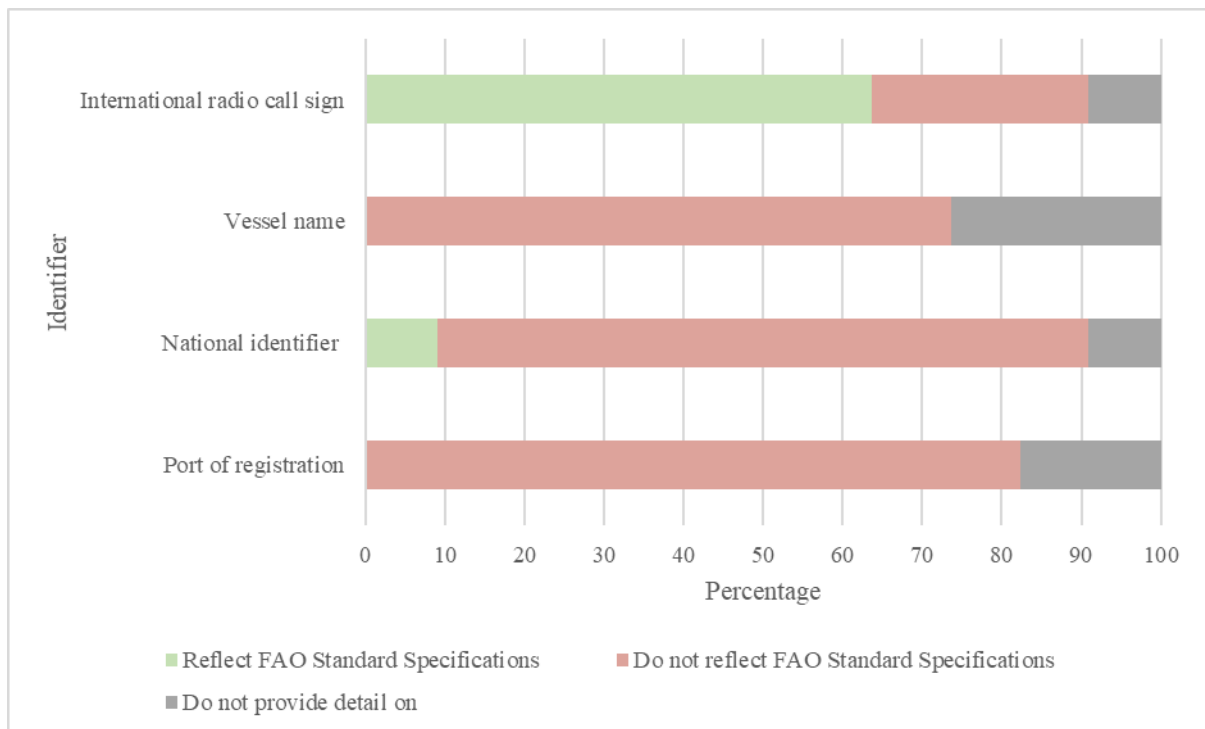
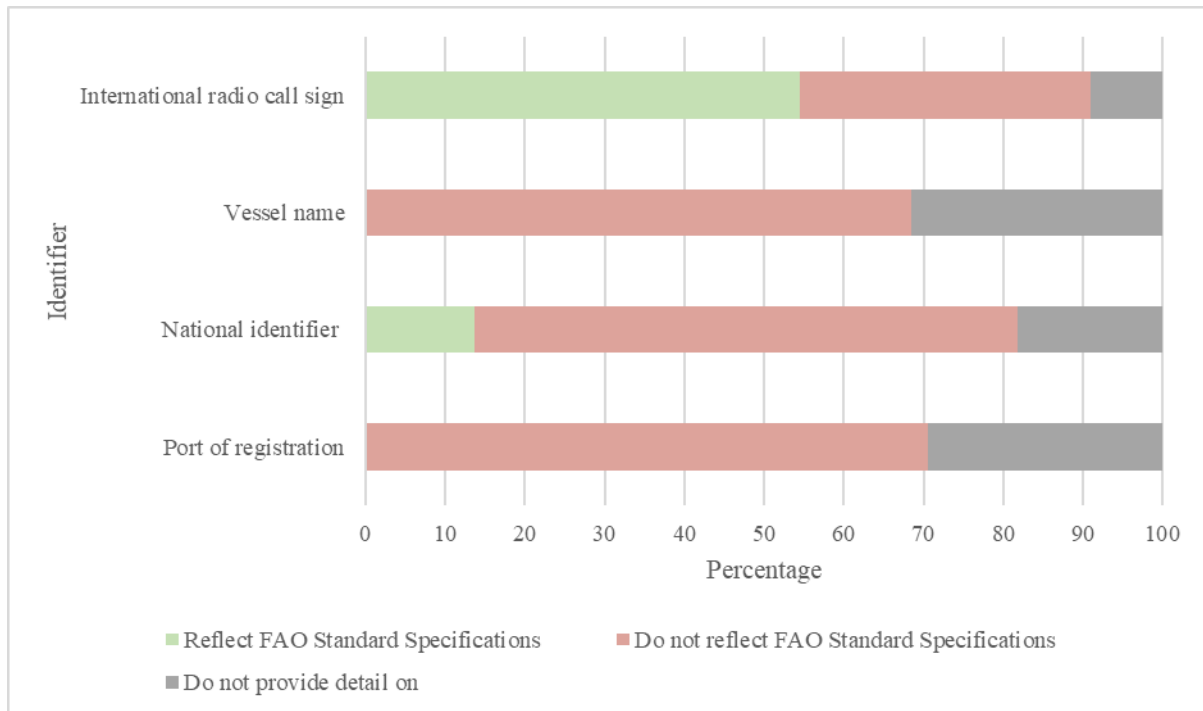


Figure 3. Percentage coherence for dimension marking with FAO Standard Specifications



Regional frameworks

Methodology

The provisions of 13 RFMOs were reviewed, providing geographical coverage of the Atlantic, Indian, Pacific, Southern and Mediterranean ocean basins and seas (see table 8 in the Annex). These regional legislative frameworks were assessed to determine how fishing vessel marking and identification are included in the provisions of relevant RFMOs, how these provisions relate to the FAO Standard Specifications, and how the use of IMO numbers are included in RFMO provisions (see table 9 in the Annex for the text of relevant provisions).

RFMO requirements for the marking of fishing vessels

Of the RFMOs reviewed ten have adopted provisions for marking of vessels fishing under their mandate. However, three have not adopted any provisions in respect to vessel marking: the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the General Fisheries Commission for the Mediterranean (GFCM) and the Inter-American Tropical Tuna Commission (IATTC). The provisions included in RFMO conservation and management measures (CMMs) can be grouped into three different approaches:

1. To require vessels to be marked in accordance with international standards, referring to the Standard Specifications as an example of such standards. This soft approach does not oblige States to implement the FAO Standard Specifications, rather it presents them as an option. The following six RFMOs use this approach:
 - a. International Commission for the Conservation of Atlantic Tunas (ICCAT, 2003);
 - b. Indian Ocean Tuna Commission (IOTC, 2019);
 - c. Northwest Atlantic Fisheries Organization (NAFO, 2021);
 - d. North-East Atlantic Fisheries Commission (NEAFC, 2021);
 - e. South East Atlantic Fisheries Organisation (SEAFO, 2019);
 - f. Southern Indian Ocean Fisheries Agreement (SIOFA, 2018).

2. To require vessels to be marked in accordance with the FAO Standard Specifications, this is a stronger approach, using rules of reference to oblige States to implement something which is not itself binding. One RFMO uses this approach:
 - a. North Pacific Fisheries Commission (NPFC, 2021).⁴
3. To include specific vessel marking requirements that reflect the FAO Standard Specifications, this avoids the rules of reference, which may be deliberate to avoid any disputes about the binding effect of rules of reference. Three RFMOs use this approach:
 - a. Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR, 2014);
 - b. Western and Central Pacific Fisheries Commission (WCPFC, 2004);
 - c. South Pacific Regional Fisheries Management Organisation (SPRFMO, 2021).

Of the RFMOs that have adopted the third approach, the SPRFMO stands out for the wording used to limit the markings displayed on the vessel, which is as follows:

Members and CNCPs shall ensure that apart from the vessel's name and/or identification number and the port of registry as may be required by international practice or national legislation, the markings required under paragraph 1 shall be the only other vessel identification mark consisting of letters and numbers to be painted on the hull or superstructure.

This is similar to the wording in 2.1.5 of the FAO Standard Specifications, altering in the addition of 'and/or', to replace 'or' in the FAO Standard Specifications. This allows greater flexibility and indicates that the vessel name, national identifier, and international identifier may be displayed in addition to the IRCS. This may be relevant in terms of permitting the practice of marking the vessel with the IMO number as well as the national identifier, which the review of national legislation demonstrated is the preferred identifier for most States (see figure 1). The SPRFMO document containing these requirements was the most recent vessel marking specific document identified in the review of RFMOs and this provision will only enter into force in January 2023.

RFMO requirement for the use of the IMO number and the marking of fishing vessels

As the FAO Standard Specifications were endorsed before the use of the IMO number for fishing vessels, any reference to them will exclude the IMO number as a possible identifier to mark fishing vessels. Therefore, the RFMOs CMMs were reviewed to determine if they had any requirements for fishing vessels to have IMO numbers and to mark these numbers on their vessels. Twelve of the thirteen RFMOs reviewed have requirements for vessels to have IMO numbers, and again these can be grouped into three approaches:

1. To require all vessels to have IMO numbers with no qualifications, with any and all vessels requiring an IMO number either in order to be authorised or in order to operate. This approach was used by:
 - a. CCAMLR, 2016;
 - b. ICCAT, 2013;
 - c. SEAFO, 2019;
 - d. SPRFMO, 2022.
2. To use rules of reference requiring all eligible vessels to have an IMO number, in some cases there is reference to a specific IMO instrument or to IMO in general, while in other cases there is simply a reference to eligible vessels without any indication as to what determines eligibility. This approach was used by:
 - a. GFCM, 2017;
 - b. IOTC, 2014;
 - c. IOTC, 2019;

⁴ The NPFC also included an Annex with selected details from the FAO Standard Specifications. This may have been done deliberately to address the fact that the binding effect of the rules of reference has been debated by some flag States.

- d. NAFO, 2021;
 - e. NEAFC, 2021;
 - f. NPFC, 2021.
3. To require IMO numbers for all vessels with the inclusion of an exception for vessels below a certain size. This approach was used by:
- a. CCSBT, 2019;
 - b. IATTC, 2018;
 - c. WCPFC, 2018.

None of the RFMOs reviewed had any provisions concerning the marking of the IMO numbers on fishing vessels. There are certain instances in which the provision text could be interpreted that the marking of the IMO number is implied (see table 9 in the Annex). All RFMOs which explicitly referred to vessel marking, did so in the context and to the extent of the FAO Standard Specifications, which predated the IMO number and its application to fishing vessels.

Vessels covered by the RFMO requirements

The RFMOs included in this analysis do not have the same authorisation requirements in terms of the types of vessels, their size and the location of operation (see table 3). Therefore, when vessel marking and/or IMO number requirements are linked to authorisation, these differences in vessel type, size and location become relevant. Differences between RFMOs in all three of these areas will create differing marking and IMO number requirements, which is further fragmented by the different fisheries covered by the various RFMOs within an ocean basin.

Another example, where this may cause challenges in application is that the FAO Standard Specifications only apply to ‘waters of States other than those of the flag State’, implying that they do not apply to vessels operating only on the high seas. Therefore, depending on the means that the RFMOs have used to incorporate the FAO Standard Specifications into their legal framework, the ‘area’ of application of the RFMO provision in areas beyond national jurisdiction (ABNJ) and/or within exclusive economic zones (EEZs) may bear relevance.

Further, difference in the wording used to define the type of vessels may cause challenges in interpretation with the term ‘ancillary’ used in the FAO Standard Specifications. A summary of the definitions used for fishing vessels and fishing under each RFMO is provided in table 10 of the Annex. These may impact on the authorisation requirements noted in Table 3. Some RFMOs do not have clear definitions or may have definitions which appear to apply only in specific contexts.

Table 3. Relevant size, types and location of vessels included in the RFMO provisions

RFMO	Vessel size	Vessel type*	Area
CCAMLR (2016)	-	Fishing	ABNJ and EEZs
CCSBT (2019)	-	Fishing	All waters where southern blue fin tuna is found
GFCM (2009)	>15 m LOA	Fishing	All waters of the Mediterranean and Black Sea
IATTC (2018)	-	Fishing	ABNJ and EEZs
ICCAT (2013)	≥ 20m LOA	Fishing Carrier	ABNJ and EEZs
IOTC (2019)	≥ 24m LOA < 24m LOA beyond flag State EEZ	Fishing Auxiliary Supply Support Carrier	ABNJ and EEZs

RFMO	Vessel size	Vessel type*	Area
NAFO (2021)	-	Fishing	ABNJ
NEAFC (2021)	-	Fishing	ABNJ
NPFC (2021)	-	Fishing	ABNJ
SEAFO (2019)	-	Fishing Fishing research	ABNJ
SIOFA (2019)	-	Fishing	ABNJ
SPRFMO (2021)	-	Fishing	ABNJ
WCPFC (2000)	-	Fishing	ABNJ and EEZs

*Wording as used in relevant text

Other regional mechanisms relating to marking and identification of fishing vessels

RFBs without binding agreements, but with advisory roles. Can have significant impact on State practice, and this may influence the development and adoption of binding instruments under other organisations. While this review does not look in detail at this sub-set of RFBs, note is made of their importance in addressing vessel marking and identification.

For example, the Southwest Indian Ocean Fisheries Commission (SWIOFC), adopted guidelines on minimum terms and conditions (MTCs) for foreign fishing vessel access, and the MTCs include the following text in paragraph 16: ‘SWIOFC States should require: a. all licensed, foreign fishing vessels to be clearly marked in accordance with the FAO Standard Specifications for the Marking and Identification of Fishing Vessels, and the relevant IOTC Resolutions’ (SWIOFC, 2019).

Coastal States which voluntarily choose to implement the SWIOFC MTCs may enforce a requirement for all foreign flagged vessels to be marked in accordance with the Standard Specifications as a licencing pre-requisite. In addition, as the SWIOFC is an organisation of coastal States, they may choose to cooperate to further their interests in other organisations to strengthen the vessel marking and identification requirements.

RFBs or other regional intergovernmental bodies may be important for the implementation of any standards for vessel marking and identification, especially in respect to regional records and registers. Regional organizations or MCS centres generally have or are developing such records or registers and may include a regional identifier within this system. For example, the regional economic community (REC) of the Southern African Development Community (SADC) in its Protocol on Fisheries (SADC, 2001) requires ‘States to cooperate to establish a mechanism for the registration of international and national fishing vessels as an instrument of compliance and as a means of sharing information on fishing and related activities.’ In efforts to move towards this objective, a combined licence list for vessels licenced to operate within the EEZs of the SADC States is regularly compiled, it is anticipated that this record of vessels will later become a register of vessels linked to minimum requirements to operate in the region, enabling it to accommodate global standards.

International frameworks

In addition to the FAO Standard Specifications themselves, vessel marking and identification requirements have been incorporated into many of the voluntary and binding agreements and guidelines developed since 1989, showing the importance of this issue across fisheries management (see table 11 in the Annex). In many of these instruments, the Standard Specifications are cited as the example, such as in the 1993 FAO Agreement to Promote Compliance with International CMM by Fishing Vessels on the High Seas (the ‘Compliance Agreement’) (FAO, 1993), the FAO Code of Conduct for Responsible Fisheries 1995 (FAO, 1995a) and the Voluntary Guidelines for Flag State Performance 2015 (FAO, 2015c). In others, they are annexed within the instrument, such as the FAO Technical Guidelines for

Responsible Fisheries – Fishing Operations (FAO, 1996). This cross-referencing of instruments, both binding and voluntary provide an additional method to increase the uptake and implementation of the standards into legislation and procedures as well as increasing awareness.

3. UPDATE

This section provides an update of issues and a summary of relevant publications and reports relating to fishing vessel identifications and marking. It aims to describe significant changes since the endorsement of the FAO Standard Specifications and the status of current published information on this topic.⁵

Definitions

The purpose and scope of the FAO Standard Specifications, include the definition of the word ‘vessel’ to mean ‘any vessel intending to fish or engaged in fishing or ancillary activities’. Therefore, vessels that do not harvest but engage in ancillary activities are included in the scope: determining which activities qualify as ‘ancillary activities’ will define which vessels are included.

Numerous key terms within the definition of ‘vessel’ are not defined within the Specifications, namely ‘fishing’ and ‘ancillary activities’. By examining more recent fisheries agreements, such as the PSMA, it indicates how wording may have changed, what the term fishing may mean, and what might be considered an activity that supports fishing. Definitions provided by the PSMA provide arguably the best example of modern and widely accepted definitions with international weight. The PSMA contains a somewhat similar definition of the word vessel: ‘any vessel, ship of another type or boat used for, equipped to be used for, or intended to be used for, fishing or fishing related activities.’ The PSMA does not contain the wording ‘ancillary activities’ but rather ‘fishing related activities’. It could be argued that the wording in the PSMA be considered an update/evolution of the definition of ‘vessel’ in the context of fisheries. That is not to say that this was a conscientious nor deliberate change in terminology, however.

According to the PSMA, fishing means: ‘searching for, attracting, locating, catching, taking or harvesting fish or any activity which can reasonably be expected to result in the attracting, locating, catching, taking or harvesting of fish.’ This definition would therefore likely cover fishing support vessels, meaning that they too are vessels intended to fish or vessels engaged in fishing, to paraphrase the Standard Specifications.

The PSMA provides a definition for fishing related activities: ‘any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping or transporting of fish that have not been previously landed in a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea.’ Under this definition, fishing support vessels, fish carrier vessels, refrigerated cargo vessels, liquefied petroleum gas (LPG) tankers, among others, could be engaged in fisheries related activities.

The use of the word ancillary as noted above has tended to be replaced by ‘fishing related activities’ but it is also important to note the differences between ancillary and auxiliary (as used in some legislation). While both terms mean to provide support, the former, unlike the latter, indicates that the assistance is subordinate to the main activity. It is unclear if refrigerated cargo vessels and LPG tankers provide support which is subordinate. What qualifies as subordinate is likely highly debatable. Ancillary may have been chosen to limit the scope, anticipating that other marking systems would cover the other vessels supporting fishing such as reefers and LPG tankers/bunkering vessels.

When vessel marking and/or IMO number requirements are linked to RFMO authorisation differences in the authorisation requirements in terms of the kinds of vessels, their size and the location of operation, will exclude some vessels from requirements for vessel markings. This is further fragmented by the different fisheries covered by RFMOs within an ocean basin and further still by wording used to define the type of vessels covered by their provisions. This is possibly due to the results of negotiation processes or the evolution of terms. This may cause challenges for application and in respect to interacting with the terms used in the Standard Specifications. For example, RFMOs in the Pacific Ocean basin appear to have more uniform practice in terms of definitions which closely match the definitions under other RFMOs in the context of port State measures (see table 10 in the Annex). These port State measures specific definitions reflect those found in the PSMA.

⁵ Only English language documents were reviewed.

Vessel identity

The IMO number

Through the adoption of Resolution A.600(15) in 1987 (IMO, 1987), the IMO ship identification number scheme was introduced as a measure aimed at improving maritime safety and pollution prevention as well as to facilitate the prevention of maritime fraud. The Scheme is a system for assigning a permanent UVI, currently⁶ comprised of the letters IMO and a seven-digit number (e.g. IMO8712345) to each ship (vessel) for identification purposes. This number remains unchanged during a vessel's life, regardless of changes in flag, name, ownership or type and can never be reissued. The IMO number is permanently marked on the hull structure of the ship as well as inserted in the ship's certificates⁷ (IMO, 2004). Information Handling Services Maritime and Trade (IHSM&T) is the sole authority for identifying and assigning an IMO number.

IMO number marking requirements are contained in Safety of Life at Sea (SOLAS), under Regulation XI-1/3 (IMO, 1974). Paragraph 2 provides that 'every ship shall be provided with an identification number which conforms to the IMO ship identification number scheme adopted by the Organization'. Paragraphs 4 and 5 provide the specifics of marking the number on the vessel. However, the application of these provisions is limited in paragraph 1 to passenger ships of 100 GT and upwards and cargo ships of 300 GT and upwards.

In 2013, the scope of the scheme was extended from applying only to merchant ships to include fishing vessels of 100 GT and above (IMO Resolution A.1078 (28) (IMO, 2013). In 2017, the scope was extended further, on a voluntary basis, to include fishing vessels of non-steel hull construction as well as smaller motorized inboard fishing vessels down to a size of 12 m LOA authorised to operate outside waters under the national jurisdiction of the flag State (IMO Resolution A.1117(30) (IMO, 2017).

Global UVI

The general intention of local/national vessel marking schemes is to assign a unique marking for the vessels, however, the movement of vessels both across national borders as well as international waters means that what may be unique in one specific area may not be unique on an international scale. Hence the need for, and move towards, a global system of assigning UVIs to individual vessels.

Since the adoption of the FAO Standard Specifications, FAO has investigated the possibility of uniquely identifying fishing vessels on a global scale, as it was recognised that national and regional identifiers were less precise since they are subject to change (e.g. flag and name) if the vessel is sold/moved to another country.⁸ According to FAO a UVI is 'a global unique number that is assigned to a vessel to ensure traceability through reliable, verified and permanent identification of the vessel. Once given, the UVI is with the vessel for its entire life, regardless of changes in flag, ownership, name or other'.

The development of a truly global record was called for in the 2005 Rome Declaration on IUU Fishing (FAO, 2005). This was the beginning of the Global Record – a record designed to increase transparency by providing vessel identification information at a global level.

Various processes followed to develop the Global Record, including a comprehensive study to identify an appropriate UVI system (MRAG, 2010) and a Technical Consultation in 2010 (FAO, 2010b.) to discuss the structure and strategy of developing and implementing the Global Record. The UVI study considered options for a workable UVI for the Global Record and concluded that extending the IMO numbering scheme to cover fishing vessels above and below 100 GT would be the preferred option.

⁶ Future numbers may be extended to eight-digits when the need for more numbers arises.

⁷ As per the provisions of MSC/Circ.1142 - MEPC/Circ.425, all plans, manuals and other documents required by the various IMO conventions to be carried on board ships constructed on or after 1 July 2005 should also be marked with the IMO ship identification number in a clearly legible and unambiguous manner.

⁸ Support for a UVI for fishing vessels was reinforced by subsequent discussions at FAO's Coordinating Working Party on Fishery Statistics (CWP, 2003), the twenty-seventh session of COFI (FAO, 2007), a United Nations General Assembly resolution on sustainable fisheries (UN, 2007), and the FAO's Expert Consultation on the Development of a Comprehensive Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (FAO, 2008).

The IMO scheme was noted to be the only existing global system of unique and permanent vessel identifiers, and it has been effective in terms of tracing vessel histories through multiple flag changes.

The 2010, Technical Consultation concluded that all types of vessels of 10 GT, 10 gross registered tonnage (GRT) or 12 m and above (except recreational and container vessels not carrying fish⁹), operating in all areas including inland waters, be included in the Global Record. Since 2010, the IMO scheme, as noted above, has expanded its scope to now cover fishing vessels over 100 GT, approximately 24 m that fish anywhere and smaller motorized inboard fishing vessels down to a size of 12 m LOA that are authorised to operate outside national waters. However, as having an IMO number is a prerequisite for inclusion on the Global Record, vessels between 12 m and 24 m in length that only operate in national waters are not directly eligible for such a number. However, in paragraph 5 of the Annex to IMO Resolution A.1117(30) it states that ‘Administrations implementing the Scheme beyond its mandatory scope are invited to inform the Organization accordingly, for circulation of information to other Governments’, suggesting that including vessels above 12 m in length that operate only in national waters is possible.

Based on analysis drawn from FAO reports, using 2018 figures, it is estimated that 18 percent of the motorized vessels (that are of known length classification) are above 12 m LOA: which equates to approximately 500 000, or 11 percent of the total world fleet (motorized and non-motorized). As IMO numbers are unique and can never be reissued, even if the vessel ceases to exist, there are limitations to the number of vessels that this system can handle, however, the seven-digit system currently used would accommodate roughly one million vessels which would be sufficient for all current vessels able to have an IMO number, including those vessels between 12 m and 24 m in length that only fish in national waters. In the future, if necessary, the system could be expanded to eight-digits, which would increase the system capacity to approximately 10 to 11 million vessels.

Since the release of the Global Record Information System at the Thirty-third Session of COFI (July 2018), participation in the initiative has increased steadily, as of February 2020, 62 FAO Members had participated in the Global Record, consolidating in a single repository information on a total of 10 902 vessels – accounting for almost half of the global fleet with an IMO number eligible for inclusion in the Global Record (FAO, 2020b). As it was being developed, the synergies between the Global Record and other global instruments, such as the PSMA and the Voluntary Guidelines for Flag State Performance as well as with market-related measures, were emphasised. In addition, it was set out to be a ‘one-stop-shop’ of vessel and vessel related information, which could be used to: identify vessels; describe their capacity and capability; identify their owners and associated interests; identify their fishing authorisations; provide a history of non-compliance; provide information on vessels involved in transshipment and refuelling operations; provide any other relevant and available data; as well as provide an access point to other complementary information (FAO, 2014b).

Regional UVI

There are many regional vessel records or registries in operation across the globe, with the purpose of ‘positive-listing’ or ‘negative-listing’ vessels. Each RFMO has its own system in place, usually with its own vessel identifier and increasingly RFBs are moving towards records or registers of vessels, mainly to assist with MCS and licensing of fishing vessels.

An example of an attempt to have a regionally combined list, came from the first joint tuna RFMO meeting in Kobe, Japan, in 2007, when the five Tuna RFMOs (T-RFMOs) agreed to prevent further depletion of tuna stocks as well as to rebuild the stocks. A course of actions was agreed, which included the creation of a harmonized list of tuna fishing vessels (a positive list). A permanent unique identifier (such as an IMO number) was agreed to be used for each vessel (Joint T-RFMOs, 2007). This was to be developed into a system whereby authorised fishing vessels are identified through a Tuna RFMO unique vessel identifier (TUVI) which corresponds to the IMO number if the vessel has been assigned one – if it has not, the vessel is assigned a temporary unique identifier. The T-RFMOs would share this information and the vessel list (Joint Tuna RFMOs, 2011). The harmonized list of vessels became the

⁹ More precisely: “container vessels that are not carrying fish or, if carrying fish, only fish that have been previously landed” (FAO, 2010b).

consolidated list of authorized vessels – the CLAV – which is updated in real time, making it more accurate and useful.

National UVI

Most countries and regions have their own marking and identification schemes relating to fishing vessel registration and licensing. This was demonstrated through the review findings, with the national identifier being the most commonly mandated identifier required to be marked on fishing vessels in the 24 States reviewed (at 92 percent). These schemes are an important alternative because many countries have national fleets with large numbers of vessels below 12m LOA and/or that do not leave their national waters. Identification and records of national fishing vessels or craft may relate to the vessel/craft itself or to the licence issued to the vessel or craft.

For example, a pilot registration and licencing programme for small pelagic fishing vessels in the United Republic of Tanzania’s coastal fishery was undertaken by the Indian Ocean Commission (IOC) SmartFish programme in 2015-2016. This fishery was largely unregulated with most of the vessels (>95 percent) less than 11 m in length and only 26 percent of the 7 000 vessels were registered and licenced (in 2009). To mark the vessels, inexpensive non-transferable coloured plastic security tags were introduced. The tags were individually marked with an alphanumeric that conformed to those required for vessels, ensuring that the vessel owners could be individually identified. The tags were placed in conspicuous places on each vessel, making it easy for compliance officers to locate and identify the vessels. However, the pilot did not continue due to challenges in supplying the tags, and because they were not as weatherproof as expected as the colour bleached and the print faded after a few months.

Another example is that of Thailand whose fishing fleet is smaller than the industrial vessels that normally obtain IMO numbers. However, to address the country’s high levels of IUU fishing, there was a need to monitor the identity of these vessels. Thus, Thailand implemented a UVI scheme for all its domestic commercial fishing vessels weighing 10 GT and above, which included just over 11 000 vessels. This UVI scheme uses a unique nine-digit number assigned to every vessel registered with the Thai Marine Department. The ship registration number does not change for the lifespan of that vessel, regardless of name, ownership or usage changes. The UVIs are stamped into the wooden structure of the vessels in two places – at the head of the vessel and inside the wheelhouse. These locations are verified regularly during vessel inspections (EJF, 2018).

Vessel tracking

Since the adoption of the Standard Specifications in 1989, there have been some major developments in remote tracking of vessels through VMS and AIS. These are important in respect to vessel marking and identification as vessels are identified remotely by VMSs and AISs using identifiers that are integrated into the data transmitted. Information from vessel tracking is useful for fisheries management and MCS and the information received through remote monitoring may be used to cross-check information gathered by fisheries inspectors during physical inspections at sea and in port. Therefore, if the vessel identifier is not recognisable, not unique, or incorrect the use and value of the VMS and AIS information is reduced. These identifiers, if correctly used, are unique at a specified time but they are not permanent as units can be moved from or between vessels. A brief overview of each system is provided below to enable consideration as to the suitability to align guidelines related to the identification of fishing vessels by marking to identification of fishing vessels by remote tracking.

Vessel monitoring systems

Satellite technology became commercially viable for tracking purposes in the mid-1980s and in the early 1990s it became integrated into some fisheries management agencies (FAO, 1998). Today, VMS is a common fisheries management and monitoring tool used for commercial fishing by States and fishing vessel operators. VMSs enable the monitoring of position, course and speed of fishing vessels and, in some units, to receive catch data (Stop Illegal Fishing, 2017). VMSs are generally mandated and implemented nationally and/or regionally but not by all countries nor in every region. Nationally, many countries require the use of VMSs by foreign vessels that fish in their waters and some flag States require the use of VMSs by all fishing vessels that carry their flag. Internationally, nine RFMOs mandate the use of VMSs by vessels authorised to fish in the waters they manage.

Identification of the vessel is via hardware installed on fishing vessels called an automatic location communicator (ALC) or a mobile transmitting unit (MTU), these send information to communication satellites. This equipment is known as the vessel's VMS unit, and it is installed and integrated with the shipboard global positioning system (GPS). The VMS unit is assigned a unique identifier by the manufacturer, known as the international mobile equipment identity (IMEI) number. Data reports are automatically sent to the assigned fisheries MCS operations centres or the vessels owners/operators via satellite-based communications. For the IMEI to be linked to the vessel's identity this must be mandated in the legislative framework and take into account procedures for replacing old or malfunctioning equipment. VMSs are difficult to tamper with, and the most common approach to avoid being monitored is by cutting the units power supply to stop transmission.

Automatic identification systems

An AIS is a very high frequency (VHF) radio-based or satellite-based tool that supports safe navigation and collision avoidance by automatically transferring information about the ship to other ships and coastal authorities. Although fishing vessels are exempted from an IMO (IMO, 1974) requirement that vessels above 300 GT and engaged in international voyages use AIS, some flag and coastal States do mandate the usage of AIS by fishing vessels flying their flag or operating in their waters. In addition, large numbers of fishing vessels use AIS voluntarily as an aid to navigation, to mark fishing gear and as an operational and safety tool. An AIS unit is identified by regularly transmitting a maritime mobile service identity (MMSI) nine-digit standardised number allocated by the ITU. AIS signals can be manipulated to transmit inaccurate information more easily than VMS, including transmitting incorrect MMSI numbers.

The utility of AIS is primarily in relation to the world's largest fishing vessels (above 24 m) – particularly distant water fleets and high seas fishing vessels – covering about 2 percent of the world's 2.8 million motorized vessels. However, even between the larger-vessel fleets, the use of AIS varies significantly. For example, whereas a majority of the world's largest fleet of vessels of more than 24m LOA – the Chinese – used AIS at some point in 2017, only a very small proportion of the second largest – the Indonesian – used AIS. There are also large differences in tracking performance between regions. Whereas European vessels of more than 15 m LOA are required to have AIS and thus provides a good estimate of fishing activity in the Northern Atlantic – in Southeast Asia, the majority of vessels are small, and few of these use AIS, and finally the reception quality is generally poor (Taconet, *et al.*, 2019).

Vessel coverage

The Standard Specifications do not refer to a vessel size for application: any vessel intending to fish or engage in fishing or ancillary activities in waters of States other than those of the flag State, are covered by the Standard. This focus on vessels operating in other States' waters, links to the traditional focus with regard to MCS on industrial-size vessels operating within EEZs. However, changes in fleet sizes and compositions across the globe, as well as technological advancements, suggest that the impact and behaviour of smaller fishing vessels might warrant more attention in respect to vessel identification and marking as well as vessels operating only on the high seas.

Prioritisation by IUU fishing risk

The UVI and the Global Record serve as a means to provide ongoing records of fishing vessel activities. To ensure the effectiveness of this system, it should capture the vessels with the highest risk of engaging in IUU fishing activities. In the 2010 UVI study, an assessment was made by examining data derived from vessel negative-lists from eight RFMOs from 2004-2008¹⁰ and from assessing the record of IUU fishing incidents reported by the 17 Member Countries of the Forum Fisheries Agency (FFA) in the Western and Central Pacific Ocean.¹¹ The conclusion, based on these datasets, was that a large

¹⁰ 178 vessels were listed, 77 percent were ≥ 100 tonnes; the remainder were between 55 and 100 tonnes.

¹¹ The FFA Violations and Prosecutions Database consisted of 349 incidents (by 257 vessels) during 1978 to 2007. Longliners were involved in 61 percent of the incidents and purse seiners in 24 percent. Of the 266 vessels with tonnage recorded, 62 percent were ≥ 100 tonnes; 24 percent were between 50 and 100 tonnes, and 14

proportion of IUU fishing involves longliners. This is likely to reflect the fact that many of these organisations manage tuna fisheries in which the majority of vessels by number are longliners. Importantly however, the findings in relation to vessel size are based on various gear types and are probably representative of the range of vessel sizes involved in commercial (i.e. non-artisanal) fishing activities. In summary, the findings indicated that the majority of vessels which have been implicated in IUU fishing activities are ≥ 100 tonnes. However, the rest of the implicated vessels are primarily < 100 tonnes but > 50 tonnes or > 18 m. A smaller proportion fall in the category of > 12 m or > 10 tonnes.

Importance of distant water fleets

With regard to the global distance water fishing (DWF) industry, the Stimson Center carried out a study in 2019 (Stimson, 2019), using AIS data¹² for 2016 to 2017, to identify the top ten DWF¹³ fleets¹⁴ and the top 20 coastal countries.¹⁵ It was found that the top five DWF fleets accounted for nearly 90 percent of the effort during this period. Of these, China including Taiwan, Province of China represented nearly 60 percent of all global DWF effort by vessel number in other countries' waters during this period, while Japan, South Korea, and Spain each represented about 10 percent. These fleets primarily fished in three regions, namely the Pacific, East Africa, and West Africa. Within each of these regions, Kiribati, Seychelles, and Guinea-Bissau received the highest numbers of DWF vessels in their EEZs, respectively.

With regard to the fishing gear used, these primarily included longlines, squid jigging, trawling and purse seining. More than two thirds of these DWF vessels were either longliners or purse seiners, which indicates they are likely targeting tuna and tuna-like species. The remaining fishing activities of these vessels were carried out by trawlers and squid jiggers. Such vessels are generally significant in size, often between 20 to 90 m. The study also discussed the practice of 'transshipment', i.e. the use of support vessels to offload or 'transship' catch from a fishing vessel, as this is critical for the economic viability of the DWF industry. Longliners that target tuna particularly use refrigerated cargo vessels (reefers) to get their catch to the market.

Importance of artisanal and small scale vessels

In general, the industrial fishing sector is better documented and reported compared to the artisanal or small-scale fisheries (SSF) sector, resulting in the extent and impact of the SSF sector often being underestimated in the literature. This was recognised in the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015a), which highlight the importance of establishing MCS systems that are suitable for SSF and the need to improve registration of the fishing activity, including the provision of information required for the management of the activity.

While, up to a quarter of fishing vessels are non-motorized globally, outboard motors are becoming more prominent and retrofitted vessels increasingly common particularly in Africa and Southeast Asia. In a study by Rousseau *et al.* (2019) fishing vessels and craft were grouped into three sectors, artisanal unpowered, artisanal powered and industrial. They found that, between 1950 and 2015, the global fishing fleet had doubled – from 1.7 to 3.7 million vessels. While the unpowered-artisanal fleet declined by 0.2 million during this period, the motorized fleet (both powered-artisanal and industrial) increased

percent were < 50 tonnes. With regard to length, 28 percent of the vessels were < 24 m. Most of these vessels were between 18 and 24 m.

¹² In undertaking this study, the Stimson Center partnered with GFW.

¹³ The study defined DWF as "fishing activity that occurs by a flag-state vessel in a non-neighboring country's EEZ".

¹⁴ China, Taiwan, Province of China, Japan, the Republic of Korea, Spain, the United States of America, Vanuatu, France, the Russian Federation, Italy.

¹⁵ Kiribati, Solomon Islands, Vanuatu, the Federal States of Micronesia, Independent State of Papua New Guinea, the Republic of the Marshall Islands, the Republic of Seychelles, the Republic of Madagascar, the Republic of Mauritius, the Republic of Guinea-Bissau, the Islamic Republic of Mauritania, the Republic of Angola, Tuvalu, the Republic of Sierra Leone, the Cook Islands, the Republic of Mozambique, Tokelau, Congo, the Republic of Guinea, the Falkland Islands (Malvinas).

more than six times. By 2015, 68 percent of the global fishing fleet was motorized, and the dominating vessels were the small powered vessels under 50 kilowatt.

The growth of industrial fleets has slowed in the past three decades so that now the total engine power of the powered-artisanal sector is equal to that of the industrial sector. However, while small powered vessels make up a vast portion of the global motorized fleet in numbers, they do not represent a large portion of the engine power. The large powered vessels, on the other hand, represent less than five percent of the fleet but account for a third of the total engine power. Finally, with regard to fishing effort, there is evidence that the artisanal or SSF sector could play an important role in global overfishing as it is less restricted and monitored.

Vessels involved in transshipment

Since the thirty-second Session of COFI in 2016, work has been underway towards creating international voluntary transshipment guidelines. A key focus of this process is the desire to strengthen ways to globally stop IUU fishing through improving the regulations and monitoring of fish when it is transshipped from the catching vessels to other vessels at sea or in port. In a study prepared by FAO in 2020 it is noted that all donor and receiving vessels should be included and listed in all appropriate RFMO vessel authorization lists as well as the Global Record, including the vessel's IMO number and other vessel details (FAO, 2020b). Further, that all donor and receiving vessels eligible to receive an IMO number should be required to have one in order to be authorized by their flag State to transship, regardless of the location of the activity. In noting the weaknesses and gaps within the systems in place for the authorization procedures required by different RFMOs to transship at sea: the lack of accessibility of information and lack of a UVI – the IMO number – is noted as a limitation on the effective and reliable monitoring of vessels' activities.

Catch traceability

Vessel identification and markings are a cornerstone of traceability and some significant steps have been taken since 1989 with regard to traceability and CDSs in the fisheries sector. Such schemes are a way to ensure transparent and sustainable fish supply chains 'from net to plate'. There are multilateral and unilateral CDSs, but there are also private sector sourcing standards that push the traceability requirements to become more of a norm. While it is not yet the golden rule, increasingly, there are traceability requirements in fish supply chains all the way down to vessel identity and UVI, encouraging the requirement for UVIs (such as the IMO number) in these market mechanisms may be an effective way to encourage their wider uptake and use.

The FAO Voluntary Guidelines for CDS

In 2015, an FAO Expert Consultation on CDSs was convened, with the aim to produce draft voluntary guidelines for CDSs (FAO, 2015b). Amongst various areas, they discussed the minimum information requirements that a catch certificate should contain, and this was further discussed in the subsequent guidelines – the FAO Voluntary Guidelines for CDS (FAO, 2017). The minimum information requirements for the catch certificate are relevant to correct vessel identification (and thus marking) and the Guidelines propose that among the core information elements to be included are information on catch and landing (fishing vessel or vessel group [SSF], species, catch area, landing information etc.) and transshipment at sea or in port, as appropriate (donor and receiving vessel, area, date). This implies that not only is adequate vessel identification and marking required for industrial and support vessels but also for SSF vessels, as indicated by the reference to the 'vessel group' requirement.

Traceability in fisheries supply chains

The purpose of a CDS is to allow only legally certified fish to be landed, processed and traded. It does this by identifying units of legally harvested catch, certifying that these are of legal origin, and then tracking them through the supply chain to the end market. The objective is to prevent the entry of IUU caught fish into the supply chain, so that the system is a deterrent to IUU operators. The traceability of the catch is central for the implementation of the CDS, and the identification of the catching vessel is central to traceability.

Catch documents are issued based on the catch, transshipments and landings and must be validated by relevant competent authorities to certify that the catch has come from legal fishing operations. This validation process draws on various MCS tools that may be applied by flag, port and coastal States such as VMS, logbooks, observer programmes, sea and air patrols, landing reports and port inspections. The identification of the fishing vessel, through documents and marking is central to the validation process and the subsequent exchange of MCS information between different States' competent authorities through the supply chain.

There are different types of CDSs, established by different players and with different objectives. Multilateral CDSs aim to protect particular stocks or entire species, based on RFMO CMMs. For example, the CCAMLR scheme for toothfish (or Chilean Seabass) harvested in Antarctic waters introduced in 2000, or the CDS introduced in 2008 by ICCAT, covering Atlantic Bluefin tuna. Unilateral CDSs, on the other hand, aim to protect single markets from importing illegally sourced fish from numerous fisheries. This type of CDS is enforced at the time of importation into the final destination market, at the border. An example is the European Union's Catch Certification Scheme introduced in 2008¹⁶ (FAO, 2010a), covering all marine wild caught fish (with some minor exemptions) traded by non-European Union countries into the European Union market. In addition, there are a variety of private initiatives, such as private sector sourcing standards, for example the Marks and Spencer Seafood sourcing policy (Marks & Spencer, 2019) and private sector alliances that call for, and support, improved traceability in their sector, for example the Global Tuna Alliance (Global Tuna Alliance, 2020).

¹⁶ Through the European Union IUU Regulation, and implemented as of January 2010. (FAO, 2010b)

4. ANALYSIS AND OPTIONS

This chapter provides an analysis of the key elements of a vessel marking and identification scheme to provide the arguments to support a review of the 1989 FAO Standard Specifications. Based on these arguments the rationale for a modern globally harmonized fishing vessel marking and identification scheme is proposed, followed by options for such a scheme and consideration for how the scheme could be facilitated.

Analysis of identifiers, markings and vessels

The three core elements – the identifiers, the markings and the vessels – that form a harmonised system are analysed in the following section.

Identifiers

The requirement for marking the IRCS, which is the basis of the 1989 FAO Standard Specifications, was found in 46 percent of the reviewed States' national legislation, this identifier was the least well domesticated of the four indicators permitted by the FAO Standard Specifications. This was, to some degree, off-set by the requirement by most RFMOs to – in various ways and to various degrees – incorporate the FAO Standard Specifications into their provisions.

For the other three indicators specified in the FAO Standard Specification, the national identifier, vessel name and the port of registration were required to be marked on fishing vessels in the legislation of 70 percent or more of the countries reviewed, providing a good level of domestication of the FAO Standard Specifications (see Figure 1). The high percentage (92 percent) of States requiring a national identifier to be obtained and marked on the vessel, indicates the universal importance of national identification schemes. Of the 24 States reviewed only seven required all four identifiers to be marked on their fishing vessel.

Thus, it can be argued that the aim of the Standard Specifications to encourage the use of the IRCS as the principal identifier on vessels operating in other States' waters, has been widely achieved through RFMO provisions. However, the greater emphasis on the national identifier within national legislation indicates a preference for this identifier for vessels not operating within the jurisdiction of RFMOs. The lack of coherence to the Standard Specification for identifiers in coastal and port States is concerning, although this may reflect a practice of relying on licensing procedures to require adequate marking by foreign flagged vessels when operating in a coastal States' waters and using their ports.

The practice of reflagging fishing vessels and how this links to IUU fishing have become increasingly well documented and understood. This practice provides a significant challenge to the current IRCS based identification system as reflagging would result in the IRCS changing, as would any national identifier and the port of registry. Therefore, there is no permanent link between a call sign and a particular vessel or owner, and previously used identifiers can be reassigned. This results in a major challenge to joined-up monitoring of some of the highest risk vessels due to their ever-changing identifiers and markings.

With the application of the IMO number to fishing vessels, there is a permanent identifier which never changes regardless of reflagging. The IMO number is the chosen UVI for the Global Record and it is widely and freely accessible, making it the best option for a global UVI for identifying eligible fishing vessels. However, this is not to suggest that other identifiers, including the IRCS should be discarded. The identification of a fishing vessel with the IRCS has advantages including that it identifies the flag of the vessel, and it facilitates easy radio access to call up the vessel from fisheries patrols or for safety. In addition, the importance of national schemes and numbers is significant and needs to be incorporated into a global scheme of vessel identification and marking.

It is recommended that the following identifiers – the IMO number, the national identifier, the IRCS, the port of registry and the vessel name – are used as the identifiers within the global system to identify fishing vessels and crafts.

Markings

National inclusion of requirements that reflected the FAO Standard Specifications, for the location and dimension of the physical markings were very rare. Not any State reviewed included these requirements in respect to marking the port of registry or vessel name and only three States required these for national identifiers (see figures 2 and 3). However, in the 46 percent of cases when the IRCS was required in national legislation, the corresponding requirements for physical marking in line with the Standard Specification were the highest of any indicator at 64 percent for location and 55 percent for dimension of the marking.

The FAO Standard Specifications 2.1.5 state that: ‘Apart from the vessel’s name or identification mark and the port of registry as required by international practice or national legislation, the marking system as specified shall, in order to avoid confusion, be the only other vessel identification mark consisting of letter and number to be painted on the hull or superstructure.’ While, arguably this statement could be interpreted to indicate that the IMO number should not be marked on the vessel, it does not prevent other markings, such as an IMO number, from being placed on the vessel. However, ambiguity around this statement may have influenced the drafting of legislation, with only one of the reviewed national legislations containing a provision requiring IMO numbers for fishing vessels, and none having provisions for the marking of IMO numbers on fishing vessels. Similarly, while 12 of the 13 RFMOs reviewed had requirements for vessels to have IMO numbers, none of them had any provisions concerning the marking of IMO numbers on vessels operating in their jurisdictions. This situation reflects the developments that have occurred and the need to clarify the new situation. The most modern RFMO provision related to marking vessels, in the SPRFMO, incorporated text with a slight amendment to the Standard Specifications to clearly permit the inclusion of the IMO number in the markings on the vessel, in addition to other identifiers.

Although most RFMOs have not incorporated the text of the Standard Specifications, they have generally referred to it specifically in relation to vessel marking requirements. At the same time, some of these RFMOs have adopted measures based on the PSMA, with a specific view to implementing its provisions regionally. This includes the IOTC, NAFO, NEAFC, SEAFO and SIOFA. The PSMA includes inspection procedure requirement, such that during a port State inspection, external markings are to be checked, with a reference to the IMO number, external registration number and an open-ended reference to ‘other markings’. This situation creates challenges to develop coherent standard operating procedures for port inspections.

Therefore, implementation of the FAO Standard Specifications for marking of fishing vessels with identifiers is limited and due to global developments not without ambiguity. Moreover, inconsistencies across international instruments have arisen on this subject. In respect to fishing vessels and craft not covered in the scope of the current FAO Standard Specifications, global guidelines for marking fishing vessels should include a range of options that can be applied to suit different local and national needs, but still fulfil global best practice. Therefore, it is recommended that improved guidance for fishing vessel marking is developed, aligned to SOLAS and IMO requirements for vessels that can be included in these schemes and with alternative best practice for fishing vessels and crafts that do not. In addition, coherence and alignment to other FAO instruments is essential.

Vessels

The FAO Standard Specifications do not apply to a specific vessel size rather they include ‘any vessel intending to fish or engage in fishing or ancillary activities in waters of States other than those of the flag State’. This therefore excludes many fishing vessels, motorised and non-motorised craft, which do not operate outside of their national waters or if they do, only on the high seas and not in other States’ waters.

Globally there is a recognised need to encourage improved fisheries data collection and fisheries management, particularly in the poorly managed fisheries and open access fisheries. Information on fishing vessels enables countries to know the numbers of vessels operating which is essential for informed fisheries management decisions – in respect to catch, fish stocks and fishers – and global reporting. Ensuring a holistic approach to this information collection, provides regional and global

recognition of all fisheries, including SSFs. Currently, the Global Record is in a phased approach, aiming to include all vessels above 12 m, noting that those only operating in national waters require further consideration in respect to the allocation of IMO numbers. However, that leaves 82 percent of motorised fishing vessels, which are less than 12 m in length, outside of the Global Record. Therefore, while the Global Record may not be the correct place to maintain a record of vessels under 12 m, guidelines for identifying and marking smaller vessels and maintaining them in records or registers should be considered within a global scheme for the identification of fishing vessels.

Considering the application of the IMO Scheme to fishing vessels between 12 m LOA and 100 GT, operating exclusively within their flag State's waters, their inclusion in the Global Record is considered important if they have international aspects to their operations. This includes foreign owners, operators or crew, if the catch is transported by foreign flagged vessels, or if the catch is processed or exported to foreign countries. All or any of these elements indicate that the vessel, its authority, its operations, or the supply chain of its catch may require international exchange of information to support fisheries management and MCS obligations related to flag, coastal and port State oversight and to also enable alignment to the implementation of the IMO CTA and the ILO C188. In line with IMO Resolution A.1117(30) Annex, paragraph 5, this assignment of an IMO number to these vessels, must be at the discretion of the flag State, something which global guidelines could encourage States to consider doing.

Rationale for harmonized fishing vessel identification and marking

Global developments in recent years, have provided many examples as to benefits and requirements for harmonising fishing vessel identification and markings to underpin the desired improvements in sustainability of fish stocks and to meet sustainable development targets. These include: the already wide use of the IMO number for identifying a vessel in addition to national vessel numbers, the wide engagement by States in the first phase of the Global Record, the entry into force of the legally binding PSMA and the consideration of a global voluntary guideline on transshipment, all processes that require accurate and timely identification of fishing vessels to enable adequate oversight.

The purpose of the 1989 FAO Standard Specifications was to aid fisheries management and safety at sea. The scope was for fishing vessels intending to operate in other States' waters. The system was based on it meeting certain requirements, including using an established international system from which the identity and nationality of vessels could be readily determined, irrespective of size and tonnage, and for which a register is maintained. When these three aspects, purpose, scope and basis were considered, at the time of the development of the FAO Standard Specification, in the 1980s, the choice to use the IRCS as the key identifier was logical.

However, the challenges that fisheries are facing have evolved, and are not the same as those faced in the late 1980s. Today, however strong national fisheries management is, external threats that fisheries managers and decision makers are not in control of are having negative impacts on the fisheries ecosystems. These impacts have the potential to undermine the sustainability of fisheries ecosystems, the social economic benefits they provide, and to limit future options to grow blue economies based on sustainable fisheries. To face these threats and deal with the impacts, international cooperation and a global vision is required.

It is in light of this, that the purpose, scope and basis for a global guideline for the identification and marking of fishing vessels should be drafted. While standard specifications may have been appropriate in 1989, a more suitable approach today may be provided in the form of global voluntary guidelines. To provide a useful, meaningful and holistic framework that promotes ownership of inclusive national, regional and international mechanisms for the identification and marking of fishing vessels is valuable.

A modern purpose could address the target of SDG 14 by promoting legal, safe and fair fisheries in line with the FAO, IMO and ILO joint framework, and to promote the sustainability of fish stocks and fisheries, including those poorly regulated and with open fishing access, by ending overfishing, IUU fishing and destructive fishing practices.

A modern scope could be for the global identification and marking guidelines to include all fishing vessels by encouraging: the uptake and marking of the IMO numbers on all vessels over 100 GT; the uptake and marking of the IMO numbers on all vessels of between 12 m and 100 GT that have an international element in the vessels' authority, operations or supply chain of the catch; and for all vessels with only national authority, operations and supply chain of the catch between 12 m and 100 GT and all vessels under 12 m to be allocated and marked with a national identifier.

The basis for the global scheme could be to have global guidelines that promote ownership of vessel marking and identification at the appropriate level – national, regional or international – using suitable and interlinked mechanisms, and vessel identifiers drawn from the IMO number, the national identifier, the IRCS, the port of registry and the vessel name, marked correctly for the different vessel types. The global guidelines should be coherent with instruments of the United Nations, especially the FAO, and align with alternative methods of identifying vessels.

Options for harmonized fishing vessel identification and marking

To address limitations and gaps with the current FAO Standard Specifications and provide practical options for a coherent and comprehensive updated global scheme, it is suggested to develop guidelines for vessel identification and marking that will align to national, regional and international fishing vessel records and registers, accommodating three different 'groups' of fishing vessel related to the identifiers that they should obtain and mark:

- The Global Record offers a global established database that is the most suitable mechanism to compile and maintain information about 'international' fishing vessels which have an international aspect to their authority, operations or the supply chain of their catch. The IMO number is the required identifier, and this should be marked on the fishing vessel in line with guidelines, other identifiers may also be used and marked. The Global Record is maintained by the FAO and ensures high accessibility to information by all States and actors;
- Regional records and registers, embedded in regional organisations, are useful to facilitate regional fisheries management or coordination in respect to fisheries access, MCS (for national legislation and regional CMMs) and, for example, implementing voluntary minimum terms and conditions. They may include 'national', 'regional' and 'international' vessels relevant to the region, including from a coastal, flag or port State perspective. Some of these vessels may be included in the Global Record as well as national records and registers. A combination of identifiers will be required for identification and marking, including the IMO number where relevant and national identifiers;
- National records and registers are established and maintained by national authorities and may include decentralised local records or registers. Their purpose is to maintain information on all 'national' fishing vessels and crafts and on 'regional' and 'international' vessels licenced to operate in their waters or that use their ports.

Three groups of fishing vessel are suggested to facilitate fishing vessel identification and marking in line with the scope and basis proposed for an updated global guideline:

- 'International fishing vessels' are authorised to operate outside of their national waters (internationally) and are equal to or above 12 m LOA: or are authorised to operate in their national waters, are equal to or above 12 m LOA, have inboard engines, and have an international aspect in respect to either foreign owners, operators or crew, or that some of the catch is transported by a foreign flagged vessel, or processed in, or exported to, a foreign country. The primary identifier for these vessels should be the IMO number, which should be marked on the fishing vessel, other identifiers including the national identifier, the vessel name, the IRCS and the port of registry may be used both as identifiers and to mark the vessel. All identifiers should be recorded and maintained within national and relevant regional records and registers and in the Global Record;
- 'Regional fishing vessels' are authorised to operate outside of their national waters and are below 12 m. The primary identifier should be the national identifier which should be marked on the vessel, other identifiers including the vessel name, the IRCS and the port of registry may

be used both as identifiers and to mark the vessel. All identifiers should be recorded and maintained within national and relevant regional records or registers;

- ‘National fishing vessels’ are only authorised to operate in their national waters, are owned, operated and crewed by nationals of that State and the catch is processed and sold nationally – these vessels will be eligible for IMO numbers if they are over 100 GT. The primary identifier should be the national identifier which should be marked on the vessel, if the vessel is over 100 GT and has an IMO number this should also be marked on the vessel. Other identifiers including the vessel name, the IRCS and the port of registry may be used both as identifiers and to mark the vessel. All identifiers should be recorded and maintained within national and relevant regional records or registers and vessels over 100 GT should be recorded and maintained within the Global Record and regional records and registered as required.

Harmonizing fishing vessel identification and marking

An updated global guideline for fishing vessel identification and marking could include guidelines on facilitating the implementation of the global scheme. Some elements for consideration are:

- Providing well-defined or well-explained wording for vessel marking and identification, with definitions that are not ambiguous, and that are in line, as far as possible with other FAO instruments that include definitions of the terms, such as the PSMA, and that are applicable to different national and regional situations and languages;
- guiding on systematic, routine and ad-hoc information gathering and sharing in respect to the records and registers, including for sharing and cross-checking between records and registers;
- promoting access to information that is linked to accountability, inclusive of all players, to provide a balanced, comprehensive and meaningful scheme;
- supporting the continued roll-out of the Global Record into the second and third phases and to encourage States to apply for IMO numbers for vessels that operate within their waters and are not authorised to operate in ABNJ, but that have international engagement in the vessel’s authority, operations or supply chain of the catch, and to advise the IMO of their intention;
- addressing regulatory gaps and loopholes that enable fishing vessels to be omitted from the global scheme for identification and marking, especially to rebalance the distribution and coverage of frameworks to include less economically valuable fisheries that are important for food and nutrition;
- strengthening regional and national records and registers by building capacity where it is needed, especially to focus on fishing vessels and catch that is from poorly managed fisheries and catch that is destined for consumption in the developing world;
- aligning the identifiers for fishing vessels with those used in remote tracking, including VMS, AIS and other transponders.

Conclusions

The marking of fishing vessels with systematic identifiers is important for their identification and to support the global efforts to promote sustainable fisheries and to combat IUU fishing. For this reason, the FAO Standard Specifications for the Marking and Identification of Fishing Vessels were endorsed in 1989 as a voluntary instrument providing a standardized system for the identification of fishing vessels operating, or likely to operate, in waters of another State.

Since that time, global developments have had an impact on the usefulness of the FAO Standard Specifications, specifically the increased use of the IMO number as a UVI and the establishment of the FAO Global Record. The scope of the FAO Standard Specifications is limited, only applying to a small group of industrialised vessels, mainly catching fish destined for consumption in the developed world, and leaving the majority of vessels outside of the scheme. Research into the legal requirements of States and RFMOs for vessel identification and marking shows that while commonalities exist, there is limited harmonization on this subject, creating challenges to gain an overview of the global distribution of fishing vessels, to monitor and trace their activities and catches and to identify illegal operators.

The identification and marking of fishing vessels and the compiling and maintaining of this information in accessible national, regional and global records and registers, is key to the implementation of various FAO fisheries instruments and also those of the IMO and ILO, who together with FAO, jointly promote legal, safe and fair fisheries. Given these developments and findings, it is proposed that COFI may consider an update of the FAO Standard Specifications and a process to achieve this.

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Relevant national legislation reviewed for the use assessment

Table 4. Relevant national legislation reviewed for the national use assessment

State	Document
Argentina	Decreto Provincial 3271/1979 – Reglamentario de la Ley 1040 de Pesca
	Resolución 17/2006 Apruébase el texto ordenado del Reglamento de Permisos de Pesca de Gran Altura. Sustitúyese el inciso f) del artículo 3° de la Resolución N° 8/2004.
Australia	Fish Resources Management Regulations, 1995 (Western Australia)
	Fisheries (Commercial Fisheries) Regulations, 2019 (Queensland)
	Fisheries Management (General) Regulations, 2010 (New South Wales) [2010-475]
	Fisheries Management (General) Regulations, 2017 (South Australia)
	Fisheries Management (Heard Island and McDonald Islands Fishery) Regulations 2002 (S.R. No. 115 of 2002)
	Fisheries Management (International Agreements) Regulations, 2009 (SLI No. 254 of 2009)
	Fisheries Management Amendment Act, 2009 (New South Wales)
	Fisheries Management Regulations, 2019
	Fisheries Regulations (Northern Territories)
	Fisheries Regulations, 2009 (Victoria)
	Fisheries Rules, 2009 (Tasmania)
	Shipping Registration Act, 1981
Shipping Registration Regulations, 1981	
Bahamas	Boat Registration Act (Cap. 277)
	Boat Registration Rules
	Fisheries Resources (Jurisdiction and Conservation) Regulations, 1986 (Cap. 244)
	Merchant Shipping Act (Cap. 268)
	Merchant Shipping Regulations (Cap. 268)
Bangladesh	Merchant Shipping Ordinance, 1983
Canada	Canada Shipping Act, 2001 (S.C. 2001, c. 26)
	Coastal Fisheries Protection Regulations (C.R.C., c. 413)
	Fisheries Act (R.S.C. 1985, c. F-14)
	Fishery (General) Regulations (SQR.93-53)
China	Provisions on the Administration of Pelagic Fisheries
	Regulations of the People's Republic of China Governing the Registration of Ships
Taiwan, Province of China	Regulations for Fishing Vessels Conducting Exploratory Squid Jigging Fishery in the Indian Ocean
	Regulations for Fishing Vessels Conducting Saury Fishery in North Pacific Ocean

State	Document
	Regulations for Fishing Vessels Conducting Squid Jigging Fishery
	Regulations for Tuna Longline Fishing Vessels Proceeding to the Atlantic Ocean for Fishing Operation
	Regulations for Tuna Longline Fishing Vessels Proceeding to the Indian Ocean for Fishing Operation
	Regulations for Tuna Longline and Purse Seine Fishing Vessels Proceeding to the Pacific Ocean for Fishing Operation
Costa Rica	Decreto N° 36782-MINAET-MAG-MOPT-TUR-SP-S-MTCC – Reglamento de la Ley N° 8436, Ley de Pesca y Acuicultura
	Ley 8436 – Ley De Pesca y Acuicultura
Fiji	Marine Act (No. 35 of 1986)
	Marine Spaces (Foreign Fishing Vessels) Regulations (Chapter 158 A, Section 20)
	Maritime (Fiji Small Craft Code) Regulations, 2014 (No. 104 of 2014)
	Maritime (Ship Registration) Regulations, 2014 (No. 103 of 2014)
	Offshore Fisheries Management Regulations, 2014 (L.N. No. 18 of 2014)
	Ship Registration Decree, 2013
Ghana	Fisheries (Amendment) Act, 2014
	Fisheries (Amendment) Regulations, 2015
	Fisheries Act, 2002
	Fisheries Regulations, 2010
	Ghana Shipping Act, 2003
India	Andaman and Nicobar Islands Marine Fishing Regulations, 2003
	Andaman & Nicobar Marine Fishing Rules, 2004
	Andhra Pradesh Marine Fishing (Regulation) Act, 1995
	Andhra Pradesh Marine Fishing (Regulation) Rules, 1995
	Goa, Daman and Diu Marine Fishing Regulation Act, 1980 (Act 3 of 1981)
	Goa, Daman and Diu Marine Fishing Regulation (Amendment) Act, 2019
	Goa, Daman and Diu Marine Fishing Regulation Rules, 1982
	Gujarat Fisheries Act, 2003
	Kerala Marine Fishing Regulation Act, 1980
	Kerala Marine Fishing Regulation Rules, 2018
	Lakshadweep Marine Fishing Regulation, 2000
	Maharashtra Marine Fishing Regulation Act, 1981
	Orissa Marine Fishing Regulation Act, 1981
	Orissa Marine Fishing Regulation Rules, 1983
	Tamil Nadu Marine Fishing Regulation Act, 1983
	Tamil Nadu Marine Fishing Regulation (amendment) Act, 2017
	Tamil Nadu Marine Fishing Regulation Rules, 1983
	West Bengal Marine Fishing Regulation Act, 1993
West Bengal Marine Fishing Regulation Rules, 1995	

State	Document
	Marine Products Export Development Authority Act, 1972
	Merchant Shipping (Registration of Indian Fishing Boat) Rules, 1972
	Merchant Shipping Act, 1958
Jamaica	Fisheries Act No. 18 of 2018
	Fishing Industry Regulations, 1976
	Shipping (Registration of Ships) Regulations (No. 2A of 2006), 2005
	Shipping Act, 1998
Japan	Act on the Exercise of the Sovereign Right for Fishery, etc. in the EEZ (Act No. 76 of 1996)
	Fishing Boat Act (Act No. 178 of 1950)
	Ordinance of the Ministry of Agriculture and Forestry No. 5 of January 22, 1963
	Ordinance for Enforcement of the Fishing Boat Act (No. 95 of 1950)
Madagascar	Décret n°2016-1492 du 06 décembre 2016 portant réorganisation générale des activités de pêche maritime.
	Loi n° 2015-053 du 16 décembre 2015 portant Code de la pêche et de l'aquaculture
	Loi n°99-028 du 3 février 2000 portant refonte du Code maritime
Mauritius	Fisheries and Marine Resources Act 2007 (Act No. 27 of 2007)
	Merchant Shipping (Registration of Ships) Regulations 2009 (GN No. 105 of 2009)
	Merchant Shipping Act 2007 (No. 26 of 2007)
Mozambique	Decreto n.º 89/2020 Aprova o Regulamento da Pesca Marítima (REPMAR) e revoga o Decreto n.º 43/2003, de 10 de Dezembro
Norway	The Business Permit Regulations, 7 December 2012
	Regulation on ship name, call sign, etc., 27 June 2002
	Regulations on foreigners' fishing in NØS, 13 May 1977
Solomon Islands	Fisheries Management Act, 2015 (No. 2 of 2015)
	Fisheries Management Regulations, 2017 (L.N. No. 2 of 2017)
	Shipping (Registration) Regulations, 2010 (L.N. No. 69 of 2010)
	Solomon Islands Maritime Authority Act, 2018 (No. 9 of 2018)
South Africa	Marine Living Resources Regulations ACT, 1998 (ACT No. 18 OF 1998)
	Ship Registration Act (No. 58 of 1998)
	Ship Registration Regulations (No. R 497 of 2002)
Republic of Korea	Act on the Exercise of Sovereign Rights of Foreigners' Fishing, etc. within the EEZ (Act No. 5152)
	Act on the Preservation, Management and Use of Agro-Fishery Bioresources
	Distant Water Fisheries Development Act, 2007 (Consolidated 2015)
	Fisheries Act, 2005 (Consolidated 2020)
	Fishing Vessel Act, 1993 (Consolidated 2014)
	Ship Act (Wholly Amended by Act No. 3641, Dec. 31, 1982)
Spain	Real Decreto N° 210/2004 – Sistema de seguimiento y de información sobre el tráfico marítimo

State	Document
	Commission Implementing Regulation (European Union) No 404/2011 of 8 April 2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009 establishing a community control system for ensuring compliance with the rules of the Common Fisheries Policy
Sri Lanka	Fishing Boat Registration Regulations, 1980
	High Seas Fishing Operations Regulations No. 1 of 2014
	High Seas fishing Operations (Amendment) Regulations, 2015
Thailand	Announcement of the Department of Fisheries Determining the Rule and Procedures or Marking Fishing Vessels, 2016
	Royal Ordinance on Fisheries (No. 2) B.E.2017
	Royal Ordinance on Fisheries, B.E. 2558 (2015)
United States of America	Title 33 CFR
	Title 46 CFR
Vanuatu	Fisheries Act (No. 10 of 2014)
	Fisheries Regulations Orders, 2009
	General Conditions for Foreign Fishing Vessels and Locally Based Foreign Fishing Vessels (2) (Cap. 315)
	Maritime Act (Consolidated Cap. 131)
	Shipping (Registration of Vessels) Regulations (Cap. 53)
	Shipping Act (Consolidated Cap. 53)

Identifiers used for marking fishing vessels

Table 5. Overview of identifiers required for marking on fishing vessels in reviewed States

Flag State	IRCS	Name	National No.	Port of registration	IMO No.
Argentina					
Australia					
Bahamas					
Bangladesh					
Canada					
China (inc. Taiwan, Province of China)	(Taiwan, Province of China only)		(Taiwan, Province of China only)		
Costa Rica					
Fiji					
Ghana					
India					
Jamaica					
Japan					
Madagascar					
Mauritius					
Mozambique					
Norway					
Solomon Islands					
South Africa					
Republic of Korea					
Spain (European Union)					
Sri Lanka					
Thailand					
United States of America ¹⁷					
Vanuatu					
Total number	11	19	22	17	1

¹⁷ Information included for the United States of America is provisional, due to potential differences between States, and may be updated at a later stage.

Requirements for **physical vessel markings**

Table 6. Overview of State requirements for location and dimension of fishing vessel markings

Country	Identifier	Location	Dimensions
Argentina	National identifier		
Australia	Name		
	IRCS		
	National identifier		
	Port		
Bahamas	Name		
	National identifier		
	Port of registration		
Bangladesh	Name		
	National identifier		
	Port of registration		
Canada	National identifier		
China ¹⁸ (inc. Taiwan, Province of China)	Name		
	Port of registration		
	National identifier (Taiwan, Province of China only)		
	IRCS (Taiwan, Province of China only)		
Costa Rica	Name		
	National identifier		
Fiji	Name		
	IRCS		
	National identifier		
	Port of registration		
Ghana	National identifier		
	Port of registration		
India	Name		
	National identifier		
	Port of registration		
Jamaica	Name		
	National identifier		
	Port of registration		
Japan	Name		
	IRCS		
	National identifier		
Madagascar	Name		
	IRCS		
Mauritius	Name		
	IRCS	Direct reference to FAO Standard Specifications	
	National identifier		

¹⁸ There were differences in the China and Taiwan, Province of China texts, in the overview a combined summary is provided.

Country	Identifier	Location	Dimensions
	Port of registration		
Mozambique	National identifier		
Norway	Name		
	IRCS		
	National identifier		
	Home port		
Solomon Islands	Name		
	IRCS	Direct reference to FAO Standard Specifications	
	National identifier		
	Port of registration		
South Africa	Name		
	IRCS		
	National identifier		
	Home port		
Republic of Korea	Name		
	National identifier		
	Home port		
Spain (European Union)	Name		
	National identifier		
	Port of registration		
Sri Lanka	IRCS		
	National identifier		
Thailand	Name		
	National identifier		
	Port of registration		
United States of America	Name		
	National identifier		
	Port of hail		
Vanuatu	Name		
	IRCS	Direct reference to FAO Standard Specifications. Applicable to licensed foreign flagged fishing vessels.	
	National identifier		
	Port of registration		

Key:

Specifications for marking are in line with the FAO Standard Specifications	Specifications for marking are not evidently based on the FAO Standard Specifications	No specifications for marking are included although the need for the identifier is included

Relevant text for the marking of identifiers on fishing vessels

Table 7. Detail of relevant text found in legislation for the marking of identifiers on fishing vessels

Country	Identifier	Location	Dimensions
Argentina	No detail on marking requirements could be found in available national legislation.		
	National identifier	Commercial fishing licence number (Province of Misiones): Both sides of the bow.	Minimum stroke high of 16 cm. Minimum stroke width of 3 cm.
Australia	Name	Foreign vessels: Not stipulated. Flagged vessels: On each bow and the stern or on each side of the hull as near as practicable to the stern if not legible on the stern. If neither is practicable, on such other part or parts of the ship as the Registrar permits.	Foreign vessels: “displayed clearly and prominently on the boat at all times so that it is visible from the outside of the boat.” Flagged vessels: (a) all alphabetical characters must be in the form of: (i) upright sans serif block capital letters, not being expanded or condensed forms of those letters, the height of which is not less than 100 millimetres and the thickness of the strokes of which is not less than 20%, and not more than 25%, of their height; or (ii) lettering approved, either generally or in a particular case, by the Registrar, being lettering that is not less legible than lettering of the kind referred to in subparagraph (i); (b) all numerals, whether Arabic or Roman, must be in a style matching that of the alphabetical characters; (c) the inscription must be applied in waterproof paint of a colour that makes a distinct contrast with the colour of the background on which it appears.
	IRCS	Foreign vessels: Not stipulated. National vessels in the IOTC area: As stipulated in the FAO Standard Specifications.	Foreign vessels: “displayed clearly and prominently on the boat at all times so that it is visible from the outside of the boat” National vessels in the IOTC area: As stipulated in the FAO Standard Specifications.
	National identifier	Identification number (fisheries): Not stipulated.	Identification number (fisheries): Not stipulated.

Country	Identifier	Location	Dimensions
		<p>Official number (maritime): on the main beam of the ship or, if the ship has no main beam or it is impracticable so to make the inscription on the main beam, on another main structural member or integral part of the ship.</p> <p>Sub-national requirements (fisheries): There are varying requirements at the sub-national level.</p>	<p>Official number (maritime): (i) not less than 100 millimetres; or (ii) where the portion of the ship to which they are applied is such that compliance with subparagraph (i) is not practicable, the maximum practicable height.</p> <p>Sub-national requirements (fisheries): There are varying requirements at the sub-national level.</p>
	Port	<p>On the stern or on each side of the hull as near as practicable to the stern if not legible on the stern. If neither is practicable, on such other part or parts of the ship as the Registrar permits</p>	<p>(a) all alphabetical characters must be in the form of: (i) upright sans serif block capital letters, not being expanded or condensed forms of those letters, the height of which is not less than 100 millimetres and the thickness of the strokes of which is not less than 20%, and not more than 25%, of their height; or (ii) lettering approved, either generally or in a particular case, by the Registrar, being lettering that is not less legible than lettering of the kind referred to in subparagraph (i); (b) all numerals, whether Arabic or Roman, must be in a style matching that of the alphabetical characters; (c) the inscription must be applied in waterproof paint of a colour that makes a distinct contrast with the colour of the background on which it appears.</p>
Bahamas	Name	<p>On both sides of the bow and on the stern.</p>	<p>On a dark ground in white or yellow letters, or on a light ground in black letters, such letters being of a length not less than four inches and of proportionate breadth.</p>
	National identifier	<p>Licence or permit numbers and letters (fisheries): “on the sides and deck of the vessel”</p> <p>Official number (maritime): Cut on her main beam or some other conspicuous place.</p>	<p>Licence or permit numbers and letters (fisheries): no less than 6 inches in height</p> <p>Official number (maritime): Not specified.</p>

Country	Identifier	Location	Dimensions																								
	Port of registration	On the stern.	On a dark ground in white or yellow letters, or on a light ground in black letters, such letters being of a length not less than four inches and of proportionate breadth.																								
Bangladesh	Name	No specifications found.	No specifications found.																								
	National identifier	Registration number (maritime) No specifications found.	Registration number (maritime) No specifications found.																								
	Port of registration	No specifications found.	No specifications found.																								
Canada	National identifier	Registration number (fisheries): “as high as is practicable on both sides of the vessel”	Registration number (fisheries): <table border="1"> <thead> <tr> <th></th> <th>Column I</th> <th>Column II</th> </tr> </thead> <tbody> <tr> <td>Item</td> <td>Overall length of vessel</td> <td>Minimum height of numerals</td> </tr> <tr> <td>1</td> <td>25m or more</td> <td>1.0m</td> </tr> <tr> <td>2</td> <td>20m or more but less than 25m</td> <td>0.8m</td> </tr> <tr> <td>3</td> <td>15m or more but less than 20m</td> <td>0.6m</td> </tr> <tr> <td>4</td> <td>12m or more but less than 15m</td> <td>0.4m</td> </tr> <tr> <td>5</td> <td>5m or more but less than 12m</td> <td>0.3m</td> </tr> <tr> <td>6</td> <td>Less than 5m</td> <td>0.1m</td> </tr> </tbody> </table>		Column I	Column II	Item	Overall length of vessel	Minimum height of numerals	1	25m or more	1.0m	2	20m or more but less than 25m	0.8m	3	15m or more but less than 20m	0.6m	4	12m or more but less than 15m	0.4m	5	5m or more but less than 12m	0.3m	6	Less than 5m	0.1m
			Column I	Column II																							
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1	25m or more	1.0m																									
2	20m or more but less than 25m	0.8m																									
3	15m or more but less than 20m	0.6m																									
4	12m or more but less than 15m	0.4m																									
5	5m or more but less than 12m	0.3m																									
6	Less than 5m	0.1m																									
		Side number (fisheries): “As high as practical on both sides of the superstructure and as high as practical on the superstructure facing directly upwards.”	Stroke width of h/6, space not less than h/6 and not more than h/4, background not less that h/6 around the registration number. Side number (fisheries): <table border="1"> <thead> <tr> <th>Vessel size</th> <th>high</th> <th>width</th> <th>stroke</th> <th>space</th> </tr> </thead> <tbody> <tr> <td>Vessel less than 30.48 m</td> <td>50 cm</td> <td>15 cm</td> <td>5 cm</td> <td>5 cm</td> </tr> <tr> <td>Vessel 30.48 m or more</td> <td>1 m</td> <td>30 cm</td> <td>10 cm</td> <td>10 cm</td> </tr> </tbody> </table>	Vessel size	high	width	stroke	space	Vessel less than 30.48 m	50 cm	15 cm	5 cm	5 cm	Vessel 30.48 m or more	1 m	30 cm	10 cm	10 cm									
Vessel size	high	width	stroke	space																							
Vessel less than 30.48 m	50 cm	15 cm	5 cm	5 cm																							
Vessel 30.48 m or more	1 m	30 cm	10 cm	10 cm																							
China	Name	(China) On both sides of the stem and at the stern, or, where constrained by size and type, at an easily seen location.	(China) Specifications not found																								

Country	Identifier	Location	Dimensions																																	
		<p>(Taiwan, Province of China) Mandarin name: On the port bow and the starboard bow, and the centre of the stern or port quarter or starboard quarter, where the vessel name is clearly visible.</p> <p>English name: On the port bow and the starboard bow, and the centre of the stern or port quarter or starboard quarter, under the Chinese vessel name.</p>	<p>(Taiwan, Province of China)</p> <table border="1"> <tr> <td colspan="2">Chinese name</td> </tr> <tr> <td>20 GT and above, but less than 100 GT</td> <td>25 cm</td> </tr> <tr> <td>100 GT and above, but less than 1000 GT</td> <td>30 cm</td> </tr> <tr> <td>1000 GT and above</td> <td>35 cm</td> </tr> <tr> <td colspan="2">English name</td> </tr> <tr> <td>20 GT and above, but less than 100 GT</td> <td>15 cm</td> </tr> <tr> <td>100 GT and above, but less than 1000 GT</td> <td>20 cm</td> </tr> <tr> <td>1000 GT and above</td> <td>25 cm</td> </tr> </table>	Chinese name		20 GT and above, but less than 100 GT	25 cm	100 GT and above, but less than 1000 GT	30 cm	1000 GT and above	35 cm	English name		20 GT and above, but less than 100 GT	15 cm	100 GT and above, but less than 1000 GT	20 cm	1000 GT and above	25 cm																	
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1000 GT and above	25 cm																																			
IRCS	<p>(Taiwan, Province of China) On the deck and above the waterline on both sides of any fishing vessels, clear of the bow, stern, discharge or areas which might be prone to damage or discoloration. If the lowest edge of characters would be under the waterline when the fish holds are full, the IRCS shall be placed on the fishing vessel's superstructure.</p>	<p>(Taiwan, Province of China)</p> <table border="1"> <tr> <td colspan="3">Marking height requirements</td> </tr> <tr> <td>Position of marking</td> <td>Vessel LOA</td> <td>Minimum marking length</td> </tr> <tr> <td rowspan="6">Both sides of the vessel</td> <td>25 m and above</td> <td>1 m</td> </tr> <tr> <td>20 m and above, but less than 25 m</td> <td>80 cm</td> </tr> <tr> <td>15 m and above, but less than 20 m</td> <td>60 cm</td> </tr> <tr> <td>12 m and above, but less than 15 m</td> <td>40 cm</td> </tr> <tr> <td>5 m and above, but less than 12 m</td> <td>30 cm</td> </tr> <tr> <td>Less than 5 m</td> <td>10 cm</td> </tr> <tr> <td>Deck</td> <td>5 m and above</td> <td>30 cm</td> </tr> <tr> <td colspan="3">Marking width requirements</td> </tr> <tr> <td>Marking item</td> <td colspan="2">Width as proportion of height</td> </tr> <tr> <td>Width of hyphen</td> <td colspan="2">Half</td> </tr> <tr> <td>Stroke width of characters or hyphen</td> <td colspan="2">One-sixth</td> </tr> </table>	Marking height requirements			Position of marking	Vessel LOA	Minimum marking length	Both sides of the vessel	25 m and above	1 m	20 m and above, but less than 25 m	80 cm	15 m and above, but less than 20 m	60 cm	12 m and above, but less than 15 m	40 cm	5 m and above, but less than 12 m	30 cm	Less than 5 m	10 cm	Deck	5 m and above	30 cm	Marking width requirements			Marking item	Width as proportion of height		Width of hyphen	Half		Stroke width of characters or hyphen	One-sixth	
Marking height requirements																																				
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Stroke width of characters or hyphen	One-sixth																																			

Country	Identifier	Location	Dimensions	
			Space between characters	One-sixth and above and less than one-fourth
			Adjacent space of characters with hypotenuse form (such as A, V)	One-tenth and above and less than one-eighth
	National identifier	(Taiwan, Province of China) CT number: On the port bow and the starboard bow, under the English vessel name.	(Taiwan, Province of China) CT number	
			20 GT and above, but less than 100 GT	15 cm
100 GT and above, but less than 1000 GT			20 cm	
	1000 GT and above	25 cm		
	Port of registration	(China) Below the name at the stern, or, where constrained by size and type, at an easily seen location.	(China) Specifications not found.	
		(Taiwan, Province of China) Specifications not found.	(Taiwan, Province of China) Specifications not found.	
Costa Rica	Name	On both sides of the bow	No size specifications found.	
	National identifier			
Fiji	Name	Both sides of the bow and the stern.	In letters of a length of ten cm or more and of proportionate breadth. Letters should be: (a) pre-cut components welded on to the hull or by cutting in or centre punching, for steel and aluminium ships; (b) cutting in to a depth of 3mm into the wooden planking for wooden ships; and (c) pre-cut component fixed on the ship with structural glue for fibre reinforced Plastic ships.	
	IRCS	As stipulated in the FAO Standard Specifications.		

Country	Identifier	Location	Dimensions
	National identifier	On its main beam.	In letters of a length of ten cm or more and of proportionate breadth. Letters should be: (a) pre-cut components welded on to the hull or by cutting in or centre punching, for steel and aluminium ships; (b) cutting in to a depth of 3mm into the wooden planking for wooden ships; and (c) pre-cut component fixed on the ship with structural glue for fibre reinforced Plastic ships.
	Port of registration	On the stern.	In letters of a length of ten cm or more and of proportionate breadth. Letters should be: (a) pre-cut components welded on to the hull or by cutting in or centre punching, for steel and aluminium ships; (b) cutting in to a depth of 3mm into the wooden planking for wooden ships; and (c) pre-cut component fixed on the ship with structural glue for fibre reinforced Plastic ships.
Ghana	National identifier	Identity markings (fisheries): on the side, superstructure, port side and star board side of the craft as high as possible above the waterline Identity mark (maritime): on both sides of the bow of the ship	Identity markings (fisheries): The height of the markings on the hull or superstructure of a fishing craft in respect of the height of the registration or of the identity letters and numbers shall in the case of (a) a fishing craft of twenty-five m LOA and above, the height of the markings shall not be less than one hundred cm; (b) a fishing craft of twenty m or more but less than twenty five m LOA, the height of the markings shall not be less than eighty cm; (c) a fishing craft of fifteen m or more but less than twenty m LOA, the height of the markings shall not be less than sixty cm; (d) a fishing craft of twelve m or more but less than fifteen m LOA, the height of the markings shall not be less than forty cm; or (e) a fishing craft of five m or more but less than twelve m LOA, the height shall not be less than thirty cm. For markings on the deck, the height of the markings shall not be less than thirty cm.

Country	Identifier	Location	Dimensions
			<p>The width of the stroke for the letters, numbers and hyphens shall be one-sixth of the height of the markings, and the length of the hyphen shall be one half of the height of the letters and numbers.</p> <p>The space</p> <p>(a) between letters or numbers or both allocated to a fishing craft shall not exceed one quarter and shall not be less than one sixth of the height of the markings; and</p> <p>(b) between adjacent letters and numbers having sloping sides, shall not exceed one-eighth of the height of the markings and shall not be less than one-tenth of the height; and</p> <p>(c) between the letters or numbers and the edge of the backgrounds shall not be less than one sixth of the height of the markings.</p> <p>The width of the letters and numbers inscribed on a fishing craft shall be in proportion to the height of the markings as follows:</p> <p>(a) 3:4 for letters B, C, D, G, H, J, K, N, O, P, Q, R, S, T, U, X, Y and for numbers 0, 2, 3, 5, 6, 8, 9;</p> <p>(b) 2.5:4 for letters E.F.L.Z and for number 7;</p> <p>(c) 3.5:4 for letters A. V. and for number 4;</p> <p>(d) 1:4 for letter I and for number 1;</p> <p>(e) 4:4 for letter M; and</p> <p>(j) 5:4 for letter W</p> <p>Identity mark (maritime): Not specified.</p>
	Port of registration	on the stern	Not specified.
India	Name	<p>Fisheries (West Bengal only) Close to the port and starboard side lamps</p> <p>Maritime On both quarters of the fishing boat near the stern</p>	<p>Fisheries (West Bengal only) Minimum height of 15cm</p> <p>Maritime Not less than one decimetre in height and two cm in width</p>

Country	Identifier	Location	Dimensions
	National identifier	<p>Registration number/mark (fisheries) Some variation between states but common trend is both sides of the vessel, primarily on the bow. Some states require on the aft of the vessel as well.</p> <p>Registration number (maritime) On both quarters of the fishing boat near the stern</p>	<p>Registration number/mark (fisheries) No size requirement found for most states. Those with size requirements had a minimum height of 15cm for mechanised and 10cm for un-mechanised. One state also had a width requirement of 3cm for mechanised and 2cm for un-mechanised.</p> <p>Registration number (maritime) Not less than one decimetre in height and two cm in width</p>
	Port of registration	On both quarters of the fishing boat near the stern	Not less than one decimetre in height and two cm in width
Jamaica	Name	On both sides of the bow and on the stern.	In letter of a contrasting colour so as to be clearly visible, such letters to be of a length not less than 1 decimetre, and of proportionate breadth.
	National identifier	<p>Identification mark (fisheries): Not specified.</p> <p>Registration marks (fisheries): (2) Where a registered boat is a non-decked canoe, the registration marks of such boat shall be displayed on both sides of the bow. (3) Where a registered boat is a decked canoe, the registration marks of such boat shall be displayed on both sides of the bow and on the deck. (4) Where a registered boat is a fully decked vessel, the registration marks of such boat shall be displayed on both sides of the bow and on top of the wheelhouse. (5) Where a registered boat is a yacht, the registration marks of such boat shall</p>	<p>Identification mark (fisheries): Not specified.</p> <p>Registration mark (fisheries): (2) Where a registered boat is a non-decked canoe, the registration marks of such boat shall be 20.23 cm (8 inches) in height and 2.54 cm (1 inch) in width. (3) Where a registered boat is a decked canoe, the registration marks of such boat shall be 20.23 cm (8 inches) in height and 2.54 cm (1 inch) in width. (4) Where a registered boat is a fully decked vessel, the registration marks of such boat shall be 30.5 cm (12 inches) in height and 3.8 cm (13 inches) in width. (5) Where a registered boat is a yacht, the registration marks of such boat shall be 30.5 cm (12 inches) in height and 3.8 cm (13 inches) in width.</p> <p>Identity mark/identification number (maritime): Not specified.</p>

Country	Identifier	Location	Dimensions														
		be displayed on both sides of the bow and on both sides of the mainsail. Identity mark/identification number (maritime): On both sides of the bow.															
	Port of registration	On the stern.	In letter of a contrasting colour so as to be clearly visible, such letters to be of a length not less than 1 decimetre, and of proportionate breadth.														
Japan	Name	Specifications not found	Specifications not found														
	IRCS	Port and starboard sides of the hull or both sides of the bridge and on the deck	Port and starboard sides of the hull or both sides of the bridge <table border="1"> <thead> <tr> <th>Vessel length</th> <th>Marking height</th> </tr> </thead> <tbody> <tr> <td>25m and greater</td> <td>1.0 m or more</td> </tr> <tr> <td>20m and greater but less than 25m</td> <td>0.8 m or more</td> </tr> <tr> <td>15m and greater but less than 20m</td> <td>0.6 m or more</td> </tr> <tr> <td>12m and greater but less than 15m</td> <td>0.4 m or more</td> </tr> <tr> <td>5m and greater but less than 12m</td> <td>0.3 m or more</td> </tr> <tr> <td>Less than 5m</td> <td>0.1 m or more</td> </tr> </tbody> </table> On the deck: 0.3 m or more.	Vessel length	Marking height	25m and greater	1.0 m or more	20m and greater but less than 25m	0.8 m or more	15m and greater but less than 20m	0.6 m or more	12m and greater but less than 15m	0.4 m or more	5m and greater but less than 12m	0.3 m or more	Less than 5m	0.1 m or more
	Vessel length	Marking height															
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National identifier	Permission number (fisheries): <table border="1"> <thead> <tr> <th>Title of designated fishery</th> <th>Places of display</th> <th>Display form</th> </tr> </thead> <tbody> <tr> <td>Offshore trawl fishery</td> <td>Both sides of bow, and stern</td> <td>何沖 1 2 3</td> </tr> <tr> <td>East China Sea trawl fishery</td> <td>ditto</td> <td>何西 1 2 3</td> </tr> </tbody> </table>	Title of designated fishery	Places of display	Display form	Offshore trawl fishery	Both sides of bow, and stern	何沖 1 2 3	East China Sea trawl fishery	ditto	何西 1 2 3	Specifications not found						
Title of designated fishery	Places of display	Display form															
Offshore trawl fishery	Both sides of bow, and stern	何沖 1 2 3															
East China Sea trawl fishery	ditto	何西 1 2 3															

Country	Identifier	Location			Dimensions
		Distant water trawl fishery	ditto	何遠 1 2 3	
		Large and medium surrounding net fishery	Both side faces of bridge	まき 1 2 3	
		Large whaling	Both sides of crows nest	大 一 二 三	
		Small whaling	ditto	小 一 二 三	
		Medium salmon and trout driftnet fishery	Both side faces of bridge	何流 1 2 3	
		Sea of Japan red snow crab fishery	ditto	べにず わいが に 1 2 3	
		Squid angling fishery	ditto	イカ 1 2 3	
		Registration number (maritime): Bridge and both sides of the bow			
Madagascar	Name	On each side of the navigation bridge			At least 45 cm high and at least 6 cm thick in white on black
	IRCS	On the upper part of the gangway			At least 45 cm high and at least 6 cm thick in red on white
Mauritius	Name	Both sides of the bow and on the stern.			Length not less than 10 cm and a proportionate breadth.
	IRCS	Direct reference to the FAO Standard Specifications.			

Country	Identifier	Location	Dimensions	
	National identifier	On a main part of the ship's permanent structure that is readily visible and accessible	In such manner as may be specified by a surveyor	
	Port of registration	On the stern.	Length not less than 10 cm and a proportionate breadth.	
Mozambique	National identifier	Both sides of the hull or superstructure and on any awning covering the markings from time to time.	Length of the fishing vessel	height of letters and numbers
			More than 25 m	1.0 m
			Between 20 m and 25 m	0.8 m
			Between 15 m and 20 m	0.6 m
			Between 12 m and 15 m	0.4 m
			Between 10 m and 12 m	0.3 m
			<p>2. Regarding the identification marks displayed in the horizontal surfaces of fishing vessels of more 10 m should not be less than 0.5 m.</p> <p>a) the length of the hyphen will be half the height of the letters and of numbers;</p> <p>b) the width of each segment of the letters, numbers and the hyphen will be one-sixth the height of letters and numbers;</p> <p>c) the space between letters and numbers, except in the case referred to in g) shall not exceed a quarter of the height of letters and numbers will not be less than one sixth from that height;</p> <p>d) the space between adjacent letters that have segments inclined should not exceed an eighth of the height of the letters nor be less than a tenth of that height;</p>	
Norway	Name	Forward and aft in such manner as to make it visible from either side and on the stern.	The letters shall be easily legible and at least 15 cm high. For vessels of less than 15 m in overall length, the name shall be marked so as to be easily visible from both sides of the vessel. The letters shall be easily legible and at least 6 cm high.	
	IRCS	The IRCS and IMO number shall be marked on a deck coaming, hatch beam, on a bulkhead or some other suitable place on board. Markings shall not be made on removable plates.	For ships < 24 m in length (L): letters and numbers to be 6 cm in height, 1 cm in breadth and spaced at 1.5 cm intervals. For ships ≥ 24 m in length (L): letters and numbers to be 12 cm in height, 1.5 cm in breadth and spaced at 3 cm intervals.	
	IMO number			

Country	Identifier	Location	Dimensions
		<p>Letters/numbers incised shall at all times be painted in a contrasting colour. The IMO number shall be marked on the ship in the same way as the distinctive letters and placed in their immediate vicinity.</p>	<p>The letters CC for marking of cargo hold / cargo tank shall be 10 cm in height.</p>
	National identifier	<p>For auxiliary vessels, on both sides of the hull near the stern. For all other fishing vessels, as high up as possible on both sides of the hull near the bow.</p>	<p>Vessels 15 m long or greater: Letters and numbers shall be 45 cm high, 27 cm wide and 6 cm thick on a background 65 cm high with 27 cm on either side of the first and last letter. For the letter I and the number 1, the width shall be 6 cm, and for the letter M it shall be 36 cm. Spaces shall be 12 cm. between letters and numbers a square of 6 cm by 6 cm shall be a delimiter with 12 cm on either side of the square.</p> <p>Vessels greater than 9 m but less than 15 m Letters and numbers shall be 25 cm high, 15 cm wide and 4 cm thick on a background 37 cm high with 15 cm on either side of the first and last letter. For the letter I and the number 1, the width shall be 4 cm, and for the letter M it shall be 20 cm. Spaces shall be 8 cm. between letters and numbers a square of 4 cm by 4 cm shall be a delimiter with 8 cm on either side of the square.</p> <p>Vessels less than 9 m Letters and numbers shall be 15 cm high, 9 cm wide and 2.5 cm thick on a background 23 cm high with 9 cm on either side of the first and last letter. For the letter I and the number 1, the width shall be 2.5 cm, and for the letter M it shall be 12 cm. Spaces shall be 5 cm. between letters and numbers a square of 2.5 cm by 2.5 cm shall be a delimiter with 5 cm on either side of the square.</p>
	Home port	On the stern.	<p>The letters shall be easily legible and at least 15 cm high. For vessels of less than 15 m in overall length, the name shall be marked so as to be easily visible from both sides of the vessel. The letters shall be easily legible and at least 6 cm high.</p>
	Name	Fisheries:	Fisheries:

Country	Identifier	Location	Dimensions
Solomon Islands		On the bow and the stern. Maritime: On each side of the stem.	Not specified. Maritime: In white or yellow letters on dark background, or black letters on a light background. Letters must be at least 10cm in height (with proportionate breadth), and not less than 2 cm in thickness.
	IRCS	Requires all fishing vessels to be marked in accordance with the Standard Specifications.	
	National identifier	Official number (maritime): Main beam.	Official number (maritime): In white or yellow letters on dark background, or black letters on a light background. Letters must be at least 10cm in height (with proportionate breadth), and not less than 2 cm in thickness.
	Port of registration	On the stern and under the name.	In white or yellow letters on dark background, or black letters on a light background. Letters must be at least 10cm in height (with proportionate breadth), and not less than 2 cm in thickness.
South Africa	Name	On each side of the bow and: (i) on the stem; or (ii) if the configuration of the stern is such that those names cannot legibly be displayed on the stern, on each side of the hull as near as practicable to the stem; or (iii) if compliance with subparagraph (i) or (ii) is not practicable, on such other part or parts of the ship as the Registrar determines;	(i) upright sans serif block capital letters, not being expanded or condensed forms of those letters, the height of which is not less than 100 millimetres and the thickness of the strokes of which is not less than 20 per cent, and not more than 25 per cent, of their height; or (ii) lettering approved, either generally or in a particular case, by the Registrar, being lettering that is not less legible than lettering of the kind referred to in subparagraph (i); All numerals, whether Arabic or Roman, must be in a style matching that of the alphabetical characters; The inscription must be applied in waterproof paint of a colour that makes a distinct contrast with the colour of the background on which it appears.
	IRCS	On each side of the superstructure at the highest practical point above the gunwale, or main deck where it can best be seen.	(a) 25 m or more, but less than 45 m, 90cm in height, 45cm in breadth, excluding the letter “I” and figure “1”, 10 cm in thickness width and stroke, and 20 cm spacing between each letter and or figure, and the white or black background are shall overlap the edges of the radio call sign by at least 10 cm; and (b) 45 m or more, 120 cm height, 70 cm in breadth, excluding the letter “I” and figure “1”, 15 cm in thickness width and stroke, and 30 cm spacing

Country	Identifier	Location	Dimensions
			between each letter and or number and the white or black background area shall overlap the edges of the radio call sign by at least 20 cm.
	National identifier	As stipulated in the FAO Standard Specifications.	As stipulated in the FAO Standard Specifications.
	Home port	(i) on the stem; or (ii) if the configuration of the stern is such that those names cannot legibly be displayed on the stern, on each side of the hull as near as practicable to the stem; or (iii) if compliance with subparagraph (i) or (ii) is not practicable, on such other part or parts of the ship as the Registrar determines;	(i) upright sans serif block capital letters, not being expanded or condensed forms of those letters, the height of which is not less than 100 millimetres and the thickness of the strokes of which is not less than 20 per cent, and not more than 25 per cent, of their height; or (ii) lettering approved, either generally or in a particular case, by the Registrar, being lettering that is not less legible than lettering of the kind referred to in subparagraph (i); All numerals, whether Arabic or Roman, must be in a style matching that of the alphabetical characters; The inscription must be applied in waterproof paint of a colour that makes a distinct contrast with the colour of the background on which it appears.
Republic of Korea	Name	Specifications not found.	
	National identifier		
	Home port		
Spain (European Union)	Name	Specifications not found	Specifications not found
	National identifier	On both sides of the bow, as high above the water as possible so as to be clearly visible from the sea and the air	For European Union fishing vessels over 10 m LOA and less than 17 m LOA, the height of the letters and numbers shall be at least 25 cm with a line thickness of at least 4 cm. For European Union fishing vessels of 17 m LOA or more, the height of the letters and numbers shall be at least 45 cm, with a line thickness of at least 6 cm.
	Port of registration		
Sri Lanka	IRCS	On both sides of the boat.	As stipulated in the FAO Standard Specifications.
	National identifier	Six inches below the gunwale and one foot from the front end of the stem on a both outer sides in case of a motorized boat and in the case of a non- motorized boat with a gunwale, non- motorized boat without a gunwale, one foot from	In black on an orange coloured background. The size of letters shall be four inches high and 0.75 inches wide for all traditional crafts and fiber glass boats powered by outboard engines, six inches high and one inch wide for all inboard engine boats sixty feet in length and below and one foot high and two inches wide for all boats over sixty feet in length.

Country	Identifier	Location	Dimensions										
		the front end of the stem on both outer sides.											
Thailand	Name	Not specified.	Not specified.										
	National identifier	Fisheries number: On both sides of the bow. Registration number: Not specified.	Fisheries number:										
			<table border="1"> <thead> <tr> <th>Vessel size</th> <th>Marking size</th> </tr> </thead> <tbody> <tr> <td>10 GT and above but less than 20 GT</td> <td>Height of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm. If space is insufficient, minimum size can be reduced to high of 20cm, width of 15cm, thickness of 3.3cm with spaced of 3.3cm.</td> </tr> <tr> <td>20 GT and above but less than 60 GT</td> <td>Height of 40cm, width of 30cm, thickness of 6.6cm with spaces of 6.6cm. If space is insufficient, minimum size can be reduced to high of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm.</td> </tr> <tr> <td>60 GT and above but less than 150 GT</td> <td>Height of 50cm, width of 37.5cm, thickness of 8.3cm with spaces of 8.3cm.</td> </tr> <tr> <td>150 GT and above</td> <td>Height of 60cm, width of 45cm, thickness of 10cm with spaces of 10cm.</td> </tr> </tbody> </table>	Vessel size	Marking size	10 GT and above but less than 20 GT	Height of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm. If space is insufficient, minimum size can be reduced to high of 20cm, width of 15cm, thickness of 3.3cm with spaced of 3.3cm.	20 GT and above but less than 60 GT	Height of 40cm, width of 30cm, thickness of 6.6cm with spaces of 6.6cm. If space is insufficient, minimum size can be reduced to high of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm.	60 GT and above but less than 150 GT	Height of 50cm, width of 37.5cm, thickness of 8.3cm with spaces of 8.3cm.	150 GT and above	Height of 60cm, width of 45cm, thickness of 10cm with spaces of 10cm.
			Vessel size	Marking size									
			10 GT and above but less than 20 GT	Height of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm. If space is insufficient, minimum size can be reduced to high of 20cm, width of 15cm, thickness of 3.3cm with spaced of 3.3cm.									
20 GT and above but less than 60 GT	Height of 40cm, width of 30cm, thickness of 6.6cm with spaces of 6.6cm. If space is insufficient, minimum size can be reduced to high of 30cm, width of 22.5cm, thickness of 5cm with spaces of 5cm.												
60 GT and above but less than 150 GT	Height of 50cm, width of 37.5cm, thickness of 8.3cm with spaces of 8.3cm.												
150 GT and above	Height of 60cm, width of 45cm, thickness of 10cm with spaces of 10cm.												
Registration number: Not specified.													
Port of registration	Not specified.	Not specified.											
United States of America ¹⁹	Name	On the port and starboard sides of the bow.	At least 4 inches high.										
	National identifier	Official number On the interior of the hull.	Official number At least 3 inches high.										
		Vessel number	Vessel number										

¹⁹ Information included for the United States of America is provisional, due to potential differences between States, and may be updated at a later stage.

Country	Identifier	Location	Dimensions
		Each side of the forward half of the vessel.	At least 3 inches high.
	Port of Hail	On the stern.	At least 4 inches high.
Vanuatu	Name	On each bow, the sterns and each side of the pilot house, if any, and in case the vessel has sidewheels, also on the outer side of each wheelhouse.	Not less than 4 inches on each bow and the stern. Not less than 6 inches on the pilot house and wheelhouse.
	IRCS	Requires foreign flagged fishing vessels that are licensed by Vanuatu and Vanuatu flagged fishing vessels to be marked in accordance with the FAO Standard Specifications.	
	National identifier	Designated number (maritime): Main beam. Official number/registration number (maritime): Not specified	Designated number (maritime): No specifications found. Official number/registration number (maritime): Not specified
	Home port	On the stern.	Not less than 4 inches.

RFMOs included in the review and relevant ocean basins and seas*Table 8. RFMOs included in the regional review and relevant ocean basins and seas*

Acronym	Name	Atlantic	Indian	Pacific	Southern	Mediterranean
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources					
CCSBT	Commission for the Conservation of Southern Bluefin Tuna					
GFCM	General Fisheries Commission for the Mediterranean					
IATTC	Inter-American Tropical Tuna Commission					
ICCAT	International Commission for the Conservation of Atlantic Tunas					
IOTC	Indian Ocean Tuna Commission					
NAFO	Northwest Atlantic Fisheries Organization					
NEAFC	North-East Atlantic Fisheries Commission					
NPFC	North Pacific Fisheries Commission					
SEAFO	South East Atlantic Fisheries Organisation					
SIOFA	Southern Indian Ocean Fisheries Agreement					
SPRFMO	South Pacific Regional Fisheries Management Organisation					
WCPFC	Western and Central Pacific Fisheries Commission					

RFMO provisions for vessel marking

Table 9. RFMO provisions for vessel marking and identification

RFMO	Provisions
CCAMLR	<p>Conservation Measure 10-01 includes vessel marking requirements based on the FAO Standard Specifications, making them mandatory.</p> <p>Under Conservation Measure 10-02, vessels may only be permitted to fish in the CCAMLR area if they have an IMO number.</p>
CCSBT	<p>Resolution on a CCSBT Record of Authorised Vessels (updated 2019) requires IMO numbers as follows:</p> <p>“3. Members and Cooperating Non-members shall ensure that the following categories of fishing vessels in the CCSBT Record of Authorised Vessels have IMO numbers issued to them:</p> <ul style="list-style-type: none"> • all fishing vessels (except wooden and fibreglass vessels) flying their flag that are authorised to catch SBT, and that are at least 100 gross tonnage (GT) in size, and • effective from 1 January 2021, wooden and fiberglass fishing vessels flying their flag that are authorised to catch SBT, and that are at least 100 GT in size, and • effective from 1 January 2022, all motorised inboard fishing vessels of less than 100 GT down to a size limit of 12 m in LOA authorised to operate outside waters under the national jurisdiction of the flag State.”
GFCM	<p>Resolution GFCM/41/2017/6 provides that:</p> <p>“1. Effective from 1 January 2019, contracting parties and cooperating non-contracting parties (CPCs) flag states shall authorize their fishing vessels of 24 m or above to operate, only if eligible vessels have an IMO number allocated by the manager of the IMO Ship Identification Number Scheme. Eligible vessels under the IMO Ship Identification Number Scheme which are not identified with this number shall not be included in the record of vessels over 15 m authorized to operate in the GFCM area of application (GFCM-AVL).</p> <p>2. Eligible vessels under the IMO Ship Identification Number Scheme which are not identified with this number shall not be included in the GFCM-AVL.”</p> <p>An exception is included for vessels that are unable to obtain an IMO number, if the flag State communicates this to the Secretariat.</p> <p>Resolution GFCM/41/2017/2 and Resolution GFCM/41/2017/4 mention:</p> <p>“registration letters and numbers” reported/displayed on fishing vessel hulls. These mentions are in relation to the marking of fishing gear, however. No GFCM Resolutions require any form of vessel marking and the reference to registration letters and numbers does not provide that the reporting/displaying of these on the vessel hull is mandatory.</p>
IATTC	<p>Under Resolution C-18-06:</p> <p>“Effective 1 January 2016, flag CPC’s shall ensure that all their fishing vessels (except for recreational fishing vessels) authorized to fish in the Convention Area that are at least 100 GT or 100 GRT in size have an IMO or LR number issued. Effective 1 January 2020, flag CPCs shall ensure that all their motorized inboard fishing vessels (except for recreational fishing vessels) of less than 100 GT or 100 GRT down to a size limit of 12 m in LOA or registered length, authorized to fish in the high seas of the Convention Area have an IMO or LR number issued.”</p>

RFMO	Provisions
ICCAT	<p>Obligation under Recommendation 03-12 to ensure that fishing vessels authorised to fish species managed by ICCAT as well as their gear are marked in such a way that they are “readily identifiable in accordance with generally accepted standards such as the FAO standard specifications”.</p> <p>Under Recommendation 13-13:</p> <p>“Effective January 1, 2016, flag CPCs shall authorize their commercial LSFVs to operate in the Convention area only if the vessel has an IMO number or a number in the seven-digit numbering sequence allocated by IHS-Fairplay (LR number), as applicable. Vessels without such a number shall not be included in the ICCAT record.” There is an exception possible for vessels that cannot obtain such a number and for wooden LSFVs not authorised to fish on the high seas.</p> <p>Under Recommendation 13-13, authorisation is required for all vessels of 20m LOA or greater fishing for tuna or tuna-like species in the ICCAT area. All above requirements therefore apply to such vessels. Smaller vessels would be exempt.</p>
IOTC	<p>Obligation under Resolution 19-04 to ensure that “fishing vessels authorised to fish in the IOTC area of competence are marked in such a way that they can be readily identified with generally accepted standards such as the FAO Standard Specification”.</p> <p>Resolution 19-04 also requires all vessels “eligible under IMO requirements”²⁰ to have an IMO number in order to be authorised. This is also required by Resolution 14-05.</p> <p>Under Resolution 14-05, all foreign flagged vessels that are eligible for IMO numbers must have an IMO number in order to be licenced to fish by a coastal State in the IOTC area.²¹</p> <p>Under Resolution 19-04, authorisation is required for all fishing vessels, including auxiliary, supply and support vessels, that are 24 m LOA or greater, or below 24 m if fishing beyond the EEZ of the flag State, that target tuna or tuna-like species in the IOTC area.</p>
NAFO	<p>Under Chapter III of the Conservation and Enforcement Measures, Article 25(7):</p> <p>“Every fishing vessel shall bear markings that are readily identified in accordance with internationally accepted standards, such as the FAO Standard Specifications for the Marking and Identification of Fishing Vessels”. This is not linked to authorisation and appears to apply to all fishing vessels in the convention area, including EEZs.</p> <p>Under Article 25(2):</p> <p>“No fishing vessel shall conduct fishing activities in the Regulatory Area unless:</p> <p>(a) it is listed as a notified vessel; and</p> <p>(b) eligible vessels have been issued an IMO number. “</p> <p>Under Article 25, authorisation is required for any vessel fishing in the Regulatory Area, regardless of size, however authorisation is not required for vessels fishing in the EEZs in the convention area.</p> <p>Annex II.L implies that either a vessel must have an external registration number or an IMO number, which could imply the IMO number must be marked – an advanced request for port entry shall include the vessel’s name, IMO number or external</p>

²⁰ Note – Resolutions A. 1078(28) and A. 1117(30) are voluntary (non-binding).

²¹ Note – no reference to “IMO requirements”, so IMO Resolution A. 1117(30) applies.

RFMO	Provisions
	registration number if no IMO number, IRCS and flag. The same identification information is required when the vessel requests to tranship in port.
NEAFC	<p>Under Chapter II of the Scheme of Control and Enforcement, Article 6(1):</p> <p>“Each Contracting Party (CPC) shall ensure that its fishing vessels are marked in such a way that they can be readily identified in accordance with generally accepted standards, such as the FAO Standard Specifications for the Marking and Identification of Fishing Vessels.”</p> <p>Under Article 5 and Annex II, authorised vessels subject to IMO Resolution A.1078 (28) must have an IMO number.</p> <p>Under Article 2, these requirements apply to “all vessels used or intended for use for fishing activities conducted on fisheries resources in the Regulatory Area.”</p> <p>Annex XV implies that either a vessel must have an external registration number or an IMO number, which could imply the IMO number must be marked – an advanced request for port entry shall include the vessel’s name, IMO number or external registration number if no IMO number, IRCS and flag. The same identification information is required when the vessel requests to tranship in port.</p>
NPFC	<p>Under CMM 2021-01:</p> <p>“Each Commission Member and Cooperating non-Contracting Party (NCP) shall ensure that every fishing vessel authorized to fly its flag bear markings that are readily identified in accordance with the FAO Standard Specifications for the Marking and Identification of Fishing Vessels, and recognize that non-compliance with these standards shall be considered a serious violation according to Article 17, paragraph 5 of the NPFC Convention and Article 21 Paragraph 11(f) of the United Nations Fish Stocks Agreement.” This indicates that all flagged fishing vessels shall be required to have such markings, in as far as they are fishing within the NPFC area for NPFC species. There is no express link between marking and authorisation to fish – even unauthorised vessels must be marked, therefore.</p> <p>Annex 2 of CMM 2021-01 includes marking requirements as provided in the FAO Standard Specifications as well as visual aids in the form of diagrams.</p> <p>Under CMM 2021-01, by 1 January 2020, all vessels eligible for an IMO number must have one prior to commencing fishing in the NPFC area. This applies to all vessels authorised to fish in the NPFC area for NPFC species. The NPFC area is confined to ABNJ.</p>
SEAFO	<p>SEAFO System, Article 6.2 provides that:</p> <p>“2. Each CPC shall ensure that its vessels authorised to operate in the Convention Area are marked in such a way that they can be readily identified with generally accepted international standards, such as the FAO Standard Specification for the Marking and Identification of Fishing Vessels.”</p> <p>SEAFO System, Article 4(1)(d) appears to require all authorised vessels to have an IMO number as of 1 January 2017.</p>
SIOFA	<p>Obligation under CMM 2018-09 to ensure that their vessels are “marked in such a way that they can be readily identified and where possible marked with generally accepted international standards, such as the FAO Standard Specification”.</p> <p>Under CMM 2019-07, all fishing vessels operating in the convention area require authorisation. Article 2 requires States to provide a list of flagged vessels authorised</p>

RFMO	Provisions
	<p>to operate in the Agreement Area which includes the IMO number, if issued. There is however no explicit requirement for a vessel to have an IMO number in order to be authorised.</p> <p>Under CMM 2019-10, documentation regarding transshipment at sea appears to require vessels engaged in transshipment at sea to have an IMO number – the field does not include the text “if issued” or an equivalent. This is implied and no explicit requirement is included in the text.</p>
SPRFMO	<p>Under CMM 19-2021, includes the marking requirements provided in the FAO Standard Specifications. These requirements will only enter into force on the 1 January 2023, prior to which time there are no explicit marking requirements applicable.</p> <p>Under CMM 05-2022:</p> <p>“Effective 1 January 2020, Members and CNCPs shall ensure that all fishing vessels flying their flag that are authorised to fish in the Convention Area have IMO numbers issued to them.”</p> <p>CMM 05-2022 implies that vessels not able to receive IMO numbers must have a different UVI, separate from its IRCS:</p> <p>“An authorisation entry on the SPRFMO Record of Vessels shall cease to be a valid entry when there is a change in any of the following details until the required information is updated:</p> <p>...</p> <p>b) IRCS (if any)</p> <p>...</p> <p>e) UVI/IMO number (if issued)”</p> <p>Under CMM 05-2022, all fishing vessels that are going to fish for SPRFMO species on the high seas in the Convention Area are required to be authorised. There does not appear to be any size limitation to this.</p>
WCPFC	<p>CMM-2004-03 implements the FAO Standard Specifications, making them mandatory. CMM-2004-03 only applies to vessels authorised to fish in the Convention Area in ABNJ.</p> <p>Under CMM 2018-06:</p> <p>“Effective 1 January 2016, flag CCMs shall ensure that all their fishing vessels that are authorized to be used for fishing in the Convention Area beyond the flag CCM’s area of national jurisdiction and that are at least 100 GT or 100 GRT in size have IMO or LR numbers issued to them. Effective 1 April 2020, flag CCMs shall ensure that all their motorized inboard fishing vessels of less than 100 GRT (or 100 GRT) down to a size of 12 m in LOA, authorized to be used for fishing in the Convention Area beyond the flag CCM’s area of national jurisdiction have an IMO or LR issued.”</p>

Relevant definitions included in the RFMO provisions

Table 10. Relevant definitions for vessel marking and identification included in RFMO provisions

RFMO	Definitions	Context
CCAMLR	IUU fishing includes “transhipped or participated in joint fishing operations with, supported or re-supplied other vessels identified by CCAMLR as carrying out IUU fishing activities”	IUU fishing
	“‘fishing vessel’ means any vessel of any size used for, equipped to be used for or intended for use for the purposes of fishing or fishing related activities, including support ships, fish-processing vessels, vessels engaged in transshipment and carrier vessels equipped for the transportation of fishery products except container vessels and excluding Members’ marine science research vessels.”	PSM
	“‘fishing-related activities’ mean any operation in support of, or in preparation for, fishing, including the landing, packaging, processing, transshipping or transporting of fish that have not previously been landed at a port, as well as the provisioning of personnel, fuel, gear and other supplies at sea.”	
CCSBT	<p>"fishing" means:</p> <p>(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</p> <p>(ii) any operation at sea in preparation for or in direct support of any activity described in sub-paragraph (i) above.</p>	Overarching
GFCM	“vessel” means any vessel, ship of another type or boat used for, equipped to be used for, or intended to be used for fishing or fishing related activities.	Overarching
	“fishing” means searching for, attracting, locating, catching, taking or harvesting of living marine resources or any activity which can reasonably be expected to result in attracting, locating, catching, taking or harvesting of living marine resources;	
	“fishing related activities” means any operation in support of, or in preparation for fishing activities, including landing, packaging, processing, transshipping or transporting of fish, as well as provisioning of personnel, fuel, gear and other supplies;	
	<p>“fishing” means:</p> <p>i) the actual or attempted searching for, catching, taking or harvesting of fish in the GFCM area of application; and</p> <p>ii) engaging in any activity which can reasonably be expected to result in the locating, catching, taking or harvesting of fish in the GFCM area of application;</p>	PSM
“vessel” means any vessel, ship of another type, boat and other craft used for, equipped to be used for, or intended to be used for, fishing or fishing related activities in the GFCM area of application.		

RFMO	Definitions	Context
IATTC	<p>“‘Fishing’ means:</p> <p>(a) the actual or attempted searching for, catching, or harvesting of the fish stocks covered by this Convention;</p> <p>(b) engaging in any activity which can reasonably be expected to result in the locating, catching, harvesting of these stocks;</p> <p>(c) placing, searching for or recovering any fish-aggregating device or associated equipment, including radio beacons;</p> <p>(d) any operation at sea in support of, or in preparation for, any activity described in sub-paragraphs (a), (b) and (c) of this paragraph, except for any operation in emergencies involving the health and safety of crew members or the safety of a vessel;</p> <p>(e) the use of any other vehicle, air- or sea-borne, in relation to any activity described in this definition except for emergencies involving the health or safety of crew members or the safety of a vessel;”</p> <p>“‘Vessel’ means any vessel used or intended for use for the purpose of fishing, including support vessels, carrier vessels and any other vessels directly involved in such fishing operations;”</p>	Overarching
ICCAT	<p>Vessels authorised to fish for tuna and tuna like species.</p> <p>Fishing vessel includes catching vessels, fish processing vessels, support vessels, towing vessels, vessels engaged in transshipment and transport vessels equipped for the transportation of tuna products and auxiliary vessels, except container vessels.</p> <p>Carrier vessels are those that receive transshipments.</p> <p>Definitions from PSMA.</p>	<p>Authorisation</p> <p>Bluefin tuna management</p> <p>Transshipment</p> <p>PSM</p>
IOTC	<p>Fishing vessel includes auxiliary, supply and support vessels.</p> <p>Carrier vessels are those that receive transshipments.</p> <p>Definitions from PSMA.</p>	<p>Authorisation</p> <p>Transshipment</p> <p>PSM</p>
NAFO	<p>“‘Fishing activities’ means harvesting or processing fishery resources, landing or transshipping of fishery resources or products derived from fishery resources, or any other activity in preparation for, in support of, or related to the harvesting of fisheries resources in the Regulatory Area, including:</p> <p>(a) the actual or attempted searching for, catching or taking of fishery resources;</p> <p>(b) any activity that can reasonably be expected to result in locating, catching, taking, or harvesting of fishery resources for any purpose; and</p> <p>(c) any operation at-sea in support of, or in preparation for, any activity described in this definition,</p> <p>but does not include any operations related to emergencies involving the health and safety of the crew members or the safety of a vessel;”</p>	Overarching
NEAFC	<p>“‘fishing activities’ means fishing, including joint fishing operations, fish processing operations, the transshipment or landing of fisheries resources or products thereof and any other commercial activity in</p>	Overarching

RFMO	Definitions	Context
	<p>preparation for, or related to, fishing; including inter alia, packaging, transporting, refuelling or re-supplying;</p> <p>“fishing vessel” means any vessel used or intended for use for the purposes of the commercial exploitation of fisheries resources, including fish processing vessels and vessels engaged in transshipment;</p>	
NPFC	<p>“‘Fishing activities’ means:</p> <p>(i) the actual or attempted searching for, catching, taking or harvesting of fisheries resources;</p> <p>(ii) engaging in any activity that can reasonably be expected to result in locating, catching, taking or harvesting of these resources for any purpose;</p> <p>(iii) the processing of these resources at sea and the transshipping of these resources at sea or in port; and</p> <p>(iv) any operation at sea in direct support of, or in preparation for, any activity described in subparagraphs (i) to (iii) above, except for any operation related to emergencies involving the health and safety of crew members or the safety of fishing vessels;”</p> <p>“‘Fishing vessel’ means any vessel used or intended for use for the purpose of engaging in fishing activities, including fish processing vessels, support ships, carrier vessels and any other vessel directly engaged in such fishing activities;”</p>	Overarching
SEAFO	<p>(h) “Fishing” means:</p> <p>i. the actual or attempted searching for, catching, taking or harvesting of fishery resources;</p> <p>ii. engaging in any activity which can reasonably be expected to result in the locating, catching, taking or harvesting of fishery resources for any purpose including scientific research;</p> <p>iii. placing, searching for or recovering any aggregating device for fishery resources or associated equipment including radio beacons;</p> <p>iv. any operation at sea in support of, or in preparation for, any activity described in this definition, except for any operation in emergencies involving the health and safety of crew members or the safety of a vessel; or</p> <p>v. the use of an aircraft in relation to any activity described in this definition except for flights in emergencies involving the health or safety of crew members or the safety of a vessel;</p> <p>“Fishing vessel” means any vessel used or intended for use for the purposes of the commercial exploitation of fishery resources, including mother ships, any other vessels directly engaged in such fishing operations, and vessels engaged in trans-shipment;</p>	Overarching
SIOFA	<p>“Fishing means:</p> <p>(i) the actual or attempted searching for, catching, taking or harvesting of fishery resources;</p> <p>(ii) engaging in any activity which can reasonably be expected to result in the location, catching, taking or harvesting of fishery resources for any purpose including scientific research;</p>	Overarching

RFMO	Definitions	Context
	<p>(iii) placing, searching for or retrieving any aggregating device for fishery resources or associated equipment including radio beacons;</p> <p>(iv) any operation at sea in support of, or in preparation for, any activity described in this definition, except for any operation in emergencies involving the health or safety of crew members or the safety of a vessel; or</p> <p>(v) the use of an aircraft in relation to any activity described in this definition expect for flights in emergencies involving the health or safety of crew members or the safety of a vessel;”</p>	
SPRFMO	<p>“‘fishing’ means:</p> <p>(i) the actual or attempted searching for, catching, taking or harvesting of fishery resources;</p> <p>(ii) engaging in any activity which can reasonably be expected to result in the locating, catching, taking or harvesting of fishery resources for any purpose;</p> <p>(iii) transshipment and any operation at sea in support of, or in preparation for, any activity described in this definition; and</p> <p>(iv) the use of any vessel, vehicle, aircraft or hovercraft, in relation to any activity described in this definition;</p> <p>but does not include any operation related to emergencies involving the health or safety of crew members or the safety of a vessel;”</p> <hr/> <p>“‘fishing vessel’ means any vessel used or intended for fishing, including fish processing vessels, support ships, carrier vessels and any other vessel directly engaged in fishing operations;”</p>	Overarching
WCPFC	<p>“‘fishing’ means:</p> <p>(i) searching for, catching, taking or harvesting fish;</p> <p>(ii) attempting to search for, catch, take or harvest fish;</p> <p>(iii) engaging in any other activity which can reasonably be expected to result in the locating, catching, taking or harvesting of fish for any purpose;</p> <p>(iv) placing, searching for or recovering fish aggregating devices or associated electronic equipment such as radio beacons;</p> <p>(v) any operations at sea directly in support of, or in preparation for, any activity described in subparagraphs (i) to (iv), including transshipment;</p> <p>(vi) use of any other vessel, vehicle, aircraft or hovercraft, for any activity described in subparagraphs (i) to (v) except for emergencies involving the health and safety of the crew or the safety of a vessel;”</p> <hr/> <p>“‘fishing vessel’ means any vessel 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;”</p>	Overarching

Examples of references to vessel marking in United Nations and FAO instruments

Table 11. Examples of references to vessel marking in United Nations and FAO documents

Agreement/guidelines	Text
The 1982 United Nations Law of the Sea	262. Installations or equipment referred to in this section shall bear identification markings indicating the State of registry or the international organization to which they belong and shall have adequate internationally agreed warning signals to ensure safety at sea and the safety of air navigation, taking into account rules and standards established by competent international organizations.
The 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (the "Compliance Agreement") (FAO, 1995b)	Article III. 6. Each Party shall ensure that all fishing vessels entitled to fly its flag that it has entered in the record maintained under Article IV are marked in such a way that they can be readily identified in accordance with generally accepted standards, such as the FAO Standard Specifications for the Marking and Identification of Fishing Vessels.
The 1996 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 (UNFSA – “UN Fish Stocks Agreement”)	Article 18. (d). requirements for marking of fishing gear for identification in accordance with uniform and internationally recognizable vessel and gear marking systems, such as the FAO Standard Specifications for the Marking and Identification of Fishing Vessels;
The 1995 FAO Code of Conduct for Responsible Fisheries (FAO, 1995a)	8.2.3. Fishing vessels authorized to fish on the high seas or in waters under the jurisdiction of a State other than the flag State, should be marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels
The 1996 Technical Guidelines for Responsible Fisheries – Fishing Operations (FAO, 1996)	Annexes: FAO Standard Specifications for the Marking and Identification of Fishing Vessels.
The 2001 International Plan of Action to prevent, deter and eliminate IUU fishing (IPOA-IUU) (FAO, 2001)	47.8 marking of its fishing vessels in accordance with internationally recognized standards, such as the FAO Standard Specification and Guidelines for the Marking and Identification of Fishing Vessels. Vessels’ fishing gear should similarly be marked in accordance with internationally recognized standards;
The 2015 Voluntary Guidelines for Flag State Performance (FAO, 2015c)	14. Information, registration and records The flag State follows minimum requirements, such as:

Agreement/guidelines	Text
	(a) The FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels and relevant requirements of the IMO.
The 2016 Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA) (FAO, 2016)	Annex B: Port State inspection procedures Inspectors shall: b) verify that the vessel's flag and markings (e.g. name, external registration number, IMO ship identification number, IRCS and other markings, main dimensions) are consistent with information contained in the documentation

The marking of fishing vessels is important for their identification, to support the global efforts to promote sustainable fisheries, for safety at sea and to combat illegal, unreported and unregulated fishing. For this reason, the FAO Standard Specifications for the Marking and Identification of Fishing Vessels were developed and endorsed by COFI in 1989 as a voluntary instrument providing a standardized system for the identification of fishing vessels operating, or likely to operate, in waters of another State.

Since that time, global developments have had an impact on the usefulness of the FAO Standard Specifications, specifically the increased use of the International Maritime Organization (IMO) number as a unique vessel identifier (UVI) and the establishment of the FAO's Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record).

This document provides background to the development of the FAO Standard Specifications and the results of a study to assess the level of their adoption at the national, regional and international levels. It also describes progress in the areas of vessel identity, vessel tracking, different vessel types and catch traceability and how these impact the usefulness of the FAO Standard Specifications. Finally, the document provides arguments that support a review and update of the FAO Standard Specifications and the rationale for a globally harmonized fishing vessel marking and identification scheme.

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