Proposed Guidelines on Pre-Arrival Risk Assessments of Foreign Vessels: Using Lessons Learned to Strengthen Implementation of the UN FAO Agreement on Port State Measures

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Table of Contents

Abbreviations

AIS	Automatic Identification System
AREP	Advance Request for Port Entry
AVIR	Arriving Vessels Intelligence Report
CCMs	Members and Cooperating non-members
CMM	Conservation and Management Measures
CMM-PSM	Conservation and Management Measures on Port State Minimum Standards
CPC	Contracting Parties and Cooperating non-Contracting Parties
DOF	Thailand's Department of Fisheries
EEZ	Exclusive Economic Zone
FAO	United Nations Food and Agriculture Organization
FFA	Pacific Islands Forum Fisheries Agency
FFA VMS	Pacific Islands Forum Fisheries Agency Vessel Monitoring System
FFID	Fish Quarantine and Fishing Vessels Inspection Division
FFMD	Fisheries and Fleets Management Division
FIMS	Fisheries Information Management System
FOCs	Flags of Convenience
GIES	Global Information Management System
IMO	International Maritime Organization
ILO	International Labor Organization
IOTC	Indian Ocean Tuna Commission
IRCS	International Radio Call Signal
IUU	Illegal, Unregulated and Unreported
MCS	Monitoring, Control and Surveillance
MIMRA	Marshall Islands Marine Resources Authority
MOU	Memorandum of Understanding
NZ MFAT	New Zealand Ministry of Foreign Affairs and Trade
PAD	Port Activity Dashboard
PIR	Port Inspection Report
PNA	Parties to the Nauru Agreement
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unregulated and Unreported fishing
PSM	Port State Measures
PIR	Port Inspection Report
RFMO	Regional Fisheries Management Organization
RFSC	Regional Fisheries Surveillance Center
RMI	Republic of the Marshall Islands
ROF	Thailand Royal Ordinance on Fisheries
RSP	Regional Surveillance Picture
UN	United Nations
VMS	Vessel Monitoring System
WCPFC	Western & Central Pacific Fisheries Commission

Executive Summary

Though difficult to quantify, Illegal, Unreported and Unregulated (IUU) fishing[1] has been recognized as a global threat to marine ecosystems and fisheries resources. To combat IUU fishing, a framework of voluntary[2] and binding[3] international instruments has been developed over the last decades including the adoption of the United Nations Food and Agriculture Organization (FAO) Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (the Port State Measures Agreement, PSMA or the Agreement). The Agreement was introduced as an effective tool to combat IUU fishing by means of the implementation of a minimum level of standardized control measures by those port States that have ratified the Agreement when foreign flagged fishing vessels seek entry into their ports (Port State Measures or PSM). Through those measures, the overarching goal of the PSMA is to prevent fish sourced from IUU fishing activities to reach national and international markets, thereby reducing the incentive for perpetrators to continue to operate.[4]

However, there are several challenges to the PSMA's implementation and it appears that the best way, in part, for relevant port States to effectively implement the Agreement is through the use of a true risk analysis. Risk analysis allows port authorities to identify the level of risk of involvement in IUU fishing that a specific fishing vessel or associated refrigerated cargo vessel (carrier vessel) seeking to enter port poses. Such risk analysis can provide the basis for decisions by port authorities to grant, deny or delay port access and target their port inspections based on (i) this risk and (ii) the capacity constraints of their port inspection regime, and (iii) the States' obligations (in terms of priority levels, especially under Regional Fisheries Management Organizations (RFMOs)[5] of which is might be a Member). However, the PSMA is not prescriptive about whether such a risk assessment should take place or how to effectively perform this risk analysis.

The objective of this work is to attempt to fill this information gap and compile lessons learned from countries that have implemented a port inspection regime of which risk assessment is an integral part: Thailand and The Republic of the Marshall Islands. These lessons helped generate proposed guidelines for implementation of the pre-arrival risk assessment of foreign vessels in the context of the PSMA. The goal for these guidelines is that they will help those countries that have become Party to the Agreement or are looking into ratifying the Agreement in the future and be used as a resource by port authorities.

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[1] For the purpose of this proposal and Capstone Project, the definition of IUU fishing is that of the United Nations Food and Agriculture Organization 2001 International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) (Annex A). Available at: http://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7.

[2] Voluntary international instruments include: FAO Code of Conduct for Responsible Fisheries (1995), FAO International Plan of Action to Combat IUU Fishing (2001), FAO Voluntary Guidelines on Flag State Performance,(2014) (VGFSP), FAO Voluntary Guidelines for Catch Documentation Schemes (2017) and FAO Voluntary Guidelines for the Marking of Fishing Gear (2018) (VGMFG).

[3] Binding international instruments include: United Nations Convention on the Law of the Sea (1973) and United Nations Fish Stocks Agreement (1995).

[4] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

[5] RFMOs are intergovernmental fisheries bodies composed of countries sharing a practical and/or financial interest in managing and conserving fish stocks in a given region. As such, RFMOs have the competence to establish conservation and management measures.

PART I - STUDY OF THE PORT STATE AGREEMENTS AND THE CHALLENGES TO ITS IMPLEMENTATION

I- Illegal, Unreported, and Unregulated Fishing

IUU fishing undermines national, regional, and international efforts for the sustainable management of fisheries and the conservation of marine biodiversity. While several studies have attempted to measure the extent of the problem and to quantify IUU fishing. IUU fishing is secretive by nature and thus difficult to estimate.[6] The most cited study is perhaps one from 2009, which estimated the global volume of IUU fishing in 2003 to be between 11% and 19% of reported catches, with a value between US$10 billion and US$23.5 billion.[7] However, that study is already outdated, which highlights the challenges of providing a more precise estimate. There are many different methodologies being used to estimate IUU catch, but many of those do not provide for robust nor consistent estimates and methodologies.[8] They are also not necessarily replicable, and therefore do not allow for the opportunity to review the quantification over time, which is essential to establish trends.

In addition, developing an updated global estimate of IUU catch may have limited benefits. Other indicators might better monitor progress in combatting IUU fishing.[9] Such indicators could include the numbers of vessels on RFMO and combined IUU fishing vessel lists, IUU risk indexes,[10] and/or selected regional estimates that would be based on repeatable methodologies,[11] in addition to being exempt from potential political bias. These have the ability to quantify IUU fishing over time, which would allow monitoring of clear trends and demonstrate the efficacy of interventions, or lack thereof.

For example, a 2016 report, currently being updated, specifically quantifies the volume, species composition and value of IUU fishing in Pacific tuna fisheries.[12] Though regional, this study highlighted the extent of potential IUU fishing occurring in the western and central Pacific Ocean tuna fisheries, which is estimated to represent 306,440t, or a value of $616.11 million.[13]

In addition, the FAO is currently working on developing guidelines to estimate the magnitude of IUU fishing, in an effort to achieve Targets 14.4 and 14.6 of the UN Sustainable Development Goal 14, which respectively aim to eliminate IUU fishing and the subsidies contributing to IUU

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[6] Le Gallic and Cox, An economic analysis of illegal, unreported and unregulated (IUU) fishing: Key drivers and possible solutions. Marine Policy 30, 689-695 (2006).
[7] D.J. Agnew et al, Estimating the Worldwide Extent of Illegal Fishing (2009). Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0004570.
[8] FAO Poseidon Review of Studies estimating IUU fishing and the methodologies utilized (2016). Available at: http://www.fao.org/3/bl765e/bl765e.pdf.
[9] *Id.*
[10] IUU Fishing Index. Available at: https://www.iuufishingindex.net.
[11] FAO Poseidon Review of Studies estimating IUU fishing and the methodologies utilized (2016). Available at: http://www.fao.org/3/bl765e/bl765e.pdf.
[12] MRAG Asia Pacific report Towards the Quantification of Illegal, Unreported and Unregulated (IUU) Fishing in the Pacific Islands Region (2016). Available at: https://www.ffa.int/files/FFA%20Quantifying%20IUU%20Report%20-%20Final.pdf.
[13] *Id.*

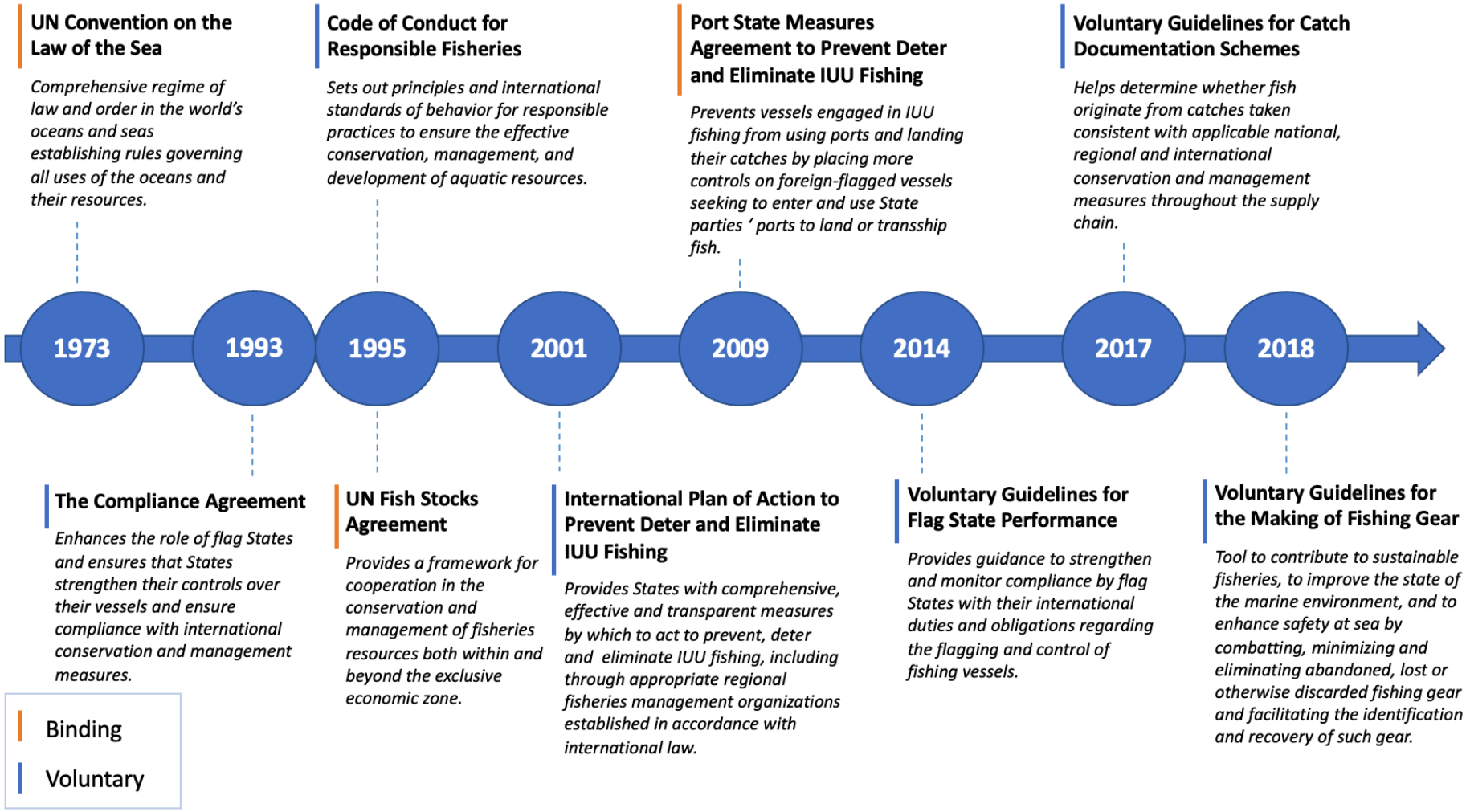
fishing by 2020.[14] As part of these guidelines, the FAO will soon publish a volume on practical guidance to estimate IUU fishing under different scenarios and data availability.

The scope and scale of IUU fishing has motivated this Capstone Project, which focuses on ways to mitigate this challenge.

[14] FAO Committee on Fisheries, Combatting Illegal, Unreported and Unregulated Fishing, Thirty-fourth Session (2021). Available at: http://www.fao.org/3/ne710en/ne710en.pdf.

II-The Port State Measures Agreement

A. Binding and Voluntary International Instruments on IUU Fishing



Binding and Voluntary International Instruments on IUU Fishing - Source: Author's own.

B. Background

The Port State Measures Agreement is the first binding international agreement specifically aimed at tackling IUU fishing. The PSMA came into force in 2016 after reaching the necessary threshold of 25 parties. As of today, 69 parties, including the European Union on behalf of its Member States, have adhered to the Agreement (with four additional signatory countries that have yet to ratify the PSMA).[15] The PSMA provides for the adoption and implementation of port State measures "as a means of ensuring the long-term conservation and sustainable use of living marine resources".[16]

It focuses on the responsibilities of Parties in their capacities as port States and requires them to place a number of standardized control measures on foreign-flagged fishing vessels seeking port entry and use of ports to land, transship, package or process fish and for other port services, including refueling and resupplying, maintenance and drydocking[17] as long as they have catch on board that has not yet been landed.[18] The PSMA defines a minimum level of procedures and inspections that must be conducted to verify that such vessels did not engage in IUU fishing or in related activities in support of IUU fishing.[19] Those procedures include gathering some information when vessels request port entry. The information then provides the basis for approval or denial of port entry and the potential trigger for a port inspection to occur.[20] In addition, the PSMA requires cooperation and exchange of information between State parties, the FAO, other international organizations, and RFMOs as a way to promote the effective implementation of the Agreement.

Through those measures, the overarching goal of the PSMA is to prevent fish sourced from IUU fishing activities from reaching national and international markets, thereby "reducing the incentive for perpetrators to continue to operate".[21] The PSMA is considered a cost-effective tool for fighting IUU fishing, safer and less expensive by comparison to sending patrol vessels on the open ocean,[22] although not meant to replace at-sea patrols boardings and inspections, which remain necessary. Over the recent years, a number of RFMOs have adopted Conservation and Management Measures or Resolutions that address port State measures. These are not always consistent or aligned with the PSMA and can be more or less stringent depending on the RFMO (*See Section IV below*).

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[15] FAO Treaties Database, PSMA Participants. Available at: http://www.fao.org/treaties/results/details/en/c/TRE-000003/.

[16] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

[17] *Id.* At Article 11.

[18] *Id.*

[19] The PSMA refers to "IUU fishing and fishing related activities in support of such fishing"; however for convenience, reference in the text of this report to "IUU fishing activities" has the same meaning.

[20] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

[21] *Id.*

[22] The PEW Charitable Trusts, The Port State Measures Agreement: From Intention to Implementation (April 2018). Available at: https://www.pewtrusts.org/-/media/assets/2018/04/psma_from-intention-to-implementation.pdf.

C. Key Provisions of the Port State Measures Agreement

1. Cooperation

The PSMA requires that parties to the Agreement cooperate and exchange information with relevant States, FAO, other international organizations and RFMOs. Cooperation in the context of PSMA implementation involves information exchange. In the case of denial of port entry, the port State must communicate its decision to the flag State of the vessel and to relevant coastal States, RFMOs and other international organizations.[23] When possible, direct electronic exchange of information is preferred by the PSMA[24] but not required.[25] The Agreement also refers to an information-sharing mechanism coordinated by FAO, which can incorporate information from RFMOs.[26] In addition, to facilitate cooperation, each party to the PSMA must designate an authority that will act as a point-of-contact for information exchange.[27]

2. Entry into Port

Article 7 of the PSMA mandates that State parties designate and publicize ports to which foreign flagged vessels may request entry.[28] When a foreign vessel seeks port entry, the designated port State shall require a minimum level of information before it authorizes port entry.[29] That information must be requested with sufficient advanced notice to allow for the examination of such information.[30] The purpose of the requested information is to ensure that the vessel seeking port entry has not engaged in IUU fishing or in activities supporting such fishing.[31] After receiving the requested information as well as other information the port State may need, the port State then decides whether to authorize or deny the entry of the vessel into its port. Port entry must be denied when there is sufficient proof that the vessel seeking port entry has engaged in IUU fishing or in an activity supporting IUU fishing, in particular if it is included on lists of IUU vessels adopted by a relevant RFMO.[32] However, the port State can still choose to allow port entry for the sole purpose of inspecting the vessel. When such vessel is already in port, the port authority must deny the vessel use of port.[33] The PSMA also mentions that port entry may be granted in case of force majeure[34] or

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[23] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Article 6 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.
[24] *Id.* At Article 16.
[25] FAO Implementation of Port State Measures (2016). Available at: http://www.fao.org/3/I5801E/i5801e.pdf.
[26] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Article 16 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.
[27] *Id.* At Article 16.
[28] *Id.* At Article 7.
[29] *Id.* At Article 8.
[30] *Id.* At Article 8.
[31] *Id.* At Article 9.
[32] *Id.* At Article 9.
[33] *Id.* At Article 9.
[34] "Force majeure" is defined as acts, events or circumstances beyond the control of the involved parties.

distress, to render assistance to persons or vessels in distress.[35] This is, however, not an obligation as force majeure or distress is not a right of the vessel under international law and this decision remains within the sovereign rights of the port State.[36] A port State must refuse use of port when the foreign flagged vessel does not have valid and applicable authorizations to engage in fishing or related activities or has fish on board that was taken in contravention with the applicable requirements of a coastal State in waters under its national jurisdiction.[37] Port entry must also be denied if the flag State does not confirm within a reasonable period of time that the catch on board was taken with applicable requirements of relevant RFMOs.[38]

3. Port Inspection

Under the PSMA port States must ensure that their designated ports have sufficient capacity to conduct inspections.[39]

The PSMA states the following priorities for port inspections:

- vessels that have been denied entry or use of a port in accordance with the Agreement;
- requests from other relevant Parties, States, or RFMOs that particular vessels be inspected, particularly where such requests are supported by evidence of IUU fishing or activities in support of IUU fishing;
- other vessels for which there are clear grounds for suspecting they have engaged in IUU fishing or related activities.

Inspectors shall examine all relevant areas of the vessel, the fish on board, the nets and other gear, equipment, and any document or record on board that is relevant to verifying compliance with relevant conservation and management measures.[40]

D. Implementation

The FAO has stated that "effective implementation of the Agreement requires sound policy, legal and institutional frameworks, as well as robust operational mechanisms sustained by sufficient human and financial resources".[41] This includes the adoption of national legislation in line with the requirements of the PSMA as well as risk assessment procedures to identify vessels that should be refused from port or inspected upon entry. In addition, port States should ensure that they have sufficient capacity to conduct inspections within designated ports.

Following that idea, the FAO has released a number of tools to support the implementation of the PSMA in each of those categories.

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[35] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Article 10 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.
[36] Implementation of Port State Measures (2016). Available at: http://www.fao.org/3/I5801E/i5801e.pdf.
[37] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Article 11 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.
[38] *Id.* At Article 11.
[39] *Id.* At Article 7.
[40] *Id.* At Article 13.2.(c).
[41] FAO Agreement on Port State Measures, Background. Available at: http://www.fao.org/port-state-measures/background/en/.

1. Policy, legal and institutional frameworks

a. FAO Implementation of Port State Measures, Legislative Template, Framework for Procedures, Role of RFMOs (2016)

The FAO released a document in 2016 including a legislative template for State parties to implement core and supporting provisions of the PSMA, with the objective to inform and facilitate the strengthening of national legislation.[42] Parties to binding international agreements, such as the PSMA, are obligated to implement the requirements of such agreements in their national legislation. In practice, transposing international agreement into national laws can be challenging when some topics might not be on a country's legislative reform priority list. FAO's legislative template for the implementation of the PSMA provides thorough guidance on the way each requirement may be transposed into national legislation and/or procedures, along with suggested wording and definitions, including of terms not defined in the PSMA.[43]

b. FAO Database on Port State Measures (Port-Lex)

The FAO also maintains a database on Port State measures (Port-Lex), which provides information on Port State Measures adopted by State parties. This tool is available to national administrations and policy makers, RFMOs, enforcement and legal authorities and members of the civil society.[44] Port-Lex references 51 countries for which it is possible to search by type of measure, species, year of adoption, flag of vessel and competence area.[45] The goal of this database is to contribute to national capacity-building and help countries and RFMOs coordinate their efforts in adopting and implementing Port State Measures.[46]

However, in practice, the database is not necessarily up to date, which can be explained by the fact that a number of parties to the PSMA are still building capacity and have yet to adopt national legislation. In addition, Port-Lex provides for each registered measure the text of the relevant legal instrument, which might be challenging to navigate.

2. Operational mechanisms

a. The Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels

The Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (the Global Record)[47] references information on vessels involved in fishing that is submitted by

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[42] FAO Implementation of Port State Measures (2016). Available at: http://www.fao.org/3/I5801E/i5801e.pdf.
[43] *Id.*
[44] FAO Database on Port State Measures, Background. Available at: http://www.fao.org/port-state-measures/background/port-lex/en/.
[45] FAO Database on Port State Measures. Available at: http://www.fao.org/fishery/psm/search/en.
[46] *Id.*
[47] FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels. Available at: http://www.fao.org/global-record/background/who-is-it-for/en/.

national authorities. It includes information on vessels identification and registration, history of changes in flag, vessel name, owner and operator; and relevant authorizations to fish or transship.[48]

The Global Record uses IMO numbers[49] as unique vessel identifiers. These are assigned to each vessel for its entire life, thereby allowing for continuous traceability. The advantage of the Global Record is that it is a free and publicly available resource. As such, it creates an opportunity to improve transparency and the verification of vessel information. However, information on vessels is supplied by States, and mostly flag States, which have to keep the submitted data updated. This limits the usefulness of the Global Record as it is neither comprehensive of all flag States as well as not necessarily filled with the most up to date information. It will become more useful as more States submit more complete and updated information.

Where emphasis is put on information sharing and cooperation, the Global Record has the possibility of becoming a true operational tool that will assist port authorities to assess the compliance of foreign vessels requesting port entry and use of port.

b. FAO Application for Designated Ports and Contact Points

In June 2018, the FAO launched the PSMA Application for Designated Ports and Contact Points (PSMA Application), [50] which is a database created for the purpose of referencing (i) Designated Ports, and (ii) National Contact Points, pursuant to Articles 7 and 16 of the Agreement respectively. As of May 31, 2021, the PSMA Application referenced 525 Ports designated by Parties to the Agreement, and 53 National Contact Points added by both Parties and non-Parties to the PSMA. In the implementation of the Agreement, information sharing, and cooperation is key, while the PSMA Application is a useful tool, it includes information from only about half of Parties. There is a clear obligation under the Agreement to designate ports and contact points,[51] and the FAO and the Parties themselves have encouraged use of this tool.[52]

c. The Technical Working Group on Information Exchange (TWG-IE) and The PSMA Global Information Exchange System (GIES)

To facilitate information exchange under the PSMA, parties to the Agreement created the subsidiary Technical Working Group on Information Exchange (TWG-IE), which provides guidance

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[48] PSMA TWG-IE, Developing an information exchange mechanism to support the implementation of the Agreement on Port State Measures (2018). Available at :http://www.fao.org/fishery/port-state-measures/psmaapp/?locale=en&action=qry.

[49] The International Maritime Organization (IMO) number is a unique identifier aimed at assigning a permanent number to each ship for identification purposes. The IMO ship identification number is made of the three letters "IMO" followed by the seven-digit number assigned to all ships by HIS Maritime when constructed. This number is assigned to propelled, sea-going merchant ships of 100 GT and above. IHS Maritime is the manager of the scheme and, as such, identifies and assigns IMO numbers without charge. For verification of IMO numbers for individual ships, IHS Maritime operates a service following receipt of a completed IMO number Request Form. More information is available at: https://www.imo.org/en/OurWork/MSAS/Pages/IMO-identification-number-scheme.aspx.

[50] FAO PSMA Application for Designated Ports and Contact Points. Available at: http://www.fao.org/port-state-measures/operational-resources/en/.

[51] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Articles 7 and 16 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

[52] FAO Third Meeting of the Parties to the PSMA, Progress on the development of the PMSA GIES and PSMA Applications (June 2021). Available at: http://www.fao.org/3/nf494en/nf494en.pdf.

on information exchange mechanisms.[53] The first meeting of the TWG-IE summarized the type of information to be exchanged under the PSMA along with transmitter and recipient roles (reproduced below).[54] However, it does not yet provide details on which coastal States, RFMOs and international organizations to contact depending on the circumstances.

Type of information	Transmitter	Recipient/s
List of designated ports	Port State	FAO for due publicity.
A decision to deny a vessel entry into port	Port State	Flag State of the vessel and, to the extent possible, relevant coastal States, RFMOs and other international organizations.
A decision to deny a vessel use of port	Port State	Flag State and, as appropriate, relevant coastal States, RFMOs and other international organizations.
Withdrawal of denial of use of port	Port State	Those to whom a notification of denial was issued.
Inspection of results	Port State	Flag State, and as appropriate, relevant States including: coastal State within whose waters there is evidence that vessel had engaged in IUU fishing, the State of which the vessel's master is a national, relevant RFMOs, FAO and other relevant international organizations.
Contact point for information exchange	Port State	FAO for due publicity.
A finding that, following inspection, the Port State considers there are clear grounds for believing that a vessel has engaged in IUU fishing or fishing related activities in support of such fishing	Port State	Flag State and, as appropriate, relevant coastal States, RFMOs, other international organizations, and the State of which the vessel's master is a national.
Actions taken in respect of vessels entitled to fly its flag that, as a result of port State measures taken pursuant to the PSMA, have been determined to have engaged in IUU fishing or fishing related activities in support of such fishing	Flag State	Other Parties, relevant port State and, as appropriate, other relevant States, RFMOs and FAO.

[53] Agreement on Port State Measures, Technical Working Group. Available at: http://www.fao.org/port-state-measures/meetings/technical-working-groups/en/.
[54] PSMA TWG-IE, Developing an information exchange mechanism to support the implementation of the Agreement on Port State Measures (2018). Available at: http://www.fao.org/fi/static-media/MeetingDocuments/PSMA/OpenEndedTWG/2018/2e.pdf.

The first meeting of the TWG-IE laid out options for the mechanics and form of such Global Information Exchange System (GIES) which could range from a basic reporting tool to advanced workflow systems.[55] Meeting participants agreed that a GIES was needed to support the implementation of the PSMA, and that "a two-stage approach for developing this system should be taken prioritizing the need to access basic information".[56] This was also discussed during the second PSMA Meeting of the Parties, during which participants agreed that the GIES should be an integrated system that should include port entry denial and inspection results as first steps. In addition, FAO was to develop a prototype system by the third Meeting of the Parties.

This meeting occurred early June 2021, during which the GIES prototype was presented. It is a web based operational system enabling information exchange and meant to be user friendly. The prototype includes denial of entry or use of port, withdrawal of port denials, inspection reports and flag State actions. This tool will be publicly available, but some portions will limit access only to the PSMA Parties. The GIES will use the FAO Global Record to cross check information and will build on national and regional PSM information systems and manual inputs from the Parties. Such tool has the opportunity to be key in the PSMA implementation, especially if it involves summary of port denials and inspection results. However, similarly to the Global Record, it is subject to input from Parties and depends on the level of application by the Parties to the Agreement to update the system with information that is both complete and up-to-date. Progress in this regard is expected as the GIES prototype gets tested and becomes widely available to Parties. [57]

3. Financial resources

Implementing the PSMA can be financially challenging for a number of Parties to the Agreement. Very few developingcountries have capacity to gain access and use VMS and AIS data and remote monitoring tools which makes it challenging to perform a proper risk analysis and eventual adequate enforcement actions. Further, adopting national legislation and allocating adequate resources to port controls are processes that can be costly for some countries. Recommendations to Parties on priorities for the use of funding are made by the Part 6 Working Group,[58] created pursuant to Article 21 of the PSMA.[59] Article 21 of the PSMA recognizes the "special requirements of developing states", which Parties to the Agreement must help develop a legal basis and facilitate technical assistance.[60]

In this vein and following a capacity building campaign in 2016, the FAO launched a Global Capacity Development Programme to assist developing States in the implementation of the

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[55] PSMA TWG-IE, Developing an information exchange mechanism to support the implementation of the Agreement on Port State Measures (2018). Available at: http://www.fao.org/fi/static-media/MeetingDocuments/PSMA/OpenEndedTWG/2018/2e.pdf.
[56] PSMA TWG-IE, Report on the Second Meeting of the Agreement on Port State Measures Open-Ended Technical Working Group on Information Exchange (2019). Available at: http://www.fao.org/3/cb1544en/CB1544EN.pdf.
[57] Third Meeting of the Parties to the FAO Agreement on Port State Measure, Provisional list of Documents (June 2021). Available at: http://www.fao.org/port-state-measures/meetings/meetings-parties/mop3/en/.
[58] Report of the third meeting of the Part 6 Working Group established by the Parties to the PSMA (2021). Available at: http://www.fao.org/documents/card/en/c/cb4171en.
[59] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Article 21 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.
[60] *Id.*

Agreement.[61] A drawback to this programme is that capacity building is limited to Parties who have already ratified the PSMA and are therefore already subject to obligations under the Agreement, where there may be developing countries interested in building that capacity prior to ratifying the PSMA. Indeed, this would allow them to meet their obligations under the PSMA upon ratification rather than over time, which is a position shared by many Pacific Island countries among others.

As part of this programme, the FAO developed a Capacity Development Portal Application, meant to bring together information on capacity development projects to support States in combatting IUU fishing.[62] A prototype of the Portal was presented to the Part 6 Working Group during their meeting in 2019 and members encouraged FAO to continue its development.[63] A full version was launched during the recent Third Meeting of the Parties early June 2021.

The Capacity Development Portal Application shows the ongoing support projects in various countries which include assistance for capacity building in strengthening national legislation, monitoring, control, and surveillance operations and use of technology.[64]

E. Challenges

However, the PSMA also has challenges to its effective implementation. Challenges related to the risk assessment portion in particular include the opacity of, and limited access by port authorities to operational information needed to implement the provisions of the Agreement. In addition, the information gathered from port inspection and control measures conducted under the Agreement is not easily verifiable in a number of circumstances. Further, there is a lack of understanding of the crucial role of cooperation and sharing of such information between States and relevant regional organizations, which are struggling to communicate directly and effectively.

1. The Responsibility of Flags States

In its preamble, the PSMA recognizes that measures to combat IUU fishing should "build on the primary responsibility of flag States",[65] which limits the effective implementation of the Agreement.

Port Authorities seeking to control incoming foreign vessels often rely on the responsiveness of flag States to provide them with certain information on their vessels. This includes details on the vessel's activity, including Vessel Monitoring System (VMS) data, and verification of the vessel's licenses and authorizations.

The FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement),

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[61] FAO Overview on the Global Capacity Development Program. Available at: http://www.fao.org/port-state-measures/capacity-development/overview/en/.
[62] FAO Capacity Development Portal Application. Available at: http://www.fao.org/iuu-fishing/capacity-development/en/.
[63] FAO PSMA Part 6 Working Group. Available at: http://www.fao.org/port-state-measures/meetings/part-6-working-group/en/.
[64] FAO Capacity Development Portal Application. Available at: http://www.fao.org/iuu-fishing/capacity-development/en/.
[65] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

mandates that flag States maintain a record of fishing vessels flying their flag and fishing on the high seas[66]. In addition, they must make information available to the FAO, including on the identity of the vessel and any previous name, registration number, flag state, and owners among other things.[67] Ideally, all States would comply with that requirement and such information would also be made available to port States requesting information on specific vessels. However, the reality is different.

Under Article 94 of the United Nations Convention for the Law of the Sea (UNCLOS), flag States have several duties including assuming jurisdiction under its domestic law over each vessel flying its flag, and its master, officers, and crew in respect of administrative, technical, and social matters concerning the ship. In addition, the same article requires that each State conform to generally accepted international regulations, procedures, and practices and must take any steps necessary to secure their observance.[68] This makes flag States the primary authority to regulate and ensure that vessels flying their flag operate in compliance with both national and international standards. Indeed, article 217 of the UNCLOS further directs prompt enforcement of international rules and standards by flag States, which must investigate any alleged violation from vessels flying their flag reported to them.

Likewise, the FAO Compliance Agreement aims at reinforcing the role of flag States and the controls they have over their vessels.[69] The FAO Compliance Agreement specifically states that Parties must take measures to ensure that the vessels flying their flag do not engage in behavior that "undermines the effectiveness of international conservation and management measures".[70]

Under UNCLOS, there must exist a genuine link between the ship and the flag State, however in practice, flags of convenience (FOCs) lack this genuine link between the real owner of a vessel and the flag the vessels fly.[71] The FAO Compliance Agreement precisely states that Parties should not authorize vessels to fly their flag on the high seas unless they have determined that they are able to effectively exercise oversight over those vessels. In their determination, Parties should consider their link with the vessels at stake.[72] Those countries than maintain "open registries do not require that genuine link, and in practice do not exercise any control over the vessels flying their flag. They are usually known for their lax attitude towards international obligations, which has serious implications given the key role given to flag States by a number of conventions including the PSMA.

A 2020 study on FOCs by the John Jay College of Criminal Justice and Oceana, EU evaluated 38 factors that make certain flags desirable. These factors were organized into the

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[66] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, Article IV (2003). Available at: http://www.fao.org/3/X3130M/x3130m.pdf.
[67] *Id.* At Article VI.
[68] United Nations Convention on the Law of the Sea, Article 94 (1982). Available at: https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf.
[69] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (2003). Available at: http://www.fao.org/3/X3130M/x3130m.pdf.
[70] *Id.* At Article III.
[71] Flag of convenience (FOCs), as defined by the International Transport Worker's Federation (ITF) in accordance with the United Nations Convention on the Law of the Sea. The ITF maintains a list of 35 FOCs. (*See* https://www.itfseafarers.org/en/focs/current-registries-listed-as-focs).
[72] FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, Article III (2003). Available at: http://www.fao.org/3/X3130M/x3130m.pdf.

following categories: adherence to regulatory instruments, Flag performance, engagement in illegal activities, Flag accessibility, foreign access to fisheries, taxes, transparency and corruption, country's freedom/ development, and fisheries management commitment. Results showed that "desirable flags are flags of countries that are largely non-cooperative with international efforts to sustainably managed shared fish stocks and prevent IUU fishing, regardless of their ratification of major international agreements".[73] FOCs are generally linked with IUU fishing because they allow certain vessels to operate on the high seas with little-to-no monitoring, control and surveillance and therefore avoid international regulations.[74] The 2020 study which looked at the use of FOC in 2013 and in 2018 confirmed that access to fishing areas and/or low oversight significantly influence choice of flag. Vessels flying FOCs to avoid rules and oversight, take advantage of a weak or undeveloped system to eventually circumvent international conservation efforts.[75]

Therefore, by nature, FOCs are not always prompt to respond within a reasonable time or at all to port State authorities' requests to access information on their flagged vessels which are key to port access and inspection risk analysis.

However, FOCs are not the only ones that do not verify their vessels' compliance with national and international standards. Most flag States have some limitations in the way they conduct their compliance checks, either because of capacity issues or because of the various levels of priority allocated to this matter. Not being a FOCs does not mean that a country is fully compliant with applicable international standards, nor that it is a good cooperating actor.

2. Consistency in PSMA Implementation

International agreements require consensus, consequently wording is sometimes vague or ambiguous, which affects the consistency of the implementation of the agreement. The PSMA is not an exception, and several provisions of the Agreement are not detailed enough to avoid doubts at operational level, which opens room for interpretation and inconsistencies. For example, the following provisions are broad, and the level of obligation is not precisely defined (in bold).

- Article 6: "Parties shall cooperate and exchange information with **relevant States**, FAO, **other international organizations** and regional fisheries management organizations (…)"
- Article 8: Each Party must require the pre-arrival information prior to granting port entry "to be provided **sufficiently in advance** to allow adequate time for the port State to examine such information."
- Article 9: "After receiving the relevant information required pursuant to Article 8, as well as **such other information as it may require** to determine whether the vessel requesting

[73] Gohar A. Petrossian, Monique Sosnowski, Dana Miller, Diba Rouzbahani, Flags for sale: An empirical assessment of flag of convenience desirability to foreign vessels, Marine Policy, Volume 116, 103937 (June 2020). Available at: https://www.sciencedirect.com/science/article/abs/pii/S0308597X19306372?via%3Dihub.
[74] J. Swan, Fishing Vessels Operating under Open Registries and the Exercise of Flag State Responsibilities: Information and Options, FAO Fisheries Report (FAO) (2004).
[75] Gohar A. Petrossian, Monique Sosnowski, Dana Miller, Diba Rouzbahani, Flags for sale: An empirical assessment of flag of convenience desirability to foreign vessels, Marine Policy, Volume 116, 103937 (June 2020). Available at: https://www.sciencedirect.com/science/article/abs/pii/S0308597X19306372?via%3Dihub.

entry into its port has engaged in IUU fishing or fishing related activities in support of such fishing, each Party shall **decide whether to authorize or deny the entry of the vessel into its port** and shall communicate this decision to the vessel or to its representative.

- Article 11, 1.(d) "Where a vessel has entered one of its ports, a Party shall deny, pursuant to its laws and regulations and consistent with international law, including this Agreement, that vessel the use of the port for landing, transshipping, packaging and processing of fish that have not been previously landed and for other port services, including, *inter alia*, refueling and resupplying, maintenance and drydocking, if:
  (d) the flag State does not confirm **within a reasonable period of time**, on the request of the port State, that the fish on board was taken in accordance with applicable requirements of a relevant regional fisheries management organization"
- Article 11, 3. "Where a Party has denied the use of its port in accordance with this Article, it shall **promptly** notify the flag State and, **as appropriate, relevant coastal States**, regional fisheries management organizations and **other relevant international organizations** of its decision."

- Article 12, 1. Each Party shall inspect the number of vessels in its ports required to reach an annual level of inspections **sufficient to achieve the objective of this Agreement**.

3. Range of real-word scenarios

Another important challenge for effective implementation of the PSMA resides in the range of real-world port control scenarios that have not been specifically considered within the Agreement and the absence of clear guidance for addressing the challenges associated with these scenarios. While it provides for port State inspection procedures, the PSMA does not specify how port State inspectors must proceed to obtain the required verifications of the information provided by the requesting vessels. Likewise, the Agreement stipulates cooperation and exchange of information but remains silent on the extent of "such other information as it may require to determine whether the vessel requesting entry into its port has engaged in IUU fishing or fishing related activities in support of such fishing".[76] Finally, the PSMA focuses on proving IUU fishing, but in most circumstances, there is a lack of information to prove illegal behavior. Rather than proving illegality, information provided by the foreign vessel requesting port entry should be focused on proving the legality of its catch, thereby shifting the burden of proving illegality by the port authorities to the vessel and its owners having to prove legality.

F. Proposed solutions

Within the framework of the PSMA, it appears that one of the best ways to assist relevant port States to effectively implement the Agreement is through the use of a true risk analysis. Risk

[76] Food and Agriculture Organization of the United Nations, Agreement of Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, §9.1 (Revised edition, 2016). Available at: http://www.fao.org/port-state-measures/resources/detail/en/c/1111616/.

analysis will allow port authorities to identify the level of risk of involvement in IUU fishing that a specific fishing vessel or associated carrier seeking to enter port poses. Such risk analysis can provide the basis for decisions to grant or deny port access and target their port inspections based on (i) this risk and (ii) the capacity constraints of their port inspection regime. However, the PSMA is not prescriptive about whether such a risk assessment should take place or how to effectively perform this risk analysis. The lack of clear guidelines represents a real challenge for a number of countries when it comes to not only implementing the PSMA but doing so in the most efficient way possible so as to have the greatest impact on combatting IUU fishing.

Because of the lack of clear guidance, there are major inconsistencies in how the PSMA is being implemented from one country to another and among RFMOs. Consistency in PSMA implementation is key because it avoids situations of preferential treatment, and the creation of "ports of convenience" that have weaker port State controls. In addition, consistency increases the ability for industry to be responsive to requirements as over time, they will know what information is required and be more readily prepared to provide this information as required. Consistency can also lead to cost efficiency. Indeed, targeted inspections to vessels that represent a higher risk are more efficient than random sampling methods. Further, when a port State can rely on other port States to perform the same level of risk analysis and inspection and share that information, they can better allocate their resources.

Another key aspect of PSMA implementation is cooperation. Risk analysis would benefit from increased information exchange among port States. This will make their processes more effective and therefore require fewer resources.

There are a number of circumstances in which required information on fishing vessels seeking to enter port is incomplete, hard to verify and/or provided without sufficient time to proceed to a proper verification or a pre-arrival risk analysis. The challenge in those circumstances resides in the decisions that should be taken by the port authorities: whether to allow, delay, or deny port entry and port services to a specific vessel seeking to enter port and whether to perform an inspection on said vessel and the level and extent of such an inspection.

III- The role of RFMOs

A. RFMO PSM

A number of RFMOs have adopted Conservation and Management Measures or Resolutions that address port State measures, and some have additionally developed their own information exchange mechanisms. However, those are not always consistent or aligned with the PSMA and can be more or less stringent depending on the RFMO, which must be taken in consideration for the purpose of the present Capstone Project. The PSMA places a particular responsibility on RFMOs and stresses the importance of regional cooperation through such bodies.

The following RFMOs have adopted mechanisms that pertain to port State measures: the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the General Fisheries Commission for the Mediterranean (GFCM), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), the Northwest Atlantic

Fisheries Organization (NAFO), the North- East Atlantic Fisheries Commission (NEAFC), the Southeast Atlantic Regional Fisheries Organization (SEAFO), the Southern Indian Ocean Fisheries Agreement (SIOFA), the South Pacific Regional Fisheries Management Organization (SPRFMO), and the Western and Central Pacific Fisheries Commission (WCPFC).[77]

In April 2020, the FAO conducted a survey to quantify the level of implementation by RFMOs on 15 pre-selected measures related to combatting IUU fishing.[78] These include the following:

- Maintenance of a record of authorized vessels (active, flagged to non-members and charters);
- International Maritime Organization (IMO) number[79] requirements;
- Measures against vessels and nationals engaging in IUU fishing or related activities in RFMOs' Convention Areas;
- Maintenance of IUU vessels list (including cross-listing of other RFMOs' IUU fishing vessels list);
- Cooperation with other RFMOs and international organizations;
- Implementation of standardized vessel tracking technologies;
- The effective exercise of jurisdiction and control in administrative, technical and social matters over vessels by Member flag States;
- Regulation of transshipment;
- Inspection scheme requirements (including Joint Inspections at sea);
- Measures against vessels without nationality; and
- Implementation of port State measures and port inspection information exchange.[80]

The FAO underlines the crucial role of RFMOs in combatting IUU fishing. The 2020 FAO survey shows that RFMOs have increasingly adopted the 15 pre-selected measures listed above. Most of the measures had a high rate of reported implementation by the responding RFMOs. The two least adopted measures were the adoption and implementation of trade related measures, and the adoption of catch documentation schemes.[81]

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[77] International Seafood Sustainability Foundation, Port State Measures in Tuna RFMOs: Benchmarking RFMO Port State Measures against the 2009 FAO PSMA and Identifying Gaps (2021). Available at: https://iss-foundation.org/knowledge-tools/technical-and-meeting-reports/download-info/issf-2021-09-port-state-measures-in-tuna-rfmos-benchmarking-rfmo-port-state-measures-against-the-2009-fao-psma-and-identifying-gaps/.

[78] FAO Committee on Fisheries, Combatting Illegal, Unreported and Unregulated Fishing (February 2021). Available at: http://www.fao.org/3/ne710en/ne710en.pdf.

[79] The International Maritime Organization (IMO) number is a unique identifier aimed at assigning a permanent number to each ship for identification purposes. The IMO ship identification number is made of the three letters "IMO" followed by the seven-digit number assigned to all ships by HIS Maritime when constructed. This number is assigned to propelled, sea-going merchant ships of 100 GT and above. IHS Maritime is the manager of the scheme and, as such, identifies and assigns IMO numbers without charge. For verification of IMO numbers for individual ships, IHS Maritime operates a service following receipt of a completed IMO number Request Form. More information is available at: https://www.imo.org/en/OurWork/MSAS/Pages/IMO-identification-number-scheme.aspx.

[80] FAO Committee on Fisheries, Combatting Illegal, Unreported and Unregulated Fishing (February 2021). Available at: http://www.fao.org/3/ne710en/ne710en.pdf.

[81] *Id.*

B. Relevant RFMO Framework

This project focuses on the Port State Measures implemented in the IOTC and the WCPFC.

1. Indian Ocean Tuna Commission (IOTC)

The IOTC adopted a Resolution on Port State Measures in 2010, inspired by the PSMA. That resolution, which entered into force in March 2011 was amended in 2016 by the Resolution 16/11 on Port State Measures to Prevent, Deter and Eliminate IUU Fishing ("IOTC Resolution").[82] The IOTC resolution is almost identical to the PSMA and is legally binding on its 32 members.[83]

Most significantly, IOTC maintains a public list of designated ports of Parties and Cooperating non-Contracting Parties (CPC), and corresponding competent authorities (including points of contact) and required periods of notice.[84] In addition, IOTC has developed standardized forms for Advance Request for Entry in Port (AREP)[85] and port inspection forms.[86] In addition, IOTC created an electronic system for PSM application called "e-PSM" covering the entire process described in the IOTC PSM Resolution.[87] IOTC has made available a number of guides and brochures including some detailing the e-PSM process.

In the e-PSM system, port authorities have access to their Port Activity Dashboard (PAD) where Vessel Files are created as soon as a form is completed and submitted in the e-PSM application.[88] Vessel Files can be created from the IOTC website by vessel representatives or from the e-PSM application's PAD by port State users that may have received a paper version of an AREP. Vessel Files act as folders that contain the different data and information submitted in each form and the forms themselves. As such, from their PAD, port States can:

- Create a new e-PSM file (AREP, PIR, etc.),
- Browse the list of current open Vessel Files,
- Search for current, open Vessel Files, or archived, closed Vessel Files, and
- Access open or archived Vessel Files.[89]

This would allow IOTC CPCs to have access to a vessel's history and previously communicated information.

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[82] IOTC Resolution 16/11 on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (2016). Available at: https://www.iotc.org/node/7915.
[83] FAO Implementation of Port State Measures (2016). Available at: http://www.fao.org/3/I5801E/i5801e.pdf.
[84] IOTC List of Designated Ports, Competent Authorities and Periods of Notice. Available at https://www.iotc.org/compliance/port-state-measures.
[85] IOTC Advance Request of Entry into Port (AREP). Available at https://www.iotc.org/compliance/port-state-measures.
[86] IOTC Port Inspection Form. Available at https://www.iotc.org/compliance/port-state-measures.
[87] International Seafood Sustainability Foundation, Port State Measures in Tuna RFMOs: Benchmarking RFMO Port State Measures against the 2009 FAO PSMA and Identifying Gaps (2021). Available at: https://iss-foundation.org/knowledge-tools/technical-and-meeting-reports/download-info/issf-2021-09-port-state-measures-in-tuna-rfmos-benchmarking-rfmo-port-state-measures-against-the-2009-fao-psma-and-identifying-gaps/.
[88] IOTC e-PSM Application, User Manual for the Port State Competent Authority (2015). Available at: https://www.iotc.org/documents.
[89] *Id.*

The IOTC requires a level of inspection at 5 percent of landings and transshipments in port for the reporting year and sets out inspection procedures that are similar to that of the PSMA.[90]

2. Western & Central Pacific Fisheries Commission (WCPFC)

The WCPFC agreed to the Conservation and Management Measure on Port State Minimum Standards (CMM-PSM) in December 2017 with the goal to "establish processes and [procedures for members and cooperating nonmembers] (CCMs) to request that port inspections be undertaken on fishing vessels suspected of engaging in IUU fishing or fishing activities in support of IUU fishing."[91]

The WCPFC CMM-PSM is unique in that it does not regulate activities outside of designated ports. Instead, the CMM-PSM sets inspection priorities for its port CCMs. In addition, designation of ports remains optional and at the discretion of the CCMs.

Inspections are mandated under two circumstances, on:

- any foreign longline, purse seine and carrier vessel that enters their designated port and is not listed on the WCPFC Record of Fishing Vessels, other than in cases where the vessel is authorized with another RFMO that the port CCM is a Party to, as practicable; and
- vessels that appear on the IUU list of an RFMO.

In addition, WCPFC indicated that port CCMs must give "particular consideration" to the inspection of vessels suspected of having engaged in IUU fishing activities, including if such it was identified by non-CCMs or other RFMOs, and particularly where evidence has been provided.[92] WCPFC members may request that other CCMs inspect a vessel or take other measures " consistent with that CCM's port State measures" when it has "reasonable grounds to believe that a vessel has engaged in IUU fishing or fishing related activities in support of IUU fishing, and is seeking entry in to, or is in the designated port of another CCM".[93]

Therefore, the CMM-PSM allows foreign-flagged vessels to enter designated and non-designated CCMs ports without having to submit an advance request of access or provide any information. Neither does it require inspection in the above-mentioned cases in non-designated ports.

The WCPFC publishes a list on its public website of points of contacts, designated ports and additional information about CCMs' individual port State measures that have been notified by CCMs pursuant to the CMM-PSM.[94]

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[90] IOTC Resolution 16/11 on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (2016). Available at: https://www.iotc.org/node/7915.

[91] WCPFC Conservation and Management Measure on minimum standard for Port State Measures (2017). Available at: https://www.wcpfc.int/doc/cmm-2017-02/conservation-and-management-measure-minimum-standards-port-state-measures.

[92] *Id.*

[93] *Id.*

[94] WCPFC Port State Minimum Standards. Available at: https://www.wcpfc.int/wcpfc-port-state-minimum-standards.

PART II – LESSONS LEARNED AND BEST PRACTICES FROM THAILAND AND THE MARSHALL ISLANDS

I- The Republic of the Marshall Islands Port State Measures

A. Background

1. History related to IUU fishing and PSM implementation

Port Majuro, in the Republic of the Marshall Islands (Marshall Islands) is one of the busiest transshipment ports in the Pacific, ranking second in terms of the number of foreign vessels visits after Busan, South Korea.[95] Under normal circumstances, Majuro receives 1168 foreign vessels visits a year[96] including about 400 to 450 transshipments a year. However, this number decreased to around 100 during the Covid 19 pandemic. The port of Majuro is busy because of its strategic position in the Pacific. Tuna purse seiners use Majuro for unloading and transshipping tuna catches because the RFMOs in the Western Pacific and Indian Ocean prohibit at-sea transshipping for purse seiners.[97] Majuro also ranked first in terms of foreign fishing vessel hold size and 7th in terms of foreign carrier vessel hold size in 2017.[98] As such, Majuro is an important port in the fight against IUU fishing.

The Marshall Islands have gradually implemented PSMs as a PSMA non-party. They have declared their goal to eliminate IUU fishing from the Pacific by 2023 through their IUU-Free Pacific initiative and recently expressed their intent to accede to the PSMA.[99] In the implementation of PSM measures, the Marshall Islands received assistance through joint initiatives from the Pacific Island Fisheries Forum Agency (FFA) and the New Zealand Ministry of Foreign Affairs and Trade (NZ MFAT), which have an Offshore Fisheries Advisor detailed to the Marshall Islands Fisheries Authority (MIMRA)'s office in Majuro 100 days a year. Those initiatives provided technical support to several FFA member island states to assist in the implementation and strengthening of PSM.

2. Framework

a. The Nauru Agreement

The Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Stocks (Nauru Agreement) is a subregional agreement on terms and conditions for tuna purse seine fishing licenses in the region. Parties to the Nauru Agreement (PNA) include The Federated States of

[95] G. Hosch, B. Soule, M. Schofield, T. Thomas, C. Kilgour, Any port in a Storm: Vessel Activity and the Risk of IUU-Caught Fish Passing through the World's Most Important Fishing Ports, Journal of Ocean and Coastal Economics (2019). Available at: https://cbe.miis.edu/cgi/viewcontent.cgi?article=1097&context=joce.
[96] *Id.*
[97] *Id.*
[98] *Id.*
[99] FFA's Tuna Pacific; Fisheries news and view, Micronesian leaders unite to combat IUU fishing by 2023 (2019). Available at: https://www.tunapacific.org/2019/03/19/micronesian-leaders-unite-to-combat-iuu-fishing-by-2023/.

Micronesia, the Republic of Kiribati, the Republic of the Marshall Islands, the Republic of Nauru, the Republic of Palau, the Independent State of Papua New Guinea, Solomon Islands and Tuvalu.[100] PNA controls about 50% of the global supply of skipjack tuna. They implement their own conservation and management measures including actively limiting bycatch and a 100% coverage of purse seine fishing vessels with observers.[101] In addition, the Nauru Agreement mandates that all purse-seine vessels fishing in their waters must transship in port.[102]

To implement its conservation measures, PNA maintains a number of tools accessible by its members. In addition to a list of Registered Vessels, these tools include the Fisheries Information Management System (FIMS). FIMS is used for the e-Reporting of activities relevant to fisheries authorities. It provides its users with detailed information on all the Registered Vessels. It allows port authorities to check vessel positions and review catch data uploaded.[103] Through several menus, port authorities can have access to information such as:

- Vessel Trips which will list all vessel trips with corresponding activity, catch and other information.
- Reports, which lists catch summary, licensing, and registration of all vessels relative to a designated company.
- Asset Tracking System, which allows the user to track any asset (vessel, observer…) and have information displayed for that asset at last known position or by date range.[104]

b. The Pacific Island Fisheries Forum Agency (FFA)

The FFA was established in 1979 to help countries sustainably managed their fishery resources. FFA has 17 members including Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu. The goal of this advisory body is to provide support to its members, including technical assistance on conserving and managing their tuna resources, and through other agencies such as the WCPFC. FFA's focus include support of fisheries operations through monitoring, control and surveillance and vessel registration and monitoring.[105]

To fulfill its mission, FFA provides several tools to its members which contributes to regional information on position and compliance status of every vessel with authorizations in various databases. These include the following:

- FFA Vessel Monitoring System (FFAVMS).

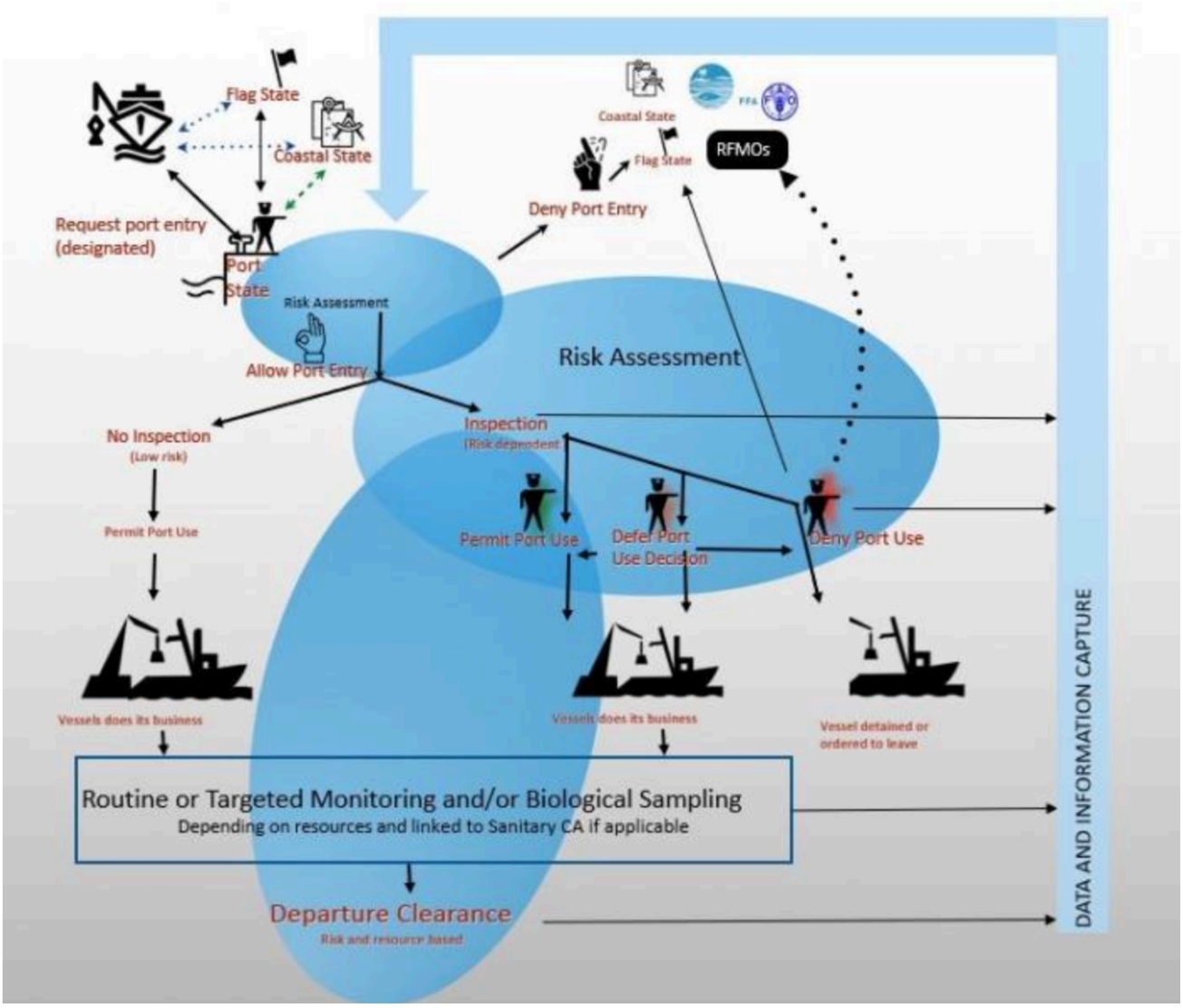
[100] Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Stocks (2010). Available at: https://www.pnatuna.com/content/nauru-agreement.
[101] About the Parties to the Nauru Agreement. Available at: https://www.pnatuna.com/content/about-pna.
[102] Industry Fisheries Information Management System. Available at: https://www.ifims.com/industry/.
[103] Bernadette Carreon, PNA buys "revolutionary" fisheries information management system, SeafoodSource (2020). Available at: https://www.seafoodsource.com/news/supply-trade/pna-buys-revolutionary-fisheries-information-management-system.
[104] Industry Fisheries Information Management System. Available at: https://www.ifims.com/industry/.
[105] Pacific Islands Forum Fisheries. Available at: https://www.ffa.int/about.

The FFA VMS allows FFA members to track and monitor fishing activities in the region. The FFA VMS is accessible by all members.[106] Each country can track vessels fishing and transiting in their EEZ using 'Google Track'. Vessels are color coded based on how compliant it is over a period of time. These Vessel Compliance Index (VCI) scores are determined by the FFA and each country continually and is calculated based on how compliant a vessel is over a period of time. As such, VCI scores take into consideration compliance history of vessels and possible breach of regulation or legislation or "all clear" record.[107]

- FFA Vessel in Good Standing List.
  The FFA Good Standing List registers all vessels of any nationality licensed to fish in any of its 17 members' EEZ. Registration is a pre-requisite to fish in the area and vessels must provide a minimum set of registration elements and are monitored by and reporting to the FFA VMS. In addition, all vessels are subject to background checks on IUU lists before registration.
- FFA Regional Fisheries Surveillance Center (RFSC) Regional Surveillance Picture (RSP). The FFA RSP is an interactive map that "draws together analyzed data on all fishing vessels in the region", coordinated by FFA's RFSC team and accessible to member States.[108] It uses VMS data from the FFA and the WCPFC, as well as AIS data and is linked to other FFA databases, including the VCI.

In addition, FFA has adopted a Regional PSM framework in 2020 that covers risk assessment.[109] The framework is meant to "provides guidance to FFA Members in developing minimum PSM standards to be applied at the national level, promoting inter-agency cooperation and coordination, and improving data and information exchange". The framework applies to all fishing vessels.[110] The diagram below shows the process detailed in the FFA Regional PSM framework and the emphasis put on cooperation and information exchange with both coastal and flag States. In addition, it provides for the option to defer port use, which is emphasized by MIMRA in their risk analysis.

[106] FFA Vessel Monitoring System. Available at: https://www.ffa.int/vessel_registration.
[107] FFA Appendix on Information Management (2009). Available at: https://www.ffa.int/system/files/2009_MCS-Appendix4-Project_3-Information_Management.pdf.
[108] Pacific Islands Oceanic Fisheries Management, Our Pacific Way: cooperation helps islands states to combat IUU fishing (2019). Available at: http://www.sustainpacfish.net/compliance-case-studies/.
[109] Pacific Islands Oceanic Fisheries Management, FFC adopts the FFA regional PSM Framework: Media Release (2020). Available at: http://www.tunapacific.org/2020/08/05/ffc-adopts-the-ffa-regional-psm-framework-media-release/.
[110] FFA, FFC adopts the FFA Regional PSM framework (2020). Available at: https://www.ffa.int/node/2454.



A diagrammatic representation of the FFA Regional PSM Framework – Source: FFA[111]

B. Competent Authority at National Level

MIMRA oversees port State monitoring and risk analysis. The team is composed of 5 people, who split several duties, which include risk analysis of incoming foreign vessels, inspections, and departure clearance as well as monitoring of unloading. This process is managed by the Chief Fisheries Officer who controls the entire process.

MIMRA is currently working on creating a new position of Port Operations Coordinator, who will report to the Chief Fisheries Officer and oversee three areas, each led by a manager. The role of the Port Operations Coordinator is to ensure that all three areas cooperate and that the process is fluid. Those three areas, which already exist but are more loosely organized, include (i) pre-arrival, vessel intelligence analysis and port timeline, (ii) vessels inspection and departure clearance timeline, and (iii) monitoring unloading management and data entry.

[111] FFA, FFC adopts the FFA Regional PSM framework (2020). Available at: https://www.ffa.int/node/2454.

The coordinator would have various duties. The first of those would be to oversee the intelligence analysis and the port schedule. An important component of port state measures is administrative and organizational, including how to split tasks between available resources.

Inspectors and monitors need to electronically log the information they gather during the intelligence analysis and vessel' inspection and monitoring. It is key to structure the information from the first to the last piece of information received. The coordinator must understand the entire process and the analysis.

C. PSM Procedure

As a member of the WCPFC, which does not require an advance request to access a designated port, MIMRA's procedure in Majuro is to grant port entry to vessels that operate in the WCPFC Convention Area and are on the WCPFC Record of Fishing Vessels. This includes all fishing vessels authorized to fish in the WCPFC Convention Area beyond the Exclusive Economic Zone (EEZ) of the member whose flag the vessel is flying, which represent almost the entirety of foreign fishing vessels requesting port entry. Likewise, if the incoming vessel is on the FFA Vessels of Good Standing list, port entry is granted. However, MIMRA still requires a notification of port entry for these vessels, which allow them to work on the risk analysis prior to the vessel's port entry. This analysis will be used by the port inspection officer for inspection. For these vessels, the risk analysis performed by MIMRA is focused on port use rather than access to port.

1. Before Port Entry

The Marshall Islands require the use of an agent to request entry to port and formalized that process through a website application called MIMRA Webapp, on which all agents log in and submit a port entry request. The MIMRA Webapp directly feeds MIMRA's data base and automatically sends an email notification when a port entry request has been submitted. This application allows for the sharing of information and documents with all relevant parties (port authorities, fisheries, and immigration and quarantine divisions).

The vessel's agent must submit prior notification of port entry 72h in advance. When the fishing vessel was fishing nearby or in the Marshall Islands' EEZ, MIMRA can authorize the vessel Agent to submit arrival notification 48h in advance as a minimum.

The port authority (MIMRA's agents in charge of the Intelligence and VMS analysis) receives the arrival notification through an electronic portal. The entire foreign vessel's risk assessment that follows is registered in the Arriving Vessel Intelligence Report (AVIR).

The intelligence analysis and risk determination allow for the identification of risks in three different categories corresponding to three steps in the analysis including (i) identity – whether the vessel is who it says it is, (ii) maneuvering – the vessel's movements, activity and operations and whether these were adequately reported, and (iii) licensing – whether the vessel is allowed to be in the location it was operating.

a. Identity

The arrival notification includes the following information at a minimum:

Information to be provided with Request of Port entry	
Key elements to perform the risk analysis	❑ Port and Date of last Departure ❑ Activity since last port of call ❑ Estimated time of arrival of Vessel ❑ Responsible Agent
With any of these elements, they have access to the rest of the information on the vessel thanks to the FIMS database MIMRA has access to,	❑ Vessel Name ❑ FFA Vessel Registration Number ❑ IRCS Number (International Radio Call sign) ❑ WCPFC Registration Number
Other information	❑ Flag state registration ❑ Master's name and nationality ❑ Vessel Flag ❑ Vessel Type ❑ IMO - International Maritime Organization (IMO) Ship Identification Number

The analysis begins with getting a clear picture of the vessel's identity including the vessel's captain name and nationality. This risk analysis is performed by the intelligence and VMS officers and continues with obtaining the date and last port of departure. It includes whether the vessel can be found on various registered vessels lists mentioned above, including relevant RFMOs list (WCPFC in most cases), the FFA Good Standing list, and/or the PNA list of Registered Vessels with corresponding IMO number. The information communicated in the arrival notification is verified against these lists. In addition, the officers verify the FFA Vessel Compliance Index, which allow them to prioritize vessels with a lower ranking in the situation where more than one vessel are coming to port at the same time.

b. Maneuvering

The second step of the analysis concerns analysis of the vessel's fishing patterns. MIMRA uses VMS data as the FFA shares near real-time VMS data among its members on all foreign flagged vessels licensed to fishing within its members' collective waters in the Pacific Ocean. For those vessels that are not on FFA VMS, MIMRA still has access to VMS data as it is a condition to be licensed as a carrier in the Marshall Islands. MIMRA has also access to AIS data via the FFA RSP and uses it if granularity in the data is of better definition than VMS data.

Thanks to VMS and AIS data, MIMRA can analyze a vessel's voyage to identify where the vessel was fishing and corresponding vessel movement patterns depending on the fishery (activity consistent with fishing patterns and occurring at certain time of day depending on the targeted species). For carrier vessels, MIMRA's officers analyze the vessel's movement pattern to identify any slow speed or loitering events that could indicate both declared and undeclared transshipments. Once on board the inspectors will be able to verify whether the vessel declared rendezvous with other vessels at the times of these patterns.

c. Licensing

Following the maneuvering analysis, MIMRA proceeds to verify whether the foreign vessel coming to port has the licenses, fishing authorizations, transshipment authorizations and other permits corresponding to its reported operations and the pattern detected on the VMS and AIS track analysis. That information is verified on the PNA FIMS e-Reporting system (detailed above), FFA RSP and MIMRA's local database.

d. Analysis Results

Majuro's foreign vessels visits are mainly divided between fishing vessels coming to transship their catch on carrier vessels in port, and empty carrier vessels coming to load catch from fishing vessels. As such, the risk analysis performed by MIMRA is focused on fishing vessels and whether they have fished to assess the legality of the catch.

The advantage MIMRA has in the performance of their risk analysis is the access they have to FFA's tools, including FFA VMS, RSP and Good Standing List detailed above. Thanks to these, they do not rely on requesting information from flag States or RFMOs as they often have access to more information than the flag States themselves.

This risk analysis leads to a complete AVIR that is communicated to the port inspection officers and includes recommended boarding investigations with identified risk and targeted recommended verifications (including log sheets, logbook, and temperature records, as relevant). The goal of this overall risk analysis is to focus on the vessel's activity since the last time they left port. If the intelligence analysis shows no associated risks, MIMRA's inspectors still go board the vessel to check the logbook at a minimum and confirm that they are authorized for transshipment operations. In the event MIMRA's officers identify high risks and are lacking information they can decide to delay port entry. While port entry is granted when the vessel is on the WCPFC or FFA registries, port use remains subject to clearance following on-board inspections.

2. Vessels Inspection at Port

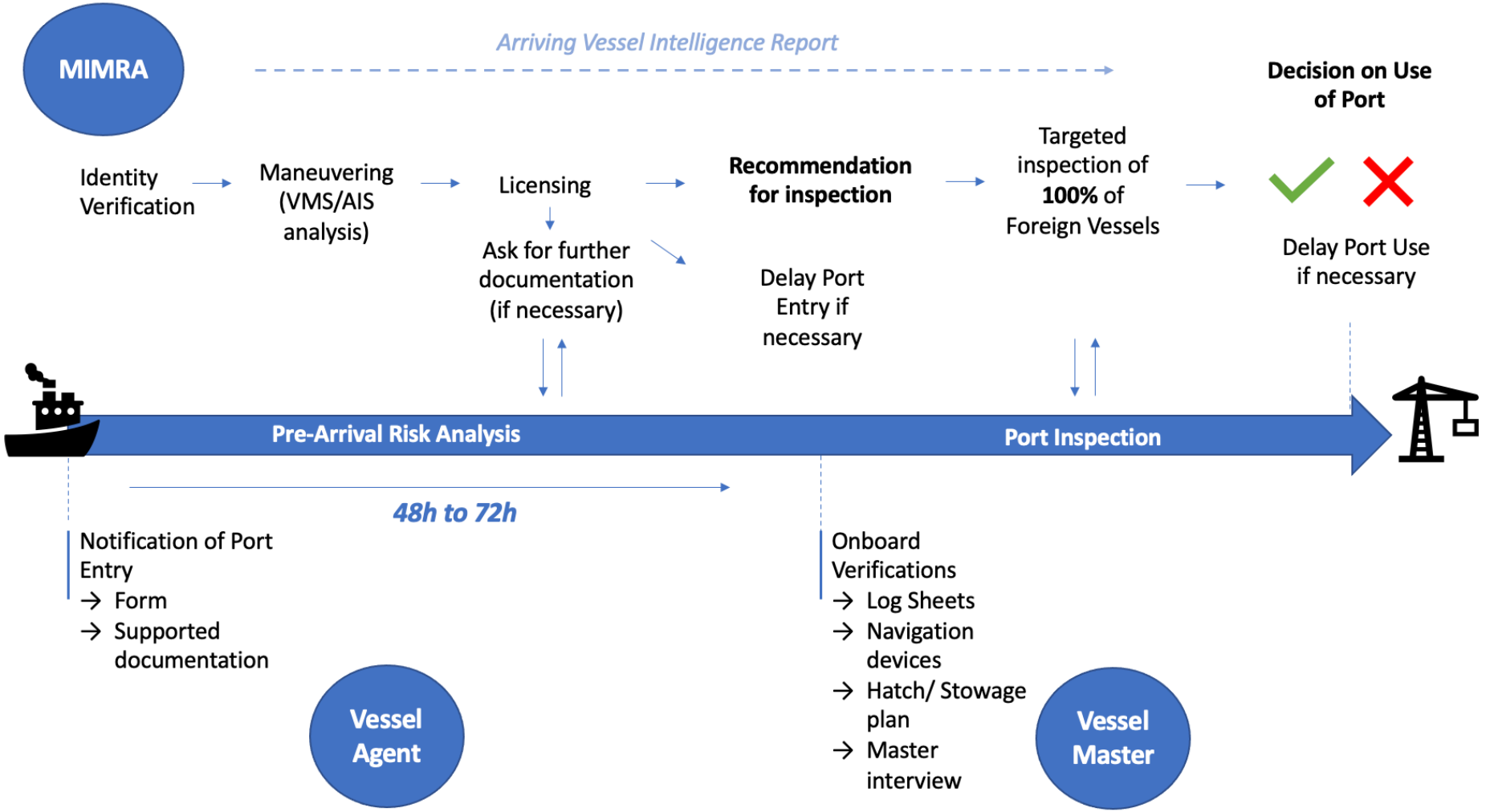
MIMRA maintains a rate of 100% inspection on all foreign vessels including fishing and carrier vessels. This is a rare standard in the industry as most RFMOs have inspection targets of 5% of foreign vessels. Trained fisheries inspectors go on board to look for specific issues identified by the intelligence analysis. The Fisheries Inspectors receive the arrival clearance along with the AVIR. Boarding and port inspection operations are prioritized based on compliance risks identified in the AVIR. Boarding verifications can include:

- Vessel exterior markings
- Catch Log Sheet
- Hatch/Stowage plan
- Transshipment declarations, and
- Other issues identified on board

Port inspectors inspect both fishing vessels and carriers at port arrival and authorize port use based on whether the identified risks or issues are cleared according to intelligence and inspection

results. The rule that is applied in the Marshall Islands is that no fish can leave the vessels before it is cleared. There is a strong economic incentive for vessels to cooperate with MIMRA's risk analysis and investigation as port entry or port use will be delayed until receipt of the necessary information, which can result in significant costs for the vessel operators. Port use will be delayed when information regarding a vessel's activities is not forthcoming or when no clear explanation is given. Port inspection officers play a fundamental role in MIMRA's responsibilities as a responsible Port State. In case of identified noncompliance and potential illegal behavior, they are in charge of seizing evidence including master/captain vessel's documents and catch, gear and vessel.

3. *Diagram of the PSM Process in the Marshall Islands*



Simplified Representation of the PSM Process in the Marshall Islands - Source: Author's own

D. Cooperation

1. At National level

At National level, Custom and Marine Departments' actions are contingent on vessels being cleared by MIMRA first, as no fish can leave a vessel before it is cleared.

In addition, information is exchanged with the following agencies:

- Custom Department
- Marine Department
- Tuna importer and exporter

2. At Regional and International level

At Regional and international level, MIMRA cooperates with the following interlocutors for the level of information detailed in the table below.

Interlocutors	Information exchanged
Flag/ Coastal/ Port states	▪ Vessel and catch verification. ▪ Relevant Memorandum of Understanding.
WCPFC	▪ Vessel verification. ▪ Annual report to WCPFC.
FFA	▪ Vessel verification. ▪ FFA Tools.
PNA	▪ PNA Tools
Interpol	▪ Cooperation on cases among related countries.

II-Thailand Port State Measures

A. Background

1. History related to IUU fishing/ PSM implementation

Thailand is a major actor in the global seafood industry. It is one of the largest tuna processing countries in the world, with approximately 20% of the world's tuna being processed in the country. In April 2015, the European Commission issued a "yellow card" to Thailand. Pre-identification or a "yellow card" is issued to countries as a warning that they need to take effective action against IUU fishing, following a dialogue process. Countries not demonstrating necessary change and commitment receive a "red card" (or identification and listing) and are barred from importing products caught by their vessels into the EU. On the other hand, when significant progress is observed in a country, the European Commission can lift the "yellow card" and the pre-identification status. Thailand achieved such result in January 2019 when the European Commission "delist(ed) [the country] from the group of "warned countries" as recognition of its progress in tackling illegal, unreported and unregulated fishing.[112]

The EU "yellow card" acted as one of the catalysts for change in Thailand, which began to implement Port State Measures in 2015 with the adoption of the Royal Ordinance on Fisheries. This Ordinance implemented inspection measures for foreign flagged vessels seeking entry into Thai ports (detailed in section 2 below). In 2016, Thailand formally ratified the Agreement shortly after, becoming the 26th party to the PSMA.[113]

2. Number and nationality of foreign vessels entering port

In 2020, Thailand accounted for about 155 foreign carrier vessel entries and 23 foreign fishing vessel entries into Thai ports.

B. Existence of National Regulation

The Royal Ordinance on Fisheries B.E. 255, regulating fisheries with the aim to prevent IUU fishing and forced labor in the fishing industry in compliance with international regulation, was adopted and entered into force on November 14, 2015.[114] It has since been revised by the Royal Ordinance on Fisheries (No.2) B.E. 2560 in 2017 (ROF).
Relevant provisions for the pre-arrival risk analysis of foreign vessels are included in particular in sections 94 and 95.

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[112] Commission lifts "yellow card" from Thailand for its action against illegal fishing, Press Release, (January 2019). Available at: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_61.
[113] Pramod Ganapathiraju, Thailand and the UN Port State Measures Agreement Will Accession Facilitate More Inspections at Thai Ports? IUU Risk Intelligence (2016). Available at: https://iuuriskintelligence.com/thailand-un-port-state-measures-agreement-will-accession-facilitate-transparency-vessel-inspections-thai-ports/.
[114] Thailand Royal Ordinance on Fisheries B.E. 2558 (2015) modified by the Royal Ordinance on Fisheries (No.2) B.E.2017 (2017) (ROF). Available at: http://extwprlegs1.fao.org/docs/pdf/tha195358.pdf.

Section 94 prohibits a foreign vessel that has engaged in IUU fishing from entering Thai ports. As such, the Director-General of the Thai Department of Fisheries has the power to publicly issue a list of non-Thai vessels that have engaged in IUU fishing based on the lists of IUU fishing vessels published by a foreign state of international organizations.[115]

Section 95 establishes that foreign vessels coming into Thailand must notify the competent authority in advance of their arrival.[116] A notification from the Ministry of Agriculture and Cooperatives on Advance Data Reporting and Determining Ports for Non-Thai fishing vessel wishing to enter the Kingdom (the ROF Notification) mandates that such foreign vessels must submit the request for port entry of foreign vessel along with supporting documentation. In addition, such advanced request must be made in a specific timeframe depending on whether the vessel comes from Cambodia, Malaysia, Myanmar or Indonesia (hereafter collectively referred to as "Neighboring Countries") or other flags as follows:

- Cambodia: 3 hours
- Malaysia: 3 hours
- Myanmar: 6 hours
- Indonesia: 12 hours
- Other flags: 72 hours.[117]

The ROF Notification also lists designated ports depending on the vessel's flag State, with international ports and specific ports for Neighboring Countries.[118] Those include 25 ports, with 19 international ports and 6 neighboring ports. Information communicated in advance must be verified by the relevant authority (Thailand's Department of Fisheries (DOF)). In addition, Section 95 also allows for denial of port entry when vessels fail to comply with these provisions or where there is "a cause for suspicion that the fishing vessel in question has undertaken IUU fishing or has been involved in IUU fishing".[119]

The ROF Notification also includes annexes that detail the information to be provided by the vessels upon requesting port entry, along with a list of supporting documentation and evidence. Because this process is required by law in Thailand, and the officer in charge makes port entry or denial decision based on this process. Therefore, the DOF feels less political or economic pressure to grant port entry.

C. Competent Authority at National Level

Within Thailand's Department of Fisheries, the two divisions responsible for implementing Port State Measures are (i) the Fisheries and Fleets Management Division (FFMD), which oversees pre-arrival to port, and (ii) the Fish Quarantine and Fishing Vessels

[115] ROF, Section 94. Available at: http://extwprlegs1.fao.org/docs/pdf/tha159730.pdf.
[116] *Id.* Section 95.
[117] Notification of the Ministry of Agriculture and Cooperatives on Advance Data Reporting and Determining Ports for Non-Thai fishing vessel wishing to enter the Kingdom B.E.2560 (2017) (ROF Notification), Clause 2. Available at: https://www.wcpfc.int/file/214543/download?token=2kgd7MFp.
[118] *Id.* Clause 3.
[119] ROF, Section 95. Available at: http://extwprlegs1.fao.org/docs/pdf/tha159730.pdf.

Inspection Division (FFID), which conducts vessel inspections. PSM implementation is part of the importation pathway to get an import permit, and as such, without clearance from the FFID, the Custom and Marine divisions do not grant any approval to vessels.

These two teams were previously in the same division but were later separated. They were formerly part of one division that comprised four main groups: (i) Administration Support Branch, (ii) Fish import and export control group, (iii) Fish inspector and quarantine group, and (iv) Port State Measure implementation group. The new organization adopted in 2021 created the FFMD and FFID, which are specifically dedicated to PSM, divided between the risk analysis team and the inspection team.

D. PSM Procedure

The success of the PSM process in Thailand partially relies on the electronic system they have in place between agents and the DOF, clear reporting requirements along with a list of documents to be provided with the request for port entry. Such system allows for fast and easy communication and the transfer or relevant requests as well as tracking all documentation of relevant approvals throughout the entire process. In addition to this system, the ROF is what makes Port State Measures implementation very effective.

1. Before Port Entry

Pre-arrival is the first step triggering the PSM procedure. The Advance Request for Port Entry (AREP) (*ANNEX C*) is submitted by the vessel agent along with required documentation via an electronic system called the e-PSM system. This electronic system to communicate with the vessels' agents allows for a fast and easy communication and the transfer or relevant requests as well as tracking all documentation recording relevant approvals throughout the entire process.

AREPs are submitted not less than 72h before port entry. This process is supported by the Fisheries Royal Ordinance Section 95, which requires for a 72h notification for foreign flags with exceptions for Neighboring Countries.

The information to be communicated in advance is similar to that required in the PSMA, but the AREP also includes a list of supporting documents and evidence. These documents depend on the type of vessel seeking port entry and are as follows:

Supporting Documents to be submitted with the AREP

Carrier Vessel	1. Copy of the valid vessel registration granted by the flag State, issued by the respective government agency 2. Copy of a valid transshipment license from flag State and/or coastal State and/or Regional Fisheries Management Organizations (RFMOs) and/or related organizations covering the transport area. 3. Copy of the transshipment declaration, containing the name of the carrier vessel and the name of the donor vessel, the transshipment area, species and volume of fish transshipped, and the transshipment period, fully authorized by the government or certified by government authority and/or by the authority of RFMOs. In case of transshipment at sea, it must be documented by observer on board. The transshipment document has to comply with the regulations of the relevant States and has to be in compliance with requirements of the respective fisheries management organization. 4. Copy of the stowage plan, containing details of the species and volume stowed by the name of donor vessel and assigned hold number 5. Copy of the port clearance form of the last port call issued by the competent authority 6. Copy of vessel master card and/or other legal documents identifying the captain or master or vessel operator, issued by the respective government 7. Copy of the valid donor vessel registration certificate from the flag State, issued by the respective government agency. 8. Copy of the valid fishing license of donor vessel from flag State, and/or coastal State covering the fishing area.
Fishing Vessel	1. Copy of the valid vessel registration granted by the flag State, issued by the respective government agency 2. Copy of the valid fishing license 3. Copy of the stowage plan 4. Copy of the port clearance form of the last port call issued by the competent authority 5. Copy of vessel master card and/or other legal documents identifying the captain or master or vessel operator, issued by the respective government
Neighboring Country Carrier Vessel	1. Copy of the valid vessel registration certificate of carrier vessels 2. Copy of the valid transshipment license from the flag State (if have) 3. Submit either one of these documents: 3.1 Copy of the transshipment declaration and copy of the valid vessels registration certificate and copy of fishing license of all donor vessels 3.2 Document to verify fish on board such as catch certificate, etc. 4. Copy of the stowage plan 5. Copy of the port clearance form of the last port call issued by the competent authority 6. Copy of vessel master card and/or other legal documents identifying the captain or master or vessel operator, issued by the respective government
Vessel not wishing to land or transship/transit aquatic animals	1. Copy of the valid vessel registration granted by the flag State, issued by the respective government agency 2. Copy of the port clearance form of the last port call issued by the competent authority 3. Copy of vessel master card and/or other legal documents identifying the captain or master or vessel operator, issued by the respective government 4. Vessel reparation plan stated port, repair category, ad repair duration (fixed engine, radio, and other accessories on board.

a. Vessels from Neighboring Countries

In 2020, Thailand accounted for about 9694 carrier vessels entries and 244 fishing vessels entries coming from Neighboring Countries. Vessels coming from Neighboring Countries can submit their Port entry request a few hours in advance of port entry, which leaves the FFID with less time to perform a full risk analysis. Those vessels are of smaller size and are often recuring vessels that come to port almost daily. For these vessels, an AIS tracking analysis is not necessarily performed as most vessels are not equipped with AIS. However, all vessels coming from Neighboring Countries are inspected at ports by the FFID Officers (from responsible Fishery Inspection Offices or Fishery Inspection Office Administration Center).

b. International Vessels

i. Identity Verification

For foreign vessels coming to international ports, the risk analysis is performed by the FFMD with the assistance of OceanMind.[120]

The FFMD team receives the information and verifies it. If information is missing, or if there is a document that raises questions, the Officer will request more information from the vessel agent. Without proper documents required to submit with the AREP the vessel cannot enter port.

ii. Voyage Analysis

The AREP is then sent to OceanMind to analyze the carrier and donor fishing vessels' AIS data. AIS tracking analysis is performed by OceanMind on every foreign flagged vessel coming into Thailand ports since 2017. The Thailand DOF does not currently have the capacity to run that analysis so OceanMind is developing a tool that will continue to help them perform that analysis in the future.

The AIS tracking analysis is a behavioral risk assessment performed using primarily the trip dates and the port of last full unload. This analysis is very similar to the maneuvering and licenses analysis performed by the Marshall Islands.[121]

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[120] OceanMind is a non-profit organization that empowers enforcement and compliance to protect the world's oceans. The organization assists Port States with the effective implementation of the PSMA through capacity needs analysis, in-depth training and capacity building programs across all relevant departments, and hands-on analysis to risk assess all vessels seeking entry in to port to offload catch. OceanMind has been supporting governments and industry in Southeast Asia by analyzing advanced request for entry into port (AREP) documents, providing a robust risk assessment for every vessel including carrier and donor vessels in the request, to verify the legality of the catch on board. OceanMind cross checks the activity reported on these AREP forms ensuring that all foreign-flagged vessels can be analyzed, and risk assessed to ensure compliance with relevant regulations.

[121] *See Part II, I. C. 1. b. and c. above*.

This allows tracking of a vessel's voyage from the last port of call or previous ports of last full unload to the Thai ports. The vessel's journey analysis is then cross checked with the documentation provided by the vessel agent including fishing licenses, transshipment authorizations, declared donor vessels along with transshipment dates and transshipment ports. The AIS data analysis aims to determine whether the reported activity matches with the vessel's voyage and relevant licenses and identify any suspicious activity.

This allows verification of the following:

- Identity of fishing vessels and verification that their catch areas are properly reported in the AREP.
- Independent verification of compliance with regional and national regulations.
- Validation and corroboration of vessel licensing for fish caught in relevant catch areas.
- Identification of risks in vessel behavior for follow up investigation (such as slow vessel speed in fishing areas, unreported transshipments, or gaps in transmission).

- Carrier Vessels

For a carrier vessel, that often means whether the AIS data shows that the carrier met with a certain vessel or went to a port when the AREP and supported documentation did not say it did. This would be transcribed in the report and appropriate recommendations for inspection are made. In addition, the DOF will require additional documentation that explain the identified behavior. That additional documentation needs to support the identified event (need for a paper trail). Those supporting documents are uploaded in the e-PSM system as well and the risk is resolved consequently.

There are around 4 to 5 donor fishing vessels on average per carrier and can be as many as 20. As a consequence, in order to clear the carrier vessel to enter port, it is important to make sure that the fishing vessels are cleared as well, and that each fishing vessel has the proper licenses for the areas it fished in.

With the assistance of Ocean Mind, the AIS data from the carrier and all donor vessels are analyzed. Regarding the carrier, the AIS data provide a double check of the carrier's voyage.

After clearance, the FFMD issue a notification, which communicates the decision to allow or deny port use. This notification will be shared to the Agent and marine and custom department via e-PSM.

- Fishing Vessels

For fishing vessels, the AIS analysis verifies that the actual fishing areas correspond to the fishing licenses. A big risk in that analysis is the lack of AIS data for fishing vessels. Some vessels do not use AIS data or turn off their AIS data once they leave port. The recommendation in the absence of AIS data is to request VMS data to corroborate a vessel's voyage and required licenses. The issue with VMS data is that it relies on the flag State's prompt response, while this is in practice often very slow. If the FFMD cannot get VMS data

from the flag State, they will request the fishing logbook/log sheet from the vessel agent. In the event the DOF cannot corroborate catch areas in that scenario, the solution is generally to not allow landing of the catch.

iii. Access to data

Thailand designated ports for international vessels mainly receive tuna carrier vessels. Out of those, about 90% come from the Pacific Islands region, which means that Thailand can request information from the FFA. If the AIS data are not transmitted for these vessels and if they are member States, a request to confirm the donor vessels' catch areas is submitted to the FFA. Every inconsistency in the documents must be verified. The Officer will check with the FFA or other authorities that the vessel has proper authorizations and check the status and expiration dates of each license. When information needs to be double checked with flag States, they are generally responsive. Some flag States have become more responsive over time, and Thailand has built strong communications with the FFA. However, some flag States remain very unresponsive. Thanks to the list of contact points at their disposal, the Officer can directly contact the flag State and email them with questions or documents to be verified. On average, flag States provide answers within 24 to 72 hours, but the FFA is usually faster to respond and provides answers within 6 to 12 hours.

When flag States are not as responsive, there is a cut off time enforced by the port authorities that is around a week (5 to 7 days), by the end of which port entry is denied. The reason why they can take such a drastic measure is because incoming vessels must provide the specified information and supporting documentation by law, pursuant to the Thailand Royal Ordinance on Fisheries.

While agents become faster at providing the information upfront over time, there are still limitations with what information agents have access to. Some agents do not know the catch areas at the AREP stage and would therefore submit the request for port entry with a catch area that they would later amend. Most foreign flagged vessels are carrier vessels and for those each donor vessel must be entirely cleared before they are allowed to enter port. Indeed, inspection in then only possible on the carrier vessel. In the event the DOF cannot corroborate catch areas of one or more donor vessels in that scenario, the solution is generally to not allow or delay landing of the totality of the catch from the carrier.

iv. Analysis Results

That overall analysis allows inspectors to fill identified information gaps and eventually trigger targeted inspections with identified risks and recommendations. The most common data gap in data is the misreporting of catch areas. As such, if the vessel is deemed to have a risk, it might still be allowed to enter port for an inspection to clear the identified risk before it is allowed use of port.

Following that risk analysis, the DOF can deny Port Entry or issue a Port Entry Authorization that is communicated to the Marine Department, Custom Department, which then issue their own authorizations based respectively on safety and importation issues.

2. Vessel Inspection at Port

Following the pre-arrival risk analysis of carrier and donor vessels, port inspections are conducted by the FFID to clear all identified risks. A key part of this overall process is that the inspections are targeted, so the FFID agents are informed before the inspection of possible risks that require investigation and recommendations are made accordingly – rather than going into the inspection blind.

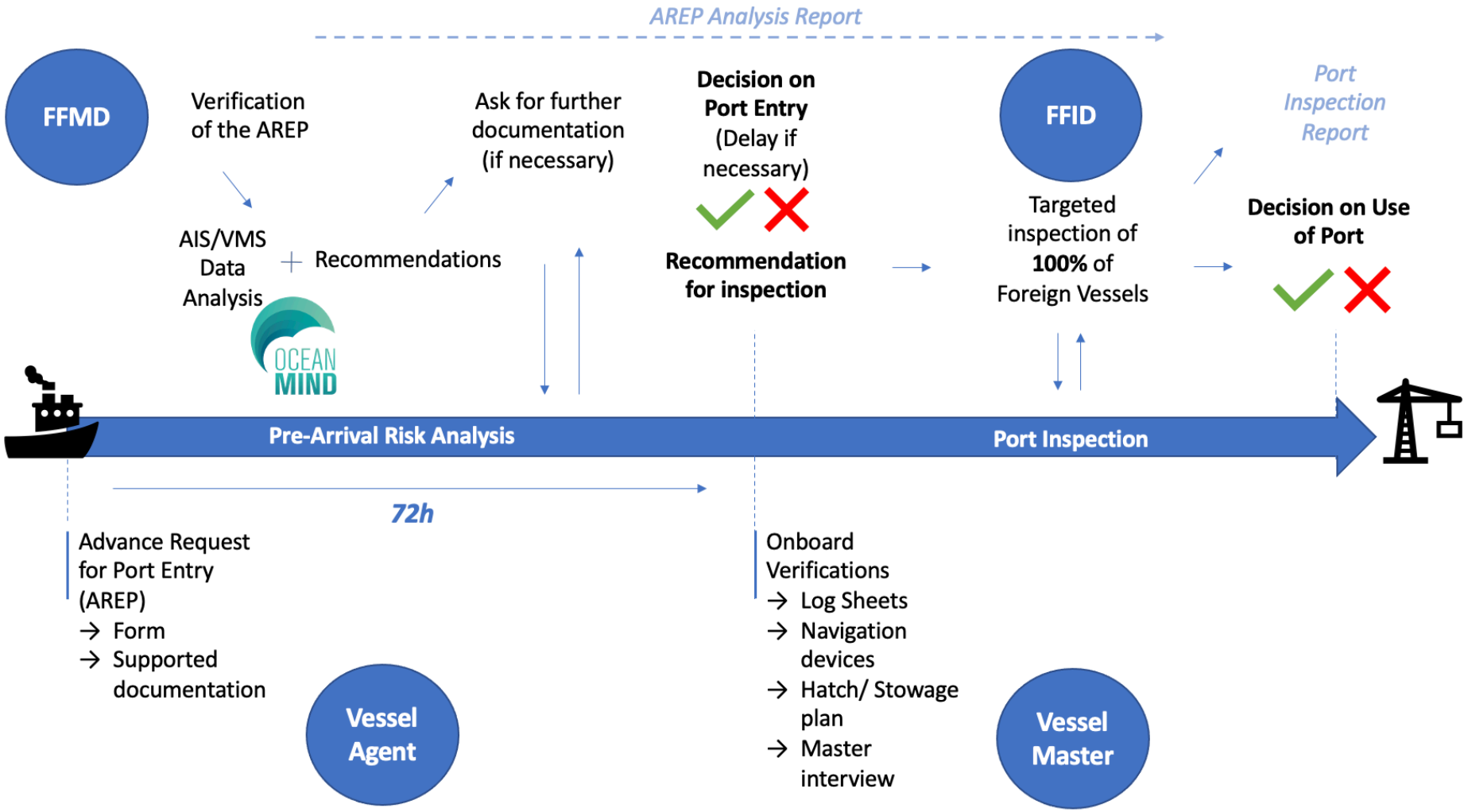
Evidence is collected by the FFID and uploaded into the e-PSM system which enables proper traceability. Notes are taken on each risk identified and the inspection is also thoroughly documented.

The onboard inspection process includes verifications of the following:

- Interview master regarding any suspicious activities identified from AIS tracking analysis;
- Check navigation logbook/ fishing logbook/ hatch temperature logbook/ navigation devices (AIS, GPS, VMS);
- Check original documents onboard.

The result of the inspection is the production of the PIR (Port Inspection Report) which, once issued by the FFID, allows a vessel to get the import permit. Authorization to offload is released along with the PIR. If the authorization is not granted, the FFID will delay the offload operations pending receipt of further information or proper verifications from the flag state, or relevant coastal state(s) and RFMO(s). Eventually, use of port can be denied. On the other hand, if offloading operations are authorized, the importation and custom process can begin. All data on each vessel is stored in the e-PSM system per AREP request, which therefore requires searching through. In the OceanMind analysis tool however, the data is stored per vessel, thereby allowing users to search for a specific vessel and see all previous results and risks.

3. *Diagram of the PSM Process in Thailand*



Simplified Representation of the PSM Process in Thailand - Source: Author's own.

E. Cooperation

1. At National level

At National level, Custom and Marine Departments' actions are contingent on getting the PIR report first and vessels being cleared from a PSM process standpoint.

In addition, information is exchanged with the following agencies:

- Custom Department
- Marine Department
- Port authority of Thailand
- Tuna importer and exporter.

2. At Regional and International level

At Regional and international level, the Thailand DOF cooperated with the following interlocutors for the level of information detailed in the table below.

Interlocutors	Information exchanged
Flag/ Coastal/ Port states	▪ Vessel and catch verification. ▪ Report PIR and actual weight. ▪ Relevant Memorandum of Understanding.
IOTC	▪ Vessel verification. ▪ IOTC e-PSM System. ▪ Annual report to IOTC.
FFA (Pacific Island Forum Fisheries Agency)	▪ Vessel verification.
Interpol	▪ Cooperation on cases among related countries. ▪ Reality training for evidence collecting.

III- Cooperation Mechanism between Thailand and the Republic of the Marshall Islands

In February 2019, Thailand and the Marshall Islands signed a Memorandum of Understanding (MOU), written broadly with a goal to build cooperation between the two countries to combat IUU fishing.

The mechanism of this cooperation resides in MIMRA providing the DOF with verification on legality of transshipped catch on-board carriers in Majuro in return for actual weight of catch by species as recorded by processing plants upon landing in Thailand. While the communication or process of verification on carrier vessels coming from Majuro has not been formalized yet, this MOU could become a useful tool for both countries and an example of cooperation. When carrier vessels leave Majuro, MIMRA receives the copy of the stowage plan, containing the details of the species and volume stowed by the name of donor vessel and assigned a hold number. Once the MOU data system is formalized, MIMRA will communicate a copy of that document, along with the Arriving Vessel Intelligence Report for each donor vessel to the Thailand DOF. This will allow Thailand to start their analysis on donor vessels with significant information instead of starting it from scratch.

In addition to reducing time and resources, this agreement also rests on the rationale that countries have information to be shared. This is a two-way mechanism under which each country gets something that makes their respective process easier and more transparent. If this goes beyond what is suggested in the PSMA, it could serve as an example of what cooperation and information between countries could look like.

PART III – PROPOSED GUIDELINES

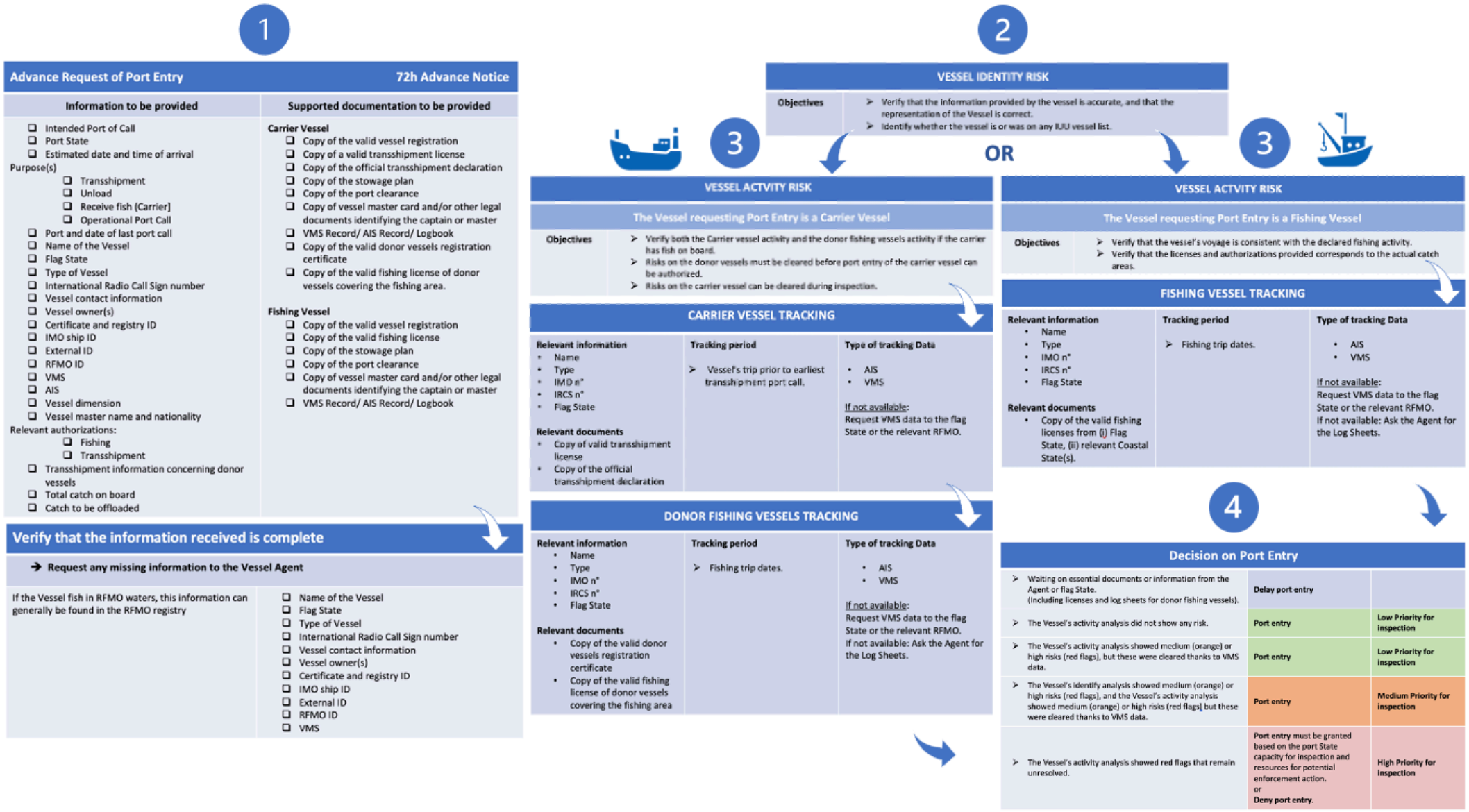
The objective of this risk assessment is to ensure the legality of the catch on board before it is landed. Rather than focusing their risk analysis on refusing port entry or port use if there is sufficient proof that the foreign vessel has engaged in IUU fishing, port authorities should focus their analysis on granting port use only when the legality of the catch is confirmed. Indeed, proving behavior, especially IUU fishing is difficult in practice and investigations can require a lot of resources and time. There is however a benefit of allowing port entry with inspection, rather than denying, as it prevents passing on the issue to another port state, who may have less resources and/or capability to conduct a thorough inspection and prevent the catch from entering the supply chain.

Port authorities in charge of PSMs should be empowered to make such decisions. A solution is the adoption of laws that mandate that vessels should provide a certain level of information and documents when requesting port entry, and well in advance to allow adequate analysis and investigation by port authorities. This allows port authorities to have legal grounds to deny port access or use when they identify a major risk even if there is not "sufficient proof" that the vessel had engaged in IUU fishing.

The goal of the proposed guidelines is to present a workflow for conducting risk assessment on both carrier and fishing vessels. When a carrier vessel requests port entry, the risks analysis should be performed on the carrier vessel and on all donor fishing vessel which fish are on board.

I- Decision Chart for the Risk Assessment of Foreign Vessels requesting Port Entry

Workflow Overview



1

Advance Request of Port Entry — 72h Advance Notice

Information to be provided	Supported documentation to be provided
❑ Intended Port of Call ❑ Port State ❑ Estimated date and time of arrival Purpose(s) ❑ Transshipment ❑ Unload ❑ Receive fish (Carrier] ❑ Operational Port Call ❑ Port and date of last port call ❑ Name of the Vessel ❑ Flag State ❑ Type of Vessel ❑ International Radio Call Sign number ❑ Vessel contact information ❑ Vessel owner(s) ❑ Certificate and registry ID ❑ IMO ship ID ❑ External ID ❑ RFMO ID ❑ VMS ❑ AIS ❑ Vessel dimension ❑ Vessel master name and nationality Relevant authorizations: ❑ Fishing ❑ Transshipment ❑ Transshipment information concerning donor vessels ❑ Total catch on board ❑ Catch to be offloaded	**Carrier Vessel** ❑ Copy of the valid vessel registration ❑ Copy of a valid transshipment license ❑ Copy of the official transshipment declaration ❑ Copy of the stowage plan ❑ Copy of the port clearance ❑ Copy of vessel master card and/or other legal documents identifying the captain or master ❑ VMS Record/ AIS Record/ Logbook ❑ Copy of the valid donor vessels registration certificate ❑ Copy of the valid fishing license of donor vessels covering the fishing area. **Fishing Vessel** ❑ Copy of the valid vessel registration ❑ Copy of the valid fishing license ❑ Copy of the stowage plan ❑ Copy of the port clearance ❑ Copy of vessel master card and/or other legal documents identifying the captain or master ❑ VMS Record/ AIS Record/ Logbook

Verify that the information received is complete

➔ **Request any missing information to the Vessel Agent**

If the Vessel fish in RFMO waters, this information can generally be found in the RFMO registry	❑ Name of the Vessel ❑ Flag State ❑ Type of Vessel ❑ International Radio Call Sign number ❑ Vessel contact information ❑ Vessel owner(s) ❑ Certificate and registry ID ❑ IMO ship ID ❑ External ID ❑ RFMO ID ❑ VMS

2

VESSEL IDENTITY RISK

Objectives	➢ Verify that the information provided by the vessel is accurate, and that the representation of the Vessel is correct. ➢ Identify whether the vessel is or was on any IUU vessel list.

Is the Vessel on an RFMO IUU List?

Resources

Combined IUU Vessels Lists:

- Trygg Mat Tracking Combined IUU Vessel List

RFMO IUU Vessels Lists:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Inter-American Tropical Tuna Commission (IATTC)
- International Commission for the Conservation of Atlantic Tunas (ICCAT)
- Indian Ocean Tuna Commission (IOTC)
- North Pacific Anadromous Fish Commission (NPAFC)
- North Pacific Fisheries Commission (NPFC)
- Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing (RPOA-IUU)
- South Pacific Regional Fisheries Management Organization (SPRFMO)
- Western and Central Pacific Fisheries Management Commissions (WCPFC)

YES	NO
Denial of Port Entry or Allow Port Entry to take enforcement action. Notification to the Flag State of the Vessel, relevant coastal States, RFMOs.	

Has the vessel recently changed ownership? Name? Flag?

Resources

Request information to the **Flag State.**
Perform Internet search to identify vessel's owner/ ultimate beneficiary.
Identify if there have been several changes in a short period of time.

YES	NO
The Vessel may be trying to hide its real identity.	

Does the IMO number exist and is valid?

Resources

IHS Markit website[122]

Other relevant sources:
IMO's Global Integrated Shipping Information System (GISIS)
FAO Global Record

NO	YES

Is the information provided consistent?

Resources

Verify the consistency of information with the relevant RFMO lists:
CCSBT Record of Authorized Vessels
ICCAT Record of Vessels
IOTC Record of Currently Authorized Vessels
NPFC Member/ CNCP Flagged Vessels Register
NPFC Non-Member Carrier Vessels Register
SPRFMO Records of Vessels
WCPFC Record of Fishing Vessels

Other relevant sources:
IHS Markit website[123]
IMO's Global Integrated Shipping Information System (GISIS)

NO	YES
• Determine reasons behind inconsistencies. • Ask for explanation to the Agent. • Verify inconsistent information to the Flag State through designated contact points. **Are the inconsistencies cleared?**	

NO	YES
The Vessel may be trying to hide its real identity.	

[122] Access to this resource requires a paid subscription.
[123] Access to this resource requires a paid subscription.

3

Scenario

VESSEL ACTVITY RISK

The Vessel requesting Port Entry is a Carrier Vessel

Objectives	➢ Verify that the vessel's voyage is consistent with the declared activity. ➢ Verify the Carrier vessel activity and corresponding licenses and authorizations. ➢ If the carrier has fish on board, verify the donor fishing vessels activity and corresponding licenses and authorizations. ➢ Risks on the donor vessels should be cleared before the carrier vessel is allowed port entry. ➢ Risks on the carrier vessel can be cleared during inspection.

CARRIER VESSEL TRACKING

Relevant information
- Name
- Type
- IMO n°
- IRCS n°
- Flag State

Relevant documents
- Copy of valid transshipment license
- Copy of the official transshipment declaration

Tracking period

➢ Vessel's trip prior to earliest transshipment port call.

Type of tracking Data
- AIS
- VMS

<u>If not available</u>:
Request VMS data to the flag State or the relevant RFMO.

Does the Vessel have sufficient positional data to determine its activity for all or most of the trip?

NO

Actions before inspection
- Request VMS positional data from the Flag State (if used AIS) to confirm the activity.
- Ask the Agent for the Log Sheets.

Recommendations for inspection
- Interview the Vessel Master
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan
  - ❑ Hatch/ Hold temperature

YES

❑ Transshipment declarations ❑ Emails	

Does the Vessel have gaps in positional data?

YES	NO
Actions before inspection • Request VMS positional data from the Flag State (if used AIS) to confirm the activity. • Ask the Agent for the Log Sheets. **Recommendations for inspections** • Interview the Vessel Master to confirm the reason for the gaps. • Verify that no unauthorized transshipment occurred during this event. • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold temperature ❑ Transshipment declarations ❑ Emails	

Does the positional data show suspicious slow speed?

YES	NO
Recommendations for inspection • Interview the Vessel Master to confirm the reason for the slow speeds. • Verify that no unauthorized transshipment occurred during this event. • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold temperature ❑ Transshipment declarations ❑ Emails	

Does the positional data show meetings with other vessels that were not reported?

YES

Actions before inspection

- Analyze the other Vessel's trip if possible.
- Ask the Agent for the Log Sheets.

Recommendations for inspection

- Interview the Vessel Master to confirm the reason for the meeting.
- Verify that no unauthorized transshipment occurred during this event.
- If the event corresponds to a transfer of supply, verify with according supply lists and receipts of the transaction.
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan
  - ❑ Hatch/ Hold temperature
  - ❑ Transshipment declarations
  - ❑ Supply lists
  - ❑ Receipts

NO

Does the positional data show undeclared port visits?

YES

Recommendations for inspection

- Interview the Vessel Master to confirm the reason for the undeclared port visit.
- Verify that no unauthorized transshipment occurred during this event.
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan
  - ❑ Hatch/ Hold temperature
  - ❑ Transshipment declarations
  - ❑ Emails

NO

Does the positional data show that the Vessel operated in areas in which it was not licensed or authorized to operate?

YES	NO
Recommendations for inspection • Interview the Vessel Master to confirm the reason for the vessel operating in these areas. • Verify that no unauthorized or unlicensed operations occurred • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold temperature ❑ Transshipment declarations ❑ Emails	

DONOR FISHING VESSELS TRACKING

Relevant information	Tracking period	Type of tracking Data
• Name • Type • IMO n° • IRCS n° • Flag State **Relevant documents** • Copy of the valid donor vessels registration certificate • Copy of the valid fishing license of donor vessels covering the fishing area	➢ Fishing trip dates.	• AIS • VMS <u>If not available</u>: Request VMS data to the flag State or the relevant RFMO. If not available: Ask the Agent for the Log Sheets.

Does the Vessel have sufficient positional data to determine its activity for all or most of the trip?

NO	YES
• Request VMS positional data from the Flag State (if used AIS) to confirm the activity. • Ask the Agent for the Log Sheets.	

Does the Vessel have gaps in positional data?

YES	NO
• Request VMS positional data from the Flag State (if used AIS) to confirm the activity. • Ask the Agent for the Log Sheets.	

Does the positional data show suspicious slow speed?

YES	NO
• Ask the Agent for the Log Sheets. • Confirm the reason behind the slow speed.	

Does the positional data show meetings with other vessels that were not reported?

YES	NO
• Analyze the other Vessel's trip if possible. • Ask the Agent for the Log Sheets. • Confirm the reason behind the unreported meetings with the Agent.	

Does the positional data show undeclared port visits?

YES	NO
• Ask the Agent for the Log Sheets. • Confirm the reason behind the unreported port visits with the Agent.	

Does the positional data show that the Vessel operated in areas in which it was not licensed or authorized to operate?

YES	NO
• Ask the Agent for the Log Sheets. • Request additional fishing license(s) to the Agent if applicable.	

OR

3

Scenario

VESSEL ACTVITY RISK

The Vessel requesting Port Entry is a Fishing Vessel

Objectives	➢ Verify that the vessel's voyage is consistent with the declared fishing activity. ➢ Verify that the licenses and authorizations provided corresponds to the actual catch areas.

FISHING VESSEL TRACKING

Relevant information	Tracking period	Type of tracking Data
• Name • Type • IMO n° • IRCS n° • Flag State **Relevant documents** • Copy of the valid fishing licenses from (i) Flag State, (ii) relevant Coastal State(s).	➢ Fishing trip dates.	• AIS • VMS <u>If not available</u>: Request VMS data to the flag State or the relevant RFMO. If not available: Ask the Agent for the Log Sheets.

Does the Vessel have sufficient positional data to determine its activity for all or most of the trip?

NO	YES

Actions before inspection

- Request VMS positional data from the Flag State (if used AIS) to confirm the activity.
- Ask the Agent for the Log Sheets.

Recommendations for inspection

- Interview the Vessel Master
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan
  - ❑ Hatch/ Hold

Does the Vessel have gaps in positional data?

YES

Actions before inspection

- Request VMS positional data from the Flag State (if used AIS) to confirm the activity.
- Ask the Agent for the Log Sheets.

Recommendations for inspections

- Interview the Vessel Master to confirm the reason for the gaps.
- Verify that no unauthorized transshipment occurred during this event.
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan
  - ❑ Hatch/ Hold
  - ❑ Transshipment declarations

NO

Does the positional data show suspicious slow speed?

YES

Recommendations for inspection

- Interview the Vessel Master to confirm the reason for the slow speeds.
- Verify that no unauthorized transshipment occurred during this event.
- Verify the following:
  - ❑ Logbooks
  - ❑ Stowage plan

NO

❑ Hatch/ Hold ❑ Transshipment declarations	

Does the positional data show meetings with other vessels that were not reported?

YES	NO
Actions before inspection • Analyze the other Vessel's trip if possible. • Ask the Agent for the Log Sheets. **Recommendations for inspection** • Interview the Vessel Master to confirm the reason for the meeting. • Verify that no unauthorized transshipment occurred during this event. • If the event corresponds to a transfer of supply, verify with according supply lists and receipts of the transaction. • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold ❑ Transshipment declarations ❑ Supply lists ❑ Receipts	

Does the positional data show undeclared port visits?

YES	NO
Recommendations for inspection • Interview the Vessel Master to confirm the reason for the undeclared port visit. • Verify that no unauthorized transshipment occurred during this event. • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold ❑ Transshipment declarations ❑ Emails	

Does the positional data show that the Vessel operated in areas in which it was not licensed or authorized to operate?

YES	NO
Recommendations for inspection • Interview the Vessel Master to confirm the reason for the vessel operating in these areas. • Verify that no unauthorized or unlicensed operations occurred • Verify the following: ❑ Logbooks ❑ Stowage plan ❑ Hatch/ Hold ❑ Transshipment declarations ❑ Emails	

4

Decision on Port Entry

➢ Waiting on essential documents or information from the Agent or flag State. (Including licenses and log sheets for donor fishing vessels).	**Delay port entry**	
➢ The Vessel's activity analysis did not show any risk.	**Port entry**	**Low Priority for inspection**
➢ The Vessel's activity analysis showed medium (orange) or high risks (red flags), but these were cleared thanks to VMS data.	**Port entry**	**Low Priority for inspection**
➢ The Vessel's identify analysis showed medium (orange) or high risks (red flags), and the Vessel's activity analysis showed medium (orange) or high risks (red flags) but these were cleared thanks to VMS data.	**Port entry**	**Medium Priority for inspection**
➢ The Vessel's activity analysis showed red flags that remain unresolved.	**Port entry** must be granted based on the port State capacity for inspection and resources for potential enforcement action. or **Deny port entry**.	**High Priority for inspection**

II- Proposed Implementation Guidelines

A. Request for Port Entry

Experience from both Thailand and the Marshall Islands shows that it is essential to implement a consistent process for port entry request. The process should be clearly defined for foreign vessels coming into port and include:

- Advance notice,
- Requested information,
- Supporting documentation.

A measure of success for both countries is how vessels and agents became better prepared over time when requesting or notifying port entry.

1. Advance Notice

The advance notice should be defined based on capacity between 48h and 72h, with 72h being the standard. The Marshall Islands only authorizes vessels to submit port entry notification 48h in advance for those vessels that did not leave the country's EEZ and therefore were returning vessels. Such trips are relatively short and easier to analyze. As a rule, a 72h notice should allow for enough time to perform a complete risk analysis on the incoming vessels.

2. Information to be communicated

The list of information to be gathered must be tailored to the vessel. The PSMA provides templates (*ANNEX A*) that are good resources for requesting information.

In addition to the requested information, the port State should request supporting documentation that proves the accuracy of the declared information. This first step sets the requirement for the vessel agent to provide the information when the vessel is requesting port entry. This puts the port authorities on the front foot to review that information, which saves a lot of time and resources. The information and documents communicated should prove the legality of the catch, thereby shifting the burden of proof from the provisions of the PSMA which mandate denial of port entry or port use when there is sufficient proof that the vessel seeking port entry has engaged in IUU fishing or in an activity supporting IUU fishing. As such, the information to be communicated and supporting documentation should serve the purpose of proving the legality of the catch.

There are multiple resources that can be used to verify the information communicated with the request for port entry. The table below lists resources that may be used by port States to perform a first level of verification on the vessel requesting port entry and the information provided.

Information	Resources	Access
IUU Lists (In addition to any national IUU list)	RFMO IUU Lists	▪ Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) ▪ Commission for the Conservation of Southern Bluefin Tuna (CCSBT) ▪ Inter-American Tropical Tuna Commission (IATTC) ▪ International Commission for the Conservation of Atlantic Tunas (ICCAT) ▪ Indian Ocean Tuna Commission (IOTC) ▪ North Pacific Anadromous Fish Commission (NPAFC) ▪ North Pacific Fisheries Commission (NPFC) ▪ Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported and Unregulated Fishing (RPOA-IUU) ▪ South Pacific Regional Fisheries Management Organization (SPRFMO) ▪ Western and Central Pacific Fisheries Management Commissions (WCPFC)
	Combined IUU List	▪ Trygg Mat Tracking Combined IUU Vessel List
Vessel identification	IMO Number	▪ IHS Markit website
	Others	▪ IMO's Global Integrated Shipping Information System (GISIS) ▪ FAO Global Record
Authorizations	RFMO Registered Vessels Lists	▪ CCSBT Record of Authorized Vessels ▪ ICCAT Record of Vessels ▪ IOTC Record of Currently Authorized Vessels ▪ NPFC Member/ CNCP Flagged Vessels Register ▪ NPFC Non-Member Carrier Vessels Register ▪ SPRFMO Records of Vessels ▪ WCPFC Record of Fishing Vessels
	Other Regional Lists	▪ Southeast Asian Fisheries Development Center (SEAFDEC) Regional Fishing Vessels Record (RFPVR)
	Others	▪ IHS Markit website[141] ▪ FAO High Seas Vessels Authorization Record ▪ FAO Global Record
Contact Flag States/ Costal States		▪ FAO Database of contact points and designated ports

B. Vessel Identity Risk

The first step of the risk analysis consists of getting a clear picture of the incoming vessel's identity. The objective is to confirm that the vessel is what it represents it is and eventually fill any information gaps.

Several risks can arise during such verifications, including:

- Whether the vessel appears on an RFMO IUU list.
- Whether the vessel recently changed ownership, name or flag.
  Reasons behind such changes should be investigated as the vessel may be trying to hide its real identity.
- Whether the IMO number exist and is valid.
- Whether the information provided is consistent.
  While inconsistency can occur, reasons for such should be examined and a clear picture of the vessel should be obtained.

C. Vessel Activity Risk

The second step of the risk analysis consists of verifying that the vessel's voyage is consistent with the declared activity. For incoming carrier vessels, that involves verifying (i) the carrier's trip prior to the earliest transshipment until it reaches the requested port, and (ii) all donor fishing vessel's fishing trips. For incoming fishing vessels, the activity analysis is performed on the vessel's fishing trip. The goal of this portion of the risk analysis is to verify that the licenses and authorizations provided corresponds to the actual catch areas for fishing vessels and ensure that no unauthorized or undeclared transshipment has occurred.

To perform this analysis, port authorities can use satellite tracking data.

1. AIS v. VMS Data

a. AIS data

Automatic Identification System (AIS) is a maritime collision avoidance system transmitted on marine Very High Frequency (VHF) radio. AIS transmissions provide information on the position, speed, course and identity as recorded by the transmitting vessel. The system is regulated by the IMO Convention for the Safety of Life at Sea (SOLAS). The IMO mandates the use of AIS on all passenger vessels, other vessels larger than 300 gross tons that travel internationally and cargo vessels larger than 500 gross tons not engaged in international travel.[124] Therefore carriers are, by law, equipped with AIS data. However, while some flags have required the use of AIS on some larger fishing vessels, this is not a global standard and therefore, AIS does not provide a full picture

[124] IMO Convention for the Safety of Life at Sea Regulation V/19 Carriage Requirements for Shipborne Navigational Systems and Equipment. Available at: https://www.liscr.com/sites/default/files/SOLAS%20V_Reg19.pdf.

of all fishing vessel activity.[125] AIS signals can be received by land-based receiving stations, other vessels and satellites, and is commercially available to anyone at a cost.

b. VMS data

Vessel Monitoring System (VMS) uses a Mobile Transmitting Unit (MTU), also called Automatic Location Communicator (ALC). When installed permanently on a vessel, each MTU/ALC has a unique identifier that can be used in conjunction with GPS to calculate a vessel's position and send the data to authorities at routine intervals.[126] VMS is ran by the fisheries management authority of the fishing vessel flag State and is not commercially available like AIS is.

Most RFMOs mandate that vessels authorized to fish within their waters be equipped with VMS. In addition to RFMOs, the FFA has an agreement among its members to provide near-real time sharing of VMS data among members for all foreign-flagged vessels licensed to fish within their collective waters in the western Pacific Ocean.[127]

c. Limits of AIS/VMS data analysis

On their own, VMS or AIS data cannot indicate if a vessel is fishing or transshipping unless the units are linked to gear sensors or cameras that provide verification of activity.[128] However, the analysis of such positional data can indicate if the vessel's movements are consistent with fishing activity or transshipping activity.[129] Further investigation can then verify the actions of the vessel and whether it acted in compliance with the law and conservation measures.

If VMS data has the advantage to be more tamper-proof than AIS data, as it cannot be voluntarily turned off, the latter is non-proprietary and virtually accessible by all. However, AIS data can be more granular in analyzing vessel movements, especially if VMS data is limited to one poll every one or four hours. VMS data needs to be requested from the flag State or from those RFMOs that maintain VMS reporting tools. However, access to these reporting tools is generally restricted. This is the case for the WCPFC and its VMS Reporting Status Tool accessible only to Members, Cooperating Non-Members and Participating Territories.[130]

2. Absence of or gaps in positional data

Port States should request VMS data from the relevant flag State or RFMO for fishing vessels that are not equipped with AIS data and did not communicate VMS data along with the request for port entry or when the vessel transmits infrequently on AIS during the trip under review.

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[125] G. Hosch, B. Soule, M. Schofield, T. Thomas, C. Kilgour, Any port in a Storm: Vessel Activity and the Risk of IUU-Caught Fish Passing through the World's Most Important Fishing Ports, Journal of Ocean and Coastal Economics (2019). Available at: https://cbe.miis.edu/cgi/viewcontent.cgi?article=1097&context=joce.

[126] PEW Tracking Fishing Vessels Around the Globe, New technologies boost capabilities and functionality of monitoring systems to allow full integration with fisheries management plans (2017). Available at: https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2017/04/tracking-fishing-vessels-around-the-globe.

[127] *Id.*

[128] *Id.*

[129] *Id.*

[130] WCPFC VMS Reporting Requirement Guidelines (2018). Available at: https://www.wcpfc.int/doc/tcc-05/vms-reporting-requirements-draft-guidelines.

a. Challenge of obtaining VMS data

Port States are often dependent on the prompt response of flag States and relevant RFMOs. Experience shows that some flag States can be unresponsive or slow to answer. In these circumstances, Thailand, and the Marshall Islands both implemented a zero-tolerance policy for missing information where port entry is delayed pending receipt of the requested information. In Thailand, they deny port entry past a delay of 5 to 7 days.

Port States should try to reach out to flag States through relevant contact points, but the reality is that it is challenging to obtain answers within 48h to 72h, if any. RFMOs are a useful resource to obtain information as well, but in most circumstances, they only share positional data with their members and cooperating non-members.

b. Other resources

Experience from Thailand and the Marshall Islands show that when the flag State is unresponsive, filling information gap is very challenging. When port States cannot obtain VMS data, they should request the log sheets from the vessel agent. This highlights the importance of AIS use as a supplemental data source.

When the vessel coming into port has incomplete positional data for the trip under review, inspection can clear or confirm associated risks. Inspectors should verify the logbook and transshipment declarations, inspect the hatch or hold including verifying temperatures and if they have been opened and interview the vessel master to confirm that there has not been any undeclared or unauthorized transshipment or port call.

When a carrier vessel requesting port entry has catch from a donor fishing vessel with incomplete or no positional data, inspection is not an option. As such, mitigation options when flag States did not communicate VMS data consist of requesting the log sheets from the vessel agent. This is one of the most challenging risks to resolve for port authorities. When the log sheets are not in electronic form and are written by the vessel master, they can be tampered with. In the absence of corroboration from the flag State in the form of VMS data or confirmation of the vessel activity, there is a substantial risk to allowing that catch to land without any sort of other confirmation. For the catch areas, RFMOs or other regional organizations such as the FFA will usually control a fishing vessel's activity and can corroborate the catch areas. A major risk is any undeclared or unauthorized transshipments. To mitigate such risk port authorities can verify that the weight of the catch on board the carrier corresponds to the capacity of the donor fishing vessel.

3. Identified Suspicious activity

Analysis of an incoming vessel's activity with satellite data can show various patterns that infer suspicion that illegal activity might have occurred. Risks associated with such behavior can generally be cleared during inspection when the vessel is in port. When the risk is on a donor fishing vessel, information should be obtained from the agent before the carrier vessel can be allowed to enter port.

These patterns include:

- Suspicious slow speed, that could be consistent with transshipment or loitering.
- Unreported meeting with another vessel,
- Unreported port call,
- Operation in areas in which the vessel was not licensed or authorized to operate.

Port authorities should focus their investigation on ensuring that no unauthorized transshipment has occurred by requesting log sheets from the vessel agent, and in the circumstance of an unreported meeting, analyze the other vessel's trip prior to such meeting. When the underlying reason for the meeting was a transfer of supply, this information can be verified during inspection with corresponding supply lists and relevant transaction receipts.

D. Decision-making

One particular challenge for carrier vessels is that identified risks on donor fishing vessels must be cleared without the possibility of port authorities to be able to inspect them. As such, if risks identified for the carrier can be cleared during in-port inspections, that is not the case for identified risks on donor fishing vessels, which should ideally be cleared before the carrier is allowed to enter port. Pending receipt of necessary documentation on donor fishing vessel to clear identified risks, port entry of the carrier vessel should be delayed. In addition, delaying port entry can put pressure on the vessel agent and the vessel to get access to information as each day spent waiting instead of unloading has financial consequences for a vessel.

All vessels entering port with remaining risks should be inspected to clear the identified risks. As such, decision on port entry for such vessels should take into consideration the port State's capacity for inspection and potential following enforcement actions if risks are confirmed.

E. Impact of Covid and Covid protocols

The global pandemic caused by COVID-19, the infectious disease caused by the coronavirus SARS-CoV-2 (Covid-19 or Virus) impacted all individuals and industries around the world. The fishing industry was not spared by the Virus. To this date, whether Covid-19 will impact the fishing industry on the short or on the long term is yet to be known. As such, it seems important to address its consequences especially on the impact it has on risk assessments of foreign vessels coming to port.

Because of the pandemic, some vessels avoid coming into port, which results in less oversight on their activity, and loss of information and/or opportunities to inspect them. In addition, Covid-19 also impacted the use of observers on board vessels.

Consequently, risk assessments have to be incremented to consider risk and safety. Indeed, another angle to consider in performing risk assessment is port authority's personnel safety from Covid-19 infection. Port inspection's importance will increase because of the lower rate of observer's coverage, but this situation will put port inspectors at particular risk. Taking into consideration the safety of inspectors, port authorities can consider the following:

- How long ago has the vessel previously been in port (if recent, increased infection risk),
- Whether there has been transshipment, and how long ago has it occurred.

PART IV – CLOSING REMARKS

I- Importance of Regional Context

Regional context is key for the implementation of good Port State Measures. The Marshall Islands' membership in the FFA, which made fighting IUU fishing a priority, allows the country to benefit from resources it uses every day to perform risk analysis on foreign vessels. But for the tools created and shared by the FFA to its members, implementing PSMs would be even more challenging the country's port authorities.

In addition, experience from Thailand and the Marshall Islands shows the importance of having a consistent process including for the request of port entry. Both countries agree that a measure of success is how better prepared vessel agents are when asking port entry over time. A consistent process changes expectations and results in efficiency over time. This links back to the need for consistency in the implementation of Port State Measures among states and the requirement of documentation to prove legality before port entry. Further, in a regional context, the issue of a potential transfer effect from implementing more stringent measures than neighboring countries is reduced. With a consistent regional framework and implementation of PSM, it would be more challenging if not impossible for vessels to land their catch in another port to escape controls.

Regional frameworks and RFMOs in particular, also play a key role in cooperation. Those that maintain registries and tracking of vessels fishing in their region accessible to their members and non-member cooperating countries facilitate the risk analysis of port States on these vessels. It seems that for some RFMOs, states are keener to report and update the available tools than they do for the FAO tools.

In addition, RFMOs and other regional groups such as the FFA forbid certain behavior. Among these measures, they both prohibit transshipment at sea, which allows for more oversight and control. Transshipments must occur in port, which contributed to the heavy vessel traffic the Marshall Islands receive. Indeed, tuna purse seiners use Majuro for unloading and transshipping tuna catches because the RFMOs in the Western Pacific and Indian Ocean prohibit at-sea transshipping.[131] At-sea transshipment is a particular risk because of the lack of oversight on fishing vessels that are not returning to port. Mandating that transshipments should occur in port, allows for implementation of risk assessment process such as those described in this report, as well as inspections of these fishing vessels, and control over the transshipment operations. By prohibiting certain risky behavior in their region and promoting robust MCS measures, RFMOs lower the risk of IUU fishing behavior.

II- Decision to Deny Port Entry

The PSMA empowers the port State to deny entry to vessels for which the risk of it having engaged in IUU fishing is too high, but if the port State has the capabilities and resources, the best scenario would be to permit entry into Port and conduct a full investigation, and, if warranted,

[131] G. Hosch, B. Soule, M. Schofield, T. Thomas, C. Kilgour, Any port in a Storm: Vessel Activity and the Risk of IUU-Caught Fish Passing through the World's Most Important Fishing Ports, Journal of Ocean and Coastal Economics (2019). Available at: https://cbe.miis.edu/cgi/viewcontent.cgi?article=1097&context=joce.

impose sanctions. This would contribute to solving the problem rather than denying entry which would push the problem to another port State, which might not have the capacity to perform a full risk analysis or take appropriate enforcement action.

In the Marshall Islands for example, port authorities are empowered to grant port entry and eventually delay port use pending the clearance of all risks. As an example, in 2020, the Marshall Islands charged a Korean fishing vessel for fishing in its waters without a valid license.[132]

For this to be possible, there is a need for national legislation that form the basis to prosecute such behavior when the illegal activity occurred in waters beyond national jurisdiction. The Lacey Act in the United States for example creates a basis for prosecution of international trafficking of wildlife. This includes, among other behavior, illegally taken commercial fish. The Lacey Act requires accurate labeling of all wildlife shipments entering the country and criminalizes most types of trafficking of wildlife, including fish that have been "taken, possessed, transported, or sold in violation" national or foreign law. Violators under the Lacey Act can face a range of penalty including civil fines, forfeiture of wildlife and equipment, and criminal penalties, including fines and incarceration.[133]

But these decisions also have a cost, the cost of unloading the catch, and keeping it in bonds to conserve it pending investigation, or the cost of the investigation itself and the possible court proceedings. In practice, some decisions are based on an economics and capacity. In Thailand, investigations can be so costly that even if the recommendation would be to allow vessels to enter port to investigate, the costs are potentially so high that the decision can be made to refuse port entry rather than using government funds.

It seems that there is a lack of incentive to take enforcement action. When a vessel presents a high risk of having engaged in IUU fishing activities, there is no incentive for a port State to spend resources and funds on a thorough investigation, conserve the catch in the meantime and prosecute that vessel. Therefore, the solution to deny port entry might be the one that makes the most sense financially. This must be taken into consideration in the cost of becoming party to the PSMA. There are financial consequences for a country to implement more stringent controls. An option could be granting port entry and imposing higher fines that would cover the cost of the investigation, thereby incentivizing port States to take enforcement actions.

Complying with new laws and regulations can increase production costs for port States. As a result, international suppliers must also agree to eventually increase their price. There is increased demand from seafood companies across the globe for expanding seafood traceability, including through the ratification and implementation of the PSMA, which should put further pressure on governments to become Parties to the Agreement.[134] This, however, also includes supporting the change and potential associated costs.

Another issue of denying port entry is the potential transfer effect of vessels going to a port that enforces fewer controls, which allows catch from IUU fishing into the market. However,

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[132] Skilled fisheries officers a critical part of effective port state measures, as Marshall Islands charge shows, Pacific Islands Oceanic Fisheries Management (April 2020). Available at: http://www.tunapacific.org/2020/04/06/skilled-fisheries-officers-a-critical-part-of-effective-port-state-measures-as-marshall-islands-charge-shows/.
[133] Lacey Act, 16 USC 3371 – 3378. Available at: https://www.fws.gov/le/pdffiles/Lacey.pdf.
[134] Statement on Traceability and Port State Measures (February 2021). Available at: https://oceansolutions.stanford.edu/sites/g/files/sbiybj13371/f/embargo_16_feb_coalition_statement_final.pdf.

increased concern from seafood buyers and seafood industry for port state controls would offset the interest to go somewhere else.

III- Container Vessels

The Port State Measures Agreement includes an exception in its scope for container vessels. As such, the Agreement does not apply to:

> "container vessels that are not carrying fish or, if carrying fish, **only fish that have been previously landed**, provided that there are no clear grounds for suspecting that such vessels have engaged in fishing related activities in support of IUU fishing."

Likewise, the IOTC PSM Resolution's scope of application is to all vessels not entitled to fly the port State's flag that request entry to their designated ports, with the exception of:

> "Container vessels that are not carrying fish or **only fish that has been previously landed**".[135]

Therefore, containers vessels are currently out of the scope of the PSMA, as long as fish they transport have been previously landed. Movements of containers have increased over time because of many factors including aging carrier fleets, or improved efficiency. As a result, containers are increasingly used to move fisheries products to market.[136] This exception in the Agreement has created a potential loophole and provides for opportunities for IUU fish to land and make its way to market through container vessels, thereby circumventing some reporting obligations.

The lack of definition of the concept of "landing" in the PSMA, also leaves room for interpretation and inconsistencies between port States. A 2016 FAO document for the Implementation of Port State Measures provided a proposed definition of landing as "to begin to offload fish or to offload fish from any vessel in port or at a dock, berth, beach seawall or ramp, but **does not include transshipment**".[137]

Under this definition, some catch in container vessels might not have been properly landed and should be covered by inspection.

Often times, catch would be directly unloaded on the container vessel and no documentation would prove that it was properly landed. In addition, container vessels do not use fishing ports but cargo ports that do not enforce Port State Measures because of that loophole. Such use of containers can therefore circumvent PSMs when there is an assumption that the fish has been landed before.

A 2020 UN FAO study on transshipment also highlighted a practice called "transshipment in transit" where fish is directly transferred to containers without any monitoring or control, blurring the line between landing and transshipment and "in fact not defining it as either the one or the

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[135] IOTC Implementing the IOTC Port State Measures Resolution, Responsibilities of port States, flag States, the fishing industry and the IOTC Secretariat (2013). Available at https://www.iotc.org/sites/default/files/documents/compliance/IOTC_PSM_brochure_-_Port_States_Flag_States_Responsibilities.pdf.

[136] FAO Transshipment: a closer look, An in-depth study in support of the development of international guidelines (2020). Available at: http://www.fao.org/documents/card/en/c/cb2339en.

[137] FAO Implementation of Port State Measures (2016). Available at: http://www.fao.org/3/I5801E/i5801e.pdf.

other".[138] During these operations, port authorities have no insight on whether the catch has been previously landed and no effective Port State Measures can be applied.[139]

In addition, new issues are emerging with the use of containers. Some carrier vessels are now carrying containers themselves to reduce the landing costs. The fish is stored directly in containers on the carrier before being transported to port and transferred to a large container vessel. These are charging lower transport rates. The UN FAO transshipment study highlighted in 2020 that unless clear port procedures are developed, there is a risk that carrier vessels will "switch to operating as merchant vessels that transfer containers to another merchant vessel in a free zone, instead of as vessels engages in "fishing related activities" for the purpose of the PSMA".[140]

This is also an important aspect of defining international transshipment guidelines and will have to be considered in the near future in implementing the PSMA. It seems that offloading fish to containers should be considered as landing or transshipment and be within the scope of the PSMA.

[138] FAO Transshipment: a closer look, An in-depth study in support of the development of international guidelines (2020). Available at: http://www.fao.org/documents/card/en/c/cb2339en.
[139] *Id.*
[140] *Id.*

Methodology

Methods for this study included a literature review of port State measures and all applicable international, regional, and national legal and regulatory frameworks, including RFMOs' requirements for port State measures and existing tools and recommendations from the FAO.

To create lessons learned from Thailand and the Marshall Islands, I engaged with a number of people who perform this risk analysis including from (i) the Thailand Department of Fisheries, through introductions from OceanMind and (ii) the Marshall Islands Marine Resources Authority. They shared with me background documentation including presentations on their respective port State controls. This allowed me to curtail my questions to my interlocutors. These questions touched upon the following:

- The organization of the division(s) in charge of Port State Measures,
- Capacity available to perform risk analysis and inspection on incoming foreign vessel,
- Description of implemented port controls,
- Description of the pre-arrival to port risk analysis,
- Description of risks encountered as part of this risk analysis,
- The way to address and mitigate such risks,
- Communication with other States (flag, coastal, port),
- The use of satellite tracking data as part of the risk analysis,
- Circumstances under which port entry can be delayed or denied,
- Circumstances under which use of port can be delayed or denied,
- In port inspection procedures and how they can be used to resolve pre-identified risks,
- Main challenges to a pre-arrival risk analysis,
- Most common gaps of information encountered,
- Areas for improvement and successes.

From these lessons learned, background research and existing tools and resources, I put together proposed guidelines that include the methodology to perform pre-arrival risk analysis.

Acknowledgement

This Capstone Project could not have been possible without the support of and collaboration from my Capstone Advisory Committee. Mark Young, whose guidance, insight, and expertise as my Chair was invaluable. His repeated confidence in my project throughout the weeks helped me achieve my objectives. Francisco Blaha provided such a unique point of view on Port State Measures and the fishery industry in general drawn from his unique background and first-hand experience working at sea, which pushed me to form my own opinion on this complex topic. Dawn Borg Costanzi, who is an expert on all things PSMA and whose direction and honesty were extremely helpful in framing my project and ensuring that I was thorough in my analysis. Dr. Sara McDonald, whose reflections on my project helped me craft my approach, her work on seafood slavery is what drew me to this topic in the first place. Natalie Tellwright, whose time dedicated to discussing risk analysis and assistance in getting information from the Thailand Department of Fisheries were invaluable. Her knowledge of the field and honest vision about the industry were instrumental in the development of my project.

In Addition, I would like to thank Kanit Naksung, Jaruwan Songphatkaew and Jitpisut Sanboonpeng from the Thailand Department of Fisheries and Beau Bigler from the Marshall Islands Marine Fisheries Authorities for agreeing to discuss the processes in place in Thailand and the Marshall Islands respectively and their availability and patience with my questions. This work would not have been possible without their assistance.

Lastly, to my family and my partner whose support goes above and beyond.

ANNEX A – FAO PSMA Information to be provided

1. Intended port of call	
2. Port State	
3. Estimated date and time of arrival	
4. Purpose(s)	
5. Port and date of last port call	
6. Name of the vessel	
7. Flag State	
8. Type of vessel	
9. International Radio Call Sign	
10. Vessel contact information	
11. Vessel owner(s)	
12. Certificate of registry ID	
13. IMO ship ID, if available	
14. External ID, if available	
15. RFMO ID, if applicable	

16. VMS	No	Yes: National	Yes: RFMO(s)	Type:

17. Vessel dimensions	Length		Beam		Draft	

18. Vessel master name and nationality	

19. Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

20. Relevant transshipment authorization(s)

Identifier		*Issued by*		*Validity*	
Identifier		*Issued by*		*Validity*	

21. Transshipment information concerning donor vessels

Date	*Location*	*Name*	*Flag State*	*ID number*	*Species*	*Product form*	*Catch area*	*Quantity*

22. Total catch onboard			**23. Catch to be offloaded**	
Species	*Product form*	*Catch area*	*Quantity*	*Quantity*

ANNEX B – FAO PSMA Report of the results of the inspection

Report of the results of the inspection

1. Inspection report no		**2. Port State**			
3. Inspecting authority					
4. Name of principal inspector		**ID**			
5. Port of inspection					
6. Commencement of inspection	*YYYY*	*MM*	*DD*	*HH*	
7. Completion of inspection	*YYYY*	*MM*	*DD*	*HH*	
8. Advanced notification received	*Yes*		*No*		
9. Purpose(s)	*LAN*	*TRX*	*PRO*	*OTH (specify)*	
10. Port and State and date of last port call			*YYYY*	*MM*	*DD*
11. Vessel name					
12. Flag State					
13. Type of vessel					
14. International Radio Call Sign					
15. Certificate of registry ID					
16. IMO ship ID, if available					
17. External ID , if available					
18. Port of registry					
19. Vessel owner(s)					
20. Vessel beneficial owner(s), if known and different from vessel owner					
21. Vessel operator(s), if different from vessel owner					
22. Vessel master name and nationality					
23. Fishing master name and nationality					
24. Vessel agent					
25. VMS	*No*	*Yes: National*	*Yes: RFMOs*	Type:	

26. Status in RFMO areas where fishing or fishing related activities have been undertaken, including any IUU vessel listing

Vessel identifier	*RFMO*	*Flag State status*	*Vessel on authorized vessel list*	*Vessel on IUU vessel list*

27. Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

28. Relevant transshipment authorization(s)

Identifier		*Issued by*		*Validity*	
Identifier		*Issued by*		*Validity*	

29. Transshipment information concerning donor vessels						
Name	*Flag State*	*ID no.*	*Species*	*Product form*	*Catch area(s)*	*Quantity*

30. Evaluation of offloaded catch (quantity)					
Species	*Product form*	*Catch area(s)*	*Quantity declared*	*Quantity offloaded*	*Difference between quantity declared and quantity determined, if any*

31. Catch retained onboard (quantity)					
Species	*Product form*	*Catch area(s)*	*Quantity declared*	*Quantity retained*	*Difference between quantity declared and quantity determined, if any*

32. Examination of logbook(s) and other documentation	*Yes*	*No*	*Comments*
33. Compliance with applicable catch documentation scheme(s)	*Yes*	*No*	*Comments*
34. Compliance with applicable trade information scheme(s)	*Yes*	*No*	*Comments*
35. Type of gear used			
36. Gear examined in accordance with paragraph e) of Annex B	*Yes*	*No*	*Comments*

37. Findings by inspector(s)
38. Apparent infringement(s) noted including reference to relevant legal instrument(s)
39. Comments by the master
40. Action taken
41. Master's signature
42. Inspector's signature

ANNEX C – Thailand's AREP

กรณียื่นด้วยตนเอง

	ADVANCE REQUEST FOR PORT ENTRY (แบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)	**1. Title** (ชื่อย่อ) AREP **2. No.** (เลขที่)

3. Submit to (ยื่นคำขอต่อ)	**4. Application Date** (วันที่เขียนคำขอ) **5. Vessel Type** (ประเภทเรือ)

6. Vessel Name (ชื่อเรือ)	**7. Flag State** (รัฐเจ้าของธง)

8. Length (ความยาว)/M (เมตร)	**9. Beam** (ความกว้าง)/M (เมตร)	**10. Draft** (กินน้ำลึก)/M (เมตร)	**11. Size** (ขนาดเรือ)/GT (ตันกรอส)

12. Last Port (ท่าเรือที่จอดครั้งสุดท้าย), **Last Port State** (รัฐเจ้าของท่าที่จอดครั้งสุดท้าย)	**13. Date of Last Port** (วันที่จอดครั้งสุดท้าย)

14. Intended Port (ท่าเรือที่ต้องการจะเทียบท่า)	**15. Port State** (รัฐเจ้าของท่า)	**16. Estimated Date - Time Arrival** (วัน-เวลาที่คาดว่าจะถึง)

17. Purpose(s) (วัตถุประสงค์)	**18. Have Products** (มีสินค้า) ☐ No (ไม่มี) ☐ Yes (มี)	**19. Offloading** (ขนถ่ายสัตว์น้ำ) ☐ No (ไม่ขนถ่าย) ☐ Yes (ขนถ่าย)	**20. Port after Inspection** (ท่าหลังตรวจเรือ)

21. Certificate of Registry ID (รหัสจดทะเบียนเรือ)	**22. IMO Ship ID** (รหัส IMO)	**23. IRCS** (รหัสวิทยุสากล)/MMSI	**24. TH Registry ID** (เลขอ้างอิงกรมเจ้าท่า)

25. External ID (รหัสแสดงภายนอกเรือ)	**26. RFMO(s) Member – RFMO(s) ID** (สมาชิก RFMO(s) – รหัส RFMO(s))

27. VMS (ระบบติดตามเรือ)	☐ No (ไม่มี)	☐ Yes : National (มี: ของรัฐเจ้าของธง)	☐ Yes : RFMO(s) (มี : ขององค์กรจัดการประมงระดับภูมิภาค)	**28. VMS TYPE** (ประเภทอุปกรณ์ติดตามเรือ)

29. Vessel Agent (ตัวแทนสายเรือ)	**Tax No./Branch** (เลขประจำตัวผู้เสียภาษี/ลำดับสาขา)	**30. Vessel Owner(s) Information** (เจ้าของเรือ)
31. Vessel Master (ชื่อผู้บังคับการเรือ), **Nationality** (สัญชาติผู้บังคับการเรือ)		**32. Attorney** (ผู้ทำการแทนเจ้าของเรือ)

33. Submitted Date (วันที่ยื่นคำขอ)	**35. Signature** (ลายมือชื่อ)	**36. Officer Position and Emblem of Office** (ตำแหน่งและตราประทับหน่วยงาน)
34. Accepted Date (วันที่ลงรับคำขอ)		

	ADVANCE REQUEST FOR PORT ENTRY (แบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)	**1. Title** (ชื่อย่อ) AREP **2. No.** (เลขที่)

37. Relevant Fishing or Transshipment Authorization(s) (การอนุญาตในการทำการประมงหรือขนถ่ายสัตว์น้ำที่เกี่ยวข้อง)

Identifier (เลขที่ใบอนุญาต)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)	Fishing Area(s) (แหล่งประมง)	Species (ชนิดพันธุ์)	Gear (เครื่องมือประมง)

38. Evidences and Documentations Submitted with AREP
(เอกสารประกอบแบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)

	Yes	No	Comment
Registration Certificate of Carrier Vessel (เอกสารจดทะเบียนเรือขนถ่ายจากรัฐเจ้าของธง)	☐	☐	
Transshipment License (ใบอนุญาตขนถ่ายจากรัฐเจ้าของธง/รัฐชายฝั่งที่เรือทำประมง/RFMO(s) ครอบคลุมพื้นที่ขนถ่าย)	☐	☐	
Transshipment Declaration (เอกสารรายงานการขนถ่ายสัตว์น้ำ)	☐	☐	
Stowage Plan (ผังการจัดเก็บสัตว์น้ำบนเรือ)	☐	☐	
Port Clearance (เอกสารการแจ้งนำเรือออกจากท่า)	☐	☐	
Vessel Master Card (บัตรประจำตัวกัปตัน หรือ เอกสารแสดงการเป็นกัปตัน)	☐	☐	
CITES Permit (หนังสือนำเข้าสัตว์น้ำตามบัญชีไซเตส) (กรณีที่มีการนำเข้าสัตว์น้ำที่มีรายชื่ออยู่ในบัญชีไซเตส)	☐	☐	
Registration Certificate of Fishing Vessel (เอกสารจดทะเบียนของเรือจับสัตว์น้ำจากรัฐเจ้าของธง)	☐	☐	
Fishing License (ใบอนุญาตทำประมงจากรัฐเจ้าของธง/รัฐชายฝั่งที่เรือทำประมง ครอบคลุมพื้นที่การจับสัตว์น้ำ)	☐	☐	
Fishing Logbook (สมุดบันทึกการทำประมง)	☐	☐	
VMS Record/AIS Record/Logbook (บันทึกการเดินเรือที่ครอบคลุมระยะเวลาที่ทำการประมง)	☐	☐	
Mate's Receipt (เอกสารสำแดงการขนถ่ายสัตว์น้ำ)	☐	☐	
Ship's Particular (เอกสารแสดงคุณลักษณะเรือ)	☐	☐	
Records of any Change of Hull (เอกสารการเปลี่ยนแปลงตัวเรือ)	☐	☐	
Other 1. ระบุ.....	☐	☐	
Other 2. ระบุ.....	☐	☐	
Other 3. ระบุ.....	☐	☐	
Other 4. ระบุ.....	☐	☐	
Other 5. ระบุ.....	☐	☐	
Other 6. ระบุ.....	☐	☐	
Other 7. ระบุ.....	☐	☐	
Other 8. ระบุ.....	☐	☐	
Other 9. ระบุ.....	☐	☐	

33. Submitted Date (วันที่ยื่นคำขอ)	**35. Signature** (ลายมือชื่อ)	**36. Officer Position and Emblem of Office** (ตำแหน่งและตราประทับหน่วยงาน)
34. Accepted Date (วันที่ลงรับคำขอ)		

ADVANCE REQUEST FOR PORT ENTRY (แบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)	**1. Title** (ชื่อย่อ) AREP **2. No.** (เลขที่)

39. Information in Stowage Plan (ข้อมูลในผังเรือ)

	Hold No. (เลขระวางเรือ)	Donor/Fishing Vessel Name (เรือจับ)	Flag State (ธงเรือจับ)	Registration No. (เลขทะเบียนเรือจับ)	IMO Ship ID (รหัส IMO)
A					

Fishing Trip Duration (ช่วงวันที่ทำการประมง)	Catch Area on Board EEZ, FAO/RFMO(s) (แหล่งจับของปลาบนเรือ)	Species on board (ชนิดพันธุ์ของปลาบนเรือ)	Gear (เครื่องมือประมง)

Identifier (เลขที่อนุญาตเรือจับ)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Transshipment Duration (ช่วงวันที่ขนถ่าย)	Port of Loading (ประเทศต้นทางบรรทุก)	Transshipment Port (ท่าที่ขนถ่าย)	Transshipment Area (บริเวณที่ขนถ่าย)

Identifier (เลขที่อนุญาตเรือขนถ่าย)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Product Form (รูปแบบผลผลิต)	Catch on Board/KGM (ปริมาณบนเรือ/กก.)	Import/Transit/Stalled (นำเข้า/นำผ่าน/ไม่ประสงค์ดำเนินการ)	Catch Offloaded/KGM (ปริมาณที่จะนำขึ้นท่า/กก.)

Offloading Port (ท่าขึ้นสัตว์น้ำ)	Importer (ผู้นำเข้า)	Invoice No./Date (เลขที่/วันที่บัญชีราคาสินค้า)	BL No./Date (เลขที่/วันที่ใบตราส่งสินค้า)

	Hold No. (เลขระวางเรือ)	Donor/Fishing Vessel Name (เรือจับ)	Flag State (ธงเรือจับ)	Registration No. (เลขทะเบียนเรือจับ)	IMO Ship ID (รหัส IMO)
B					

Fishing Trip Duration (ช่วงวันที่ทำการประมง)	Catch Area on Board EEZ, FAO/RFMO(s) (แหล่งจับของปลาบนเรือ)	Species on board (ชนิดพันธุ์ของปลาบนเรือ)	Gear (เครื่องมือประมง)

Identifier (เลขที่อนุญาตเรือจับ)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Transshipment Duration (ช่วงวันที่ขนถ่าย)	Port of Loading (ประเทศต้นทางบรรทุก)	Transshipment Port (ท่าที่ขนถ่าย)	Transshipment Area (บริเวณที่ขนถ่าย)

Identifier (เลขที่อนุญาตเรือขนถ่าย)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Product Form (รูปแบบผลผลิต)	Catch on Board/KGM (ปริมาณบนเรือ/กก.)	Import/Transit/Stalled (นำเข้า/นำผ่าน/ไม่ประสงค์ดำเนินการ)	Catch Offloaded/KGM (ปริมาณที่จะนำขึ้นท่า/กก.)

Offloading Port (ท่าขึ้นสัตว์น้ำ)	Importer (ผู้นำเข้า)	Invoice No./Date (เลขที่/วันที่บัญชีราคาสินค้า)	BL No./Date (เลขที่/วันที่ใบตราส่งสินค้า)

33. Submitted Date (วันที่ยื่นคำขอ)	**35. Signature** (ลายมือชื่อ)	**36. Officer Position and Emblem of Office** (ตำแหน่งและตราประทับหน่วยงาน)
34. Accepted Date (วันที่ลงรับคำขอ)		

	ADVANCE REQUEST FOR PORT ENTRY (แบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)	**1. Title** (ชื่อย่อ) AREP **2. No.** (เลขที่)

39. Information in Stowage Plan (ข้อมูลในผังเรือ)

A	Hold No. (เลขระวางเรือ)	Donor/Fishing Vessel Name (เรือจับ)	Flag State (ธงเรือจับ)	Registration No. (เลขทะเบียนเรือจับ)	IMO Ship ID (รหัส IMO)

Fishing Trip Duration (ช่วงวันที่ทำการประมง)	Catch Area on Board EEZ, FAO/RFMO(s) (แหล่งจับของปลาบนเรือ)	Species on board (ชนิดพันธุ์ของปลาบนเรือ)	Gear (เครื่องมือประมง)

Identifier (เลขที่อนุญาตเรือจับ)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Transshipment Duration (ช่วงวันที่ขนถ่าย)	Port of Loading (ประเทศต้นทางบรรทุก)	Transshipment Port (ท่าที่ขนถ่าย)	Transshipment Area (บริเวณที่ขนถ่าย)

Identifier (เลขที่อนุญาตเรือขนถ่าย)	Issued by (ออกให้โดย)	Validity (มีอายุใช้ได้จนถึง)

Product Form (รูปแบบผลผลิต)	Catch on Board/KGM (ปริมาณบนเรือ/กก.)	Import/Transit/Stalled (นำเข้า/นำผ่าน/ไม่ประสงค์ดำเนินการ)	Catch Offloaded/KGM (ปริมาณที่จะนำขึ้นท่า/กก.)

Offloading Port (ท่าขึ้นสัตว์น้ำ)	Importer (ผู้นำเข้า)	Invoice No./Date (เลขที่/วันที่บัญชีราคาสินค้า)	BL No./Date (เลขที่/วันที่ใบตราส่งสินค้า)

33. Submitted Date (วันที่ยื่นคำขอ)	**35. Signature** (ลายมือชื่อ)	**36. Officer Position and Emblem of Office** (ตำแหน่งและตราประทับหน่วยงาน)
34. Accepted Date (วันที่ลงรับคำขอ)		

สำหรับเจ้าหน้าที่

40. Port State Decision (ผลการพิจารณา)	**41. Transmitted to** (แจ้งไปยังหน่วยงานที่เกี่ยวข้อง)
The following decision has been taken with regard to the request you have submitted to enter the port of ..... ○ Allow port entry and offloading (อนุญาตเทียบท่าและขนถ่ายสัตว์น้ำได้) ○ Allow port entry with on board inspection (อนุญาตเทียบท่าและขึ้นตรวจเรือ) ○ Port entry denied for the following reasons: (ไม่อนุญาตให้เทียบท่าเนื่องจาก) ☐ Vessel on IUU list (เป็นเรืออยู่ในบัญชีรายชื่อเรือไอยูยู) ☐ Vessel not authorized by Flag State (เป็นเรือที่ไม่ได้รับอนุญาต) ☐ Vessel not on the positive of the RFMO(s) (เป็นเรือที่ไม่อยู่ใน Positive list) Other: (ระบุ).....	☐ Flag State (รัฐเจ้าของธง): ..... ☐ Coastal State (รัฐชายฝั่งที่เรือทำประมง): ..... ☐ RFO/RFMO: ..... ☐ Customs (กรมศุลกากร): ..... ☐ Port Authority of Thailand (การท่าเรือแห่งประเทศไทย): ..... ☐ Marine Department (กรมเจ้าท่า): ..... ☐ Immigration (ตรวจคนเข้าเมือง): ..... ☐ Fish Marketing Organization (องค์การสะพานปลา): ..... ☐ Others (ระบุ): .....

42. Issue Date (วันที่ออกเอกสาร)	**44. Signature** (ลายมือชื่อ)	**45. Officer Position and Emblem of Government Office** (ตำแหน่งและตราประทับหน่วยงาน)
43. Effective Date (วันที่มีผลบังคับใช้)		

กรณียื่นด้วยตนเอง

	ADVANCE REQUEST FOR PORT ENTRY (แบบคำร้องขอนำเรือประมงต่างประเทศเข้าเทียบท่า)	**1. Title** (ชื่อย่อ) AREP **2. No.** (เลขที่)

Appendix..... (เอกสารแนบ.....)

Invoice no. (เลขบัญชีรายการสินค้า) ..... Date (วันที่).....

Total catch onboard (ชนิดและปริมาณสัตว์น้ำบนเรือ)				Catch offloaded / KGM (ปริมาณที่จะนำขึ้นท่า / กก.)
Species (ชนิดพันธุ์)	Product form (รูปแบบผลผลิต)	Catch area (แหล่งจับ)	Quantity / KGM (ปริมาณ / กก.)	
รวม (Total)				

33. Submitted Date (วันที่ยื่นคำขอ)	**35. Signature** (ลายมือชื่อ)	**36. Officer Position and Emblem of Office** (ตำแหน่งและตราประทับหน่วยงาน)
34. Accepted Date (วันที่ลงรับคำขอ)		

Capstone Project

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MAS MBC Program
June 2021