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RESEARCH ARTICLE

The Urgency of International Fisheries Agreements in Measured Fishing on the Seas: The Perspective of Indonesian Fishing Vessels

Yulia Hasan[1*], Basri Oner[2], Ruslan Mustari[3], Michele Purwaningrat[4]

[1,2,3] Faculty of Law, Bosowa University, South Sulawesi, Indonesia

[4] Faculty of Law, Bosowa University, South Sulawesi Indonesia.

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***Corresponding Author:**

yulia.hasan@universitasbosowa.ac.id

ABSTRACT

Most of the high seas in the world have been regulated by international organizations and treaties that bind countries to protect natural resources, especially fish resources to achieve sustainable fisheries. The high seas designated as fishing zones have fishing quotas to keep fishing under control, and provide benefits and justice for surrounding countries. The study aims to analyze the measured fishing in the high seas based on countries' membership in international fisheries agreements and the protection of measured fishing by Indonesian fishing vessels in the high seas. This study uses a qualitative approach based on international fisheries agreements ratified by the Government of Indonesia and laws and regulations governing Measured Fishing on the high seas. The study's findings show that measured fishing is determined by Regional Fisheries Management Organizations whose role is to assess resources and make management decisions that benefit participating countries in international fisheries agreements, and this can become a new norm in international law in the form of strengthening the regulation of fisheries areas, technology and data, and the involvement of industry and stakeholders. Generally, the Republic of Indonesia is a member of the tuna fisheries management organization. It is expected that this fisheries management organization applies the principle of the right to benefit from science and technology. Meanwhile, protection for Indonesian fishing vessels that conduct measured fishing on the high seas is regulated in various rules, not a single unit, so that it can confuse vessels that will fish on the high seas. Estimating potential fish resources and determining the amount of fishing permitted under the regulations which do not include fish groups but rather fish species are necessary steps toward achieving measured fishing. As a result, this study suggests using data from Fisheries Information Systems.

1. INTRODUCTION

The world's fish resources are being overfished as a result of the numerous fishing vessels that are present on the high seas today. This enhanced capability has been the result of several factors. Overinvestment is exacerbated by the availability of easily accessible resources, the speed at which technology is developing, and the expansion of global markets. Subsidies for modernizing national fleets and taking part in shared The high seasic fisheries have also added to the world fleet's overcapacity (International Institute for Sustainable Development, 2021). The global demand to achieve sustainable fisheries encourages wise management of fish resources, as they are both a sourceof food and an economic resource for fishers. (Eli Nurlaela, 2023). Thus, many vessels fishers who have free access to resources and consequent overfishing.

Over one-third of the world's fish tons are overexploited (United Nations, 2023), resulting in a $400 billion loss to the global fishing industry (Murtazashvili, 2023). The results of FAO analysis, several

fishery areas in the world indicate a decline in marine fisheries production due to global fishing activities since 2021 (FAO, 2024).So that countries are given the responsibility to conserve fish resources in their jurisdiction, as well as on the high seas given the burden to protect against unsustainable fishing activities (Fisheriesaquaculture & Paper, 2024). Thus, the world's fish resources have decreased.

International demands to achieve sustainable fisheries for fish resources are increasingly urgent. As a result, fishing regulations have been put in place to protect marine fish populations. Controlling measured fishing is one kind of control that nations with fisheries and seas employ. PIT is the most recent policy the Indonesian government has put in place to guarantee that fish resources are exploited sustainably..Australia is one of the countries in the world that has implemented measured fishing by working with several international organizations to ensure that the fish stocks targeted by Australian fishermen are managed sustainably (Fisheries, 2023). Before the implementationof PIT, Indonesia, the Philippines, and Vietnam were countries that practiced free fishing. (C. Wang et al., 2023). One of the measured fishing policies considers ecology and economics, especially on The high seas health which functions as an ecological guardian, producer of food sources, maintains climate stability and components of the universe (KKP, 2022).Furthermore, the PIT zone is carried out in the Indonesian fisheries management area and the high seas. PIT in the high seas is intended for fishing areas that have been determined by the Regional Fisheries Management Organization abbreviated as RFMO (Government Regulation, 2023). Thus, Indonesian fishermen and vessels have the right to fish on the high seas.

The right to fish in the high seas is an advantage for Indonesian fishing vessels because they have access to utilize fish resources in the high seas (Sharma, 1995). In addition, Indonesian fishing vessels must pay attention to catch quotas, the preservation of fish resources, and the ability of vessels to fish in the high seas based on international agreements made by countries. The high seas are open and vast, requiring surveillance, monitoring and law enforcement (*Achieving Transparency And*, 2019). Article 6 of PP No.11 of 2023 concerning Measured Fishing states that the quota set by the Minister in determining PIT based on WPPNRI and on the high seas, refers to the potential of available fish resourcesand the amount of catch allowed by taking into account the level of utilization of fish resources. With this policy, every Indonesian fishing vessel that wants to fish in the high seas, the fishing quota is based on Ministerial regulations. However, the Ministerial regulation in question still refers to the old regulation. Until now, it has not adjusted to the government regulations governing PIT. Thus, it is necessary to adjust the potential available fish resources and the amount of allowable catch based on PIT.

This research differs from previous studies. YiminYe et al's study developed a comprehensive index that takes into account the inputs, outputs and ecological implications of fisheries. These components are then brought together to form a composite fishing index that assesses the overall impact of fishing on the ecosystem as well as its historical patterns (Ye & Link, 2023). Furthermore, according to Wahyu Sakti Trenggono's study, PIT maximizes state revenue through PNBP, lessens the regulation on vessel size, and upholds the principle of business fairness by basing retribution after fishing activities on catch quantity. Small-scale fishermen continue to actively participate in this policy in accordance with the quotas established for each region. It is anticipated that this policy's implementation will improve the well-being of Indonesian fishermen, balance regional economic activity, and preserve the sustainability of fisheries resources and marine health (Trenggono, 2023). Meanwhile, Suhana stated that with systematic efforts to improve capturefisheries policies from upstream to downstream, it is hoped that the fisheries family economy will continue to develop and be well maintained (Press, 2021). The meeting point of theabove study is that PIT takes into account the output based on the quota to provide fishermen's welfare. Meanwhile, this study examines measured fisheries in the high seas. Thus, the focus of this study is aimed at answering the question of how measured fishing on the high seas is based on countries' membership in international fisheries agreements and howthe protection of measured fishing by Indonesian fishing vessels on the high seas. Theurgency of this research is oriented towards the protection of fishermen and Indonesianfishing vessels in conducting PIT on the high seas in supporting the sustainability of fish resources and the welfare of fishermen and fishing vessels.

2. METHODS

This study employs a normative juridical approach in a qualitative research design. utilizing secondary data from various sources, including journals, books, and fishing cases. In addition, information gathered from the examination of secondary sources, international treaties, laws and regulations, international organizations, and international fisheries management will be examined in more detail. This analytical procedure thoroughly explains the data gathered from diverse sources and aids researchers in developing a thorough understanding. In addition, the analysis's outcomes will be discussed to summarize the research findings while accounting for the author's opinions and viewpoints. This will offer a thorough and detailed understanding of The high seasic measured fishing.

3. RESULTS AND DISCUSSION

3.1Measured fishing agreement on the high seas

Because of the ongoing global increase in fishing activity, ecosystems are impacted. The impact of fisheries on the high seas environment has not gotten as much attention from ecological research as it has from studies on the coastal and deep-sea environments (Crespo & Dunn, 2017). In addition, there are no established regulations regarding restrictions on fishing in the high seas, so it is expected that governments find ways to cooperate in limiting fishing vessels in their activities or in areas of species whose profitability needs to be maintained. Several international organizations have concerns in fisheries management such as: the WTO which has a role in regulating restrictions onthe provision of fishing subsidies on the high seas outside the competence of RFMOs.Meanwhile, RFMOs function as supervisors of fishing vessels on the high seas which is their territory (International Institute for Sustainable Development, 2021). Thus, international organizations have a way of limiting fishing on the high seas.

International treaties like UNCLOS contain restrictions on The high seas fishing, but they seem too broad to be useful in real-world situations. Nonetheless, the question of how to limit fishing by non-treaty parties is left unaddressed in certain international treaties (Y. Wang & Pan, 2023). In theory, controlling The high seas fishing is crucial to maintaining the resource. Presently, RFMOs oversee the majority of The high seas fisheries. They are empowered to create legally enforceable conservation and management plans within their borders and function within the parameters of the international law of the sea (Fischer, 2022). Therefore, these organizations play an important role in The high seas fisheries management and their actions are suitable for all countries, including non-member countries. In addition, it has the power to adopt a widerange of regulations for use in fisheries management including catch quotas as well asmonitoring, control and surveillance activities (European Commission, 2023). RFMOs thus regulate fisheries management on the high seas.

International organizations known as RFMOs were founded by nations to regulate fishing operations in particular regions, including both The high seasic and regional waters. These organizations are currently in charge of managing international fisheries, which includes imposing fishing restrictionsn (*Regional Fisheries Management Organizations (RFMOs) - IUCN SSC Shark Specialist Group*, n.d.). RFMOs have streamlined their plans to collaborate with nations through international and national agreements due to concerns about overfishing. This collaboration serves as the cornerstone of international law governing the governance of fisheries in the high seas (Yu, 2022). However, fisheries governance in the region sometimes causes bad responses when it comes to conservation due to fishing restrictions. And countries involvedin RFMOs often commit serious and repeated violations that weaken the organization in fisheries management (Gibbon, n.d.) Thus the importance of cooperation commitments made by countries as outlined in international law in order to become a reference in exercising rights and obligations in fishing on the high seas.

The basis for the establishment of RFMOs refers to the 1982 United Nations Convention On The Law Of The Sea (UNCLOS), the 1995 United Nations Fish Stocks Agreement (UNFSA), the 1995 FAO- Code of Conduct for Responsible Fisheries (CCRF) and the convention or agreement for the establishment of RFMOs (Rfmo, 2009) (Haas et al., 2020). The organizations established under these agreements have a goal: to maintain the conservation and sustainable management of shared fish stocks and other marine resources through international cooperation (Council, 2023). In addition, the

establishment of RFMOs was driven by the mobile, migratory and transboundary nature of fish, as well as the realization that overfishing in one country can result in the destruction or extinction of fish in other countries (Council, 2023). Presently, about 17 RFMOs oversee the world's seas; these include 5 RFMOs that specifically oversee tuna or highly migratory species and 12 RFMOs that oversee waters based on regions as a whole (Haas et al., 2020). Furthermore, Indonesian waters are bordered by 4 RFMOs namely the Indian The high seas Tuna Commission (IOTC), Commission for the Conservation of Southern Bluefin Tuna (CCSBT), The Western and Central Pacific Fisheries Commission (WCPFC), and the Inter-American Tropical Tuna Commission (IATTC). The membership status of the Unitary State of the Republic of Indonesia (NKRI) in these organizations as a full member (member state) and not full(cooperating nonmember state) (Yuliantiningsih, 2019) ((Government Regulation,2023).Thus the Republic of Indonesia participates in sustainable fisheries management on the high seas.

The Indonesian government has ratified its membership in the IOCT with PresidentialRegulation Number 9 of 2007 concerning the Ratification of the *Agreement For The Establishment Of The Indian The high seas Tuna Commission* (Presidential Regulation of the Republic of Indonesia, 2009). Fish resource conservation and management measures are mandatory for both members and non-members, as per the IOCT Rules of Procedure 2022. It is ensured that vessels flying the flag adhere to the conservation and management measures mentioned in the IOCT (Parties & Non-members, 2022). The Commission has been collecting data on fish species from 1950 to the present. The data is used to assess stocks and is also published on a dedicated meeting page reserved for each IOTC Working Group, and countries are expected to refer to the data (Indian The high seas Tuna Commission, 2018). Additionally, Indonesian fishing vessels benefit from the agreement by having direct access to and participation in fish resources in Indian The high seas waters as a result of Indonesia's membership. On the other hand, the catch of fish resources is classified as IUU and subject to an embargo if they are not members of this organization (Yuliantiningsih, 2019). Thus, Indonesian flag vessels can fish in the Indian The high seas byobserving the provisions of the IOCT.

The CCSBT was ratified by the Government of Indonesia with Presidential Regulation Number 109 of 2007 concerning the ratification of the *Convention For TheConservation Of Southern Bluefin Tuna* (STATISTICS, 2007). In order to ensure the conservation and optimal use of southern bluefin tuna through efficient management, CCSBT, an international organization, is tasked with managing populations of the fish throughout its distribution area (CCSBT, 2018). Its breeding grounds in the Indian The high seas are adjacent to Java Island. The CCSBT has a management procedure that has an estimated 50% probability of achieving a biomass level equivalent to 30% of the original spawning stock biomass by 2035 (*CCSBT Commission for the Conservation of Southern Bluefin Tuna*, 2015). The most recent comprehensive stock assessment for southern bluefin tuna that the stock, based on relative Total Reproductive Output (TRO), was estimated at 23% (21-29%) of TRO. The report indicates that the stock is still below the level expected to produce maximum sustainable yield (MSY) and notes thatthe stock status has improved since the last stock assessment in 2020, with the relative TRO currently at 20% (16-24%) of TROO (Attachment 8, 2023). The allowable catch (TAC) to CCSBT members and non-members from 2016 to 2023 is as follows:

Table 1: CCSBT permitted catch of tuna in tons

No.	**Country**	**Year**		
	Member	**2016-2017**	**2018-2020**	**2021-2023**
1	Japan	4,737	6,117[1]	6,197.4[3]
2.	Australia	5,665	6,165	6,238.4[3]
3	Republic of Korea	1,140	1,240.5	1,256.8
4	Fishing Entity of Taiwan	1,140	1,240.5	1,256.8
5	New Zealand	1,000	1,088	1,102.5
6	Indonesia	750	1,023[1]	1,122.8[3]
7	European Union	10	11	11
8.	South Africa 150 4502 455.33	150	450[2]	455.3[3]
	Non-member			
1.	Philippines	45	0	0

Source: (Attachment 8, 2023)

As you can see from the above table, Indonesian fishing vessels are able to catch more tuna annually. In the same way as other nations, excluding those that are not members. As a result, CCSBT divides the permitted catch between its member and non-member nations.

The WCPFC was established in accordance with the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific The high seas (WCPFC Convention). This convention seeks to address the challenges in The high seas fisheries management that arise from uncontrolled fishing, overcapitalization, fleet overcapacity, the installation of new flags on vessels to avoid surveillance, the use of inappropriate fishinggear, inadequate databases, and the lack of multilateral cooperation in the conservation and management of remotely migratory fish stocks (WCPFC, 2021). Thus, the UNFSA's provisions are mentioned in this convention. Additionally, the WCPFC offers management guidance and data on fish stock conditions as a resource for fishermen (WCPFC, 2018). Fishing vessels must use the official flag of the country and be equipped with The Compliance Monitoring Scheme (the CMS Scheme) to improve compliance with the convention (*WCPFC Compliance Monitoring Scheme*, n.d.). Furthermore. The Republic of Indonesia has ratified this agreement with Presidential Regulation No.61 of 2013 concerning Ratification of the *Convention On The Conservation And Management Of Highly Migratory Fish Stocks In The Western And Central Pacific The high seas* (President of the Republic of Indonesia, 2013). As a permanent member, the Republic of Indonesia benefits from information sharing, technology transfer, and the ability to avoid trade embargoes imposed by WPCFC nations on Indonesian fisheries exports. Furthermore, it improves Indonesia's standing in global fisheries associations. As a result, the WCPFC offers data on fish stock conditions as a fishing guide.

Over the Eastern Pacific The high seas region, which stretches from Canada in the north to Chile in the south, the IATTC is a regional fisheries management organization charged with the conservation and management of tuna and related species, including related species and their ecosystems (*Role and Characteristics of Microbes in Food*, n.d.). As a result, its mandate and authority are far wider. Tuna and related species travel great distances on foot. As a result, they have the freedom to travel across various sea areas that are governed by various legal systems, eventually traveling from one region under the national jurisdiction of a coastal state to another and finally reaching the high seas. Furthermore, the Eastern Pacific The high seas (EPO) is only open to tuna fishing from vessels that are registered on the IATTC Regional Vessel Register. Fishing is permitted on these vessels by the flag government.

Each, and only those vessels that are authorized to do so on the list, and they take into consideration the availability of fish resources (IATTC, 2022), The Republic of Indonesia's membership in this organization has been a *cooperating non-member* since 2013, and its membership continuesto be renewed every year, so that fishing vessels that are registered and use its flag can fish inthe IATTC region (Sunoko & Huang, 2014).Thus this organization only allows fishingvessels that are registered and use its flag to fish about available fish data.

There are no ownership rights over fish that reside in the sea because they are common property resources and not the property of any particular person. However, in order for these resources to remain sustainable, efforts must be made to use, conserve, and safeguard them by the guidelines, allowing future generations to benefit from them by their management areas. One area of fisheries management is the high seas, where UNCLOS regulates the concept of freedom, which includes the right to pursue fish as long as it complies with applicable laws. To achieve sustainable fisheries, prudent management of fish resources is now crucial. Although international law substantiallylimits the right of states to allow their citizens to fish in international waters. This right depends on the fulfillment of conditions such as the implementation of appropriate conservation and management measures and cooperation with other relevant countries. As previously mentioned, by making decisions that affect both member states and non-member states, regional organizations play a significant role in the management of The high seas fisheries. Both the State regional and international fisheries organizations play a significant role in the utilization of fishing rights on the high seas. The state must determine what kind of fishing vessels are allowed to fish in the high seas based on the decisions made by the organization. Fisheries organizations use international agreements that are mutually agreed upon for fisheries management, including setting fishing quotas, to determine which countries are allowed to fish in the interim. As a result, PIT on the high

seas is implemented in accordance with a decision made jointly by the nations that make up regional and global organizations. Fishing activities by vessels flying their flag are deemed to violate the International Law of Unreported Fishing (IUU), which poses a problem for countries that are either temporary or permanent members of fisheries organizations. PIT is therefore applied to both permanent and non-permanent members' nations.

According to the author, international fisheries agreements that regulate measured fishing on the high seas are very important for countries to implement because:

1. Sustainability of Fish Resources: This agreement contributes to ensuring that fishing practices are sustainable and do not negatively impact The high seas fish populations. The agreement aims to prevent overfishing, which can jeopardize the sustainability of marine ecosystems, by controlling catch quotas and fishing methods.
2. Equality and Fairness: International agreements frequently set forth guidelines that are equitable to all signatory nations, guaranteeing that no nation unjustly benefits more from marine resources than another. This is crucial to avert disputes between nations that compete in fishing.
3. Integrated Management: Since no nation has exclusive authority over the high seas, international cooperation is necessary for their management. This agreement makes it easier for nations to coordinate in order to put effective management strategies into place.
4. Preservation of Marine Ecosystems: Marine ecosystems comprise a range of interdependent species and habitats, in addition to fish. The preservation of ecosystems and non-target species that might be impacted by fishing operations is typically included in a good fisheries agreement.
5. revention of Illegal Fishing: Countries can cooperate to stop illicit, unreported, and unregulated (IUU) fishing if they have international agreements in place. This keeps everyone following the established guidelines.
6. Knowledge and Technology Enhancement: Agreements frequently promote technology and information sharing amongst signatory nations. This enhances monitoring and enforcement while contributing to the development of more effective and ecologically friendly fishing techniques. This can be beneficial to developing nations, particularly in light of global principles pertaining to development cooperation and the right to benefit from science and technology.
7. Social and Economic Responsibilities: Fishing is a major source of income in many nations. With international agreements, countries can work together to ensure that fishing is done responsibly and provides fair economic benefits to the communities that depend on the industry.

Based on the explanation above, international fisheries management can be achieved by cooperating with parties who have interests in the high seas, and this can give birth to the development of new norms in international law, namely:

1. Strengthening the Regulation of Fisheries Areas:
   There is a push to strengthen international agreements governing fisheries areason the high seas. This includes agreements that set fishing quotas, no-go zones,and sustainable fishing methods to prevent overfishing and ecosystem damage.
2. Technology and Data
   The integration of technology, such as satellite tracking systems and real-timedata, in fisheries management is increasingly important. It enables more effective monitoring of fisheries activities and enforcement of regulations.
3. Industry and Stakeholder Engagement
   There is an increased focus on the involvement of the fishing industry and stakeholders in policy formulation and implementation of fisheries agreements. This includes involving fishing vessels and local communities in decision-making processes.

Overall, good international fisheries agreements play a crucial role in maintaining the sustainability of marine resources and ensuring that fishing is conducted in a fair and responsible manner at the global level.

3.2 Protection of Indonesian fishing vessels' measured fishing on the high seas

PIT will be implemented by the Government of Indonesia in 2022. PIT is one of the blue economy priority programs proposed by the Ministry of Maritime Affairs and Fisheries which aims to maintain the sustainability of marine ecosystems, improve the quality and competitiveness of fishery products,

improve community welfare, and encourage a quality economy for the community. The benefits include business actors' ability to Establish the optimal number of vessels to maintain fish stocks and marine health, distribute income regionally because the landing port is adapted to the location of the catch, and generate high non-tax state revenue. Thus, in order to maintain the quantity of fish stocks in the sea, fishing must be restricted. As a result, PIT takes into account the fishing zone's quota.

PIT conducted by vessels in WPPNRI and on the high seas is guided by PP No.11 of 2023. In Article 2 paragraph (4) what is meant by the high seas is the sea that is not included in the category of territorial sea, archipelagic waters, additional lanes, exclusive economic zones, or inland waters according to RFMO conventions or competencies. As discussed above, Indonesia is one of the permanent members of the organization (member state),namely: IOCT, CCSBT, WCPFCK and also interacts with non cooperating non memberstates namely IATTC (Government Regulation, 2023). Furthermore, the fishing zones measured on the high seas are designated as Fishing Areas by the applicable rules of each RFMO. Each organization has a policy towards Indonesian fishing vessels that will conduct fishing on the high seas by taking into account the potential of existing fish resources and the amount of catch allowed, taking into account the level of utilization of fish resources (Article 6 paragraph 2). Thus, PIT on the high seas refers to the policies of each management organization.

The parties that have an interest in fisheries management on the high seas are FishingVessels, Flag States, and fisheries organizations. Each party has guidelines in conducting fishing. Based on the Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia No.58/permen-KP/2020 that every person who conducts fishing or capture fisheries business on the high seas must have a Capture Fisheries Business License in the form of a Fishing Business License (SIUP), Fishing License (SIPI), and Fishing Vessel License (SIKPI). Fishing vessels with a size of more than 30 gross tonnage that already have SIPI and SIKPI, and have been registered by the Director General to the RFMO, are allowed to operate in WPPNRI and the high seas. (Regulation of the Minister of Marine Affairs and Fisheries of the Republic of Indonesia, 2020). Furthermore, vessels that are allowed tooperate on the high seas are first registered as Indonesian Fishing Vessels and fly the country's flag. Thus, Indonesian Fishing Vessels that will conduct fishing in the RFMO area must have SIPI and SIKPI.

Vessels that have SIPI are registered with RFMOs to catch fish species managed by fisheries organizations of which Indonesia is a permanent member and non-permanent member. The competency areas are as follows:

Table 2: Regional fisheries organization competence areas participated by the republic ofIndonesia

No.	Fisheries organization regional	Competency Area	Membership Status
1.	IOTC	ZEEI WPPNRI571(EEZ Andaman Sea),ZEEI WPPNRI 572, EEZ of WPPNRI 573, and the high seas Indian The high seas	Permanent members
2.	CCSBT	WPPNRI 573 and the high seas Indian The high seas.	Permanent members
3	WCPFC	ZEEI WPPNRI 716, ZEEI WPPNRI 717, Central Western Pacific The high seasThe high seas	Permanent Member
4	IATTC	Eastern Pacific The high seas The high seas	Non-permanentmembers

Source: Minister of marine affairs and fisheries republic no.58/permen-kp/2020

Vessels that do not comply with the standard requirements set by RFMOs are considered to be engaged in *illegal, unreported, and unregulated fishing (IUU Fishing).*Thus, vessels registered with RFMOs must comply with the provisions set by the organization and only fish in designated areas.

Vessels that conduct activities other than fishing will be subject to administrative sanctions in the

form of reprimands or written warnings, suspension of SIPI ,and revocation ofSIPI. A written warning is issued for the first-time violation. If the vessel violates for the second time, it will be subject to SIPI freezing for 90 (Ninety) calendar days and will be subject to SIPI revocation if it violates for the third time. In addition, fish vessels and fish transport vessels that conduct *IUU Fishing* are included in the list of IUU Fishing vessels andwill receive gradual sanctions by the provisions (Regulation of the Ministerof Maritime Affairs and Fisheries of the Republic of Indonesia, 2020). Furthermore, for fishing vessels or fish transport vessels operating in the high seas from the fishing grounds will be given a base port in accordance with the location of their business or residence. In addition, such vessels may visit up to 40 ports of destination countries that are RFMO members in the same RFMO region and must comply with the provisions of the port state measures agreement. Thus, gradual sanctions will be imposed on vessels that conduct activities outside of fishing and are included in the list of IUU fishing vessels.

Fishing vessels and fish transport vessels are allowed to carry out transhipment both on the high seas and at the port of the destination country which is a member of the RFMO inthe same RFMO area, by complying with the provisions of the port country agreement and RFMO resolutions. Furthermore, fishing vessels transhipping on the high seas are required to adhere to the regulations regarding the use of fishing gear in accordance with their respective competency areas. For example, the IOTC area requires the use of long line fishing gear, such as tuna longlines. CCSBT, WCPFCI and IATTC. In addition, vessels that will transfer cargo must pay for the transfer of cargo to the RFMO, and the transfer of cargo is submitted electronically to the Head of the Base Port in Indonesia and the RFMO secretariat no later than 24 hours beforethe transfer of cargo and the transfer of cargo must be accompanied by an official report (Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia, 2020). Thus, the transfer of cargo of fishing vessels can only be on the high seas and the destination port agreed upon by the RFMO.

Indonesian vessels in fishing in the RFMO area must comply with the provisions stipulated in the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia No.58/permen-KP/2020 concerning Capture Fisheries Business and fisheries organizations wherein the vessel is registered. Because many people rely on fishing for a living, these provisions make marine zones like the WPPNRI and the high seas integrated management, and the utilization of fish resources is carried out with due regard for social and economic responsibility. In order to maintain the sustainability of fish resources, fishing must be controlled; specifically, there should be catch limits or quota restrictions. PIT is a new program that was introduced in Indonesia in accordance with Government of the Republic of Indonesia Regulation Number 11 of 2023 regarding Measured Fishing. Maintaining the sustainability of fish resources will support the welfare of fishermen, foster job growth and opportunities, raise the added value and competitiveness of fishery products, provide business certainty, and benefit the state and business community. The quota calculation method is regulated by the Minister of Marine Affairs Regulation No.28 of 2023 concerning the Implementation Regulation of Government Regulation No.11 of 2023 concerning Measured Fishing. It takes into account the level of utilization of fish resources and refers to the provisions of the Minister and RFMO. The potential of available fish resources and the amount of allowable catch are the basis for this calculation (Minister of Marine Affairs and Fisheries of the Republic of Indonesia, 2023). For now, the estimation of potential fish resources and the amount of allowable catch refers to the Decree of the Minister of Marine Affairs and Fisheries No.19 of 2022 ((MKP.RI), 2022). The data presented in the Ministerial Decree is data on fish groupings such as large pelagics, small pelagics, demercial fish and others, and not by type of fish. What is currently needed is a more specific estimation of potential fish resources to support a measured fishing policy. Therefore, it is necessary to estimate resource potential based on fish species, so that PIT can be achieved.

The Republic of Indonesia has declared 2024 to be National Tuna Year. Because of the Republic of Indonesia's location between the Pacific and Indian The high seas and the support of its large marine area, there is an increasing surplus of tuna every year, which contributes significantly to global fisheries. The management of tuna is currently the focus of the Indonesian government's collaboration with a number of international organizations for fisheries management. This benefits both the nation and its fishermen, particularly in terms of international market access and sustainable resource management. So it is important Fisheries Information Systems as a concept offered in the PIT to improve the effectiveness of fisheries managementand ensure the sustainability

of fish resources, because it can develop and maintain information systems that collect, store, and analyze data regarding fisheries activities. The benefits provide accurate and up-to-date information to support decision-making and management planning. The creation of a comprehensive database of fisheries catches, quotas and activities, and the use of this system to monitor and assess management outcomes. With the concept of Fisheries Information Systems, the data is more accurate so that fishing activities become measurable and avoid things that can interfere with the sustainability of fish resources. One of the shortcomings of data presentation in estimating the potential of fish resources and the amount of allowable catch is that it is still in fish groups rather than fish species.

4. CONCLUSION

The Republic of Indonesia needs international fisheries agreements carried out by international fisheries management organizations because: These agreements guarantee that Fisheries practices are sustainable and do not deplete fish stocks. However, the Republic of Indonesia's participation in the fisheries organization is more focused on managing tuna, as though the PIT is exclusive to tuna and excludes other fish species. Nonetheless, because the agreement combats IUU fishing and is implemented in an integrated manner, it remains necessary.

Thus, the management of fisheries carried out by international organizations has the potential to give rise to new norms in international law, such as the necessity of industry and stakeholder involvement, as well as the reinforcement of regulations pertaining to fisheries areas, technology, and data. If this is carried out, it will be advantageous for all involved nations, particularly for the advancement of knowledge and technology, which will enable developed nations to uphold the principle of the right to benefit from science and technology. It will also fairly benefit Indonesian fishermen as well as the global community.

The protection of PIT by Indonesian fishing vessels on the high seas is regulated in various national and international laws and regulations, as well as international fisheries management organizations of which the Republic of Indonesia is a member. However, the presentation of fish data is still grouped in the estimation of potential fish resources and the number of catches, so the concept of Fisheries Information Systems needs more accurate datato provide up-to-date information to support decision making and measurable fish management planning.

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REFERENCE

(MKP.RI). (2022). Kepmen Kelautan dan Perikanan RI. *Menteri Kelautan Dan Perikanan Republik Indonesia*, *3*, 1–7. https://jdih.kkp.go.id/peraturan/df947-2022kepmen-kp19.pdf

Achieving Transparency and. (2019). *May*.

Attachment 8. (2023). *Report on Biology, Stock Status and Management of Southern Bluefin Tuna: 2023*. *1961*, 1–14. https://www.ncbi.nlm.nih.gov/books/NBK558907/

CCSBT. (2018). *The Commission's Role | CCSBT Commission for the Conservation of Southern Bluefin Tuna*. https://www.ccsbt.org/en/content/commissions-role

CCSBT Commission for the Conservation of Southern Bluefin Tuna (Issue October). (2015). http://www.ccsbt.org/site/about_bluefin_tuna.php

Compliance Monitoring Scheme _ WCPFC. (n.d.).

Council, M. S. (2023). International and Regional Fisheries Management Organizations. In *NOAA Fisheries*. https://www.fisheries.noaa.gov/international-affairs/international-and-regional-fisheries-management-organizations

Crespo, G. O., & Dunn, D. C. (2017). A review of the impacts of fisheries on open-The high seas ecosystems. *ICES Journal of Marine Science*, *74*(9), 2283–2297. https://doi.org/10.1093/icesjms/fsx084

Eli Nurlaela. (2023). Penangkapan Ikan Terukur: Tantangan dan Penerapan. In *Pengelolaan Sumber Daya Perikanan Laut Berkelanjutan*. https://doi.org/10.55981/brin.908.c759

European Commission. (2023). Regional fisheries management organisations (RFMOs) - European Commission. In *The high seas and Fisheries*. https://The high seas-and-

fisheries.ec.europa.eu/fisheries/international-agreements/regional-fisheries-management-organisations-rfmos_en

FAO. (2024). The State of World Fisheries And Aquaculture Blue Transformatio In Action. In *FAO*. https://openknowledge.fao.org/server/api/core/bitstreams/53a2c5a2-f531-480c-96c0-706a43480571/content

Fischer, J. (2022). How transparent are RFMOs? Achievements and challenges. *Marine Policy*, *136*. https://www.sciencedirect.com/science/article/abs/pii/S0308597X19307158#preview-section-introduction

Fisheries, A. M. A. (2023). *International Engagement*. https://www.afma.gov.au/fisheries-management/international-fisheries-management/international-engagement

Fisheriesaquaculture, F. A. O., & Paper, T. (2024). Review of the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas. In *Review of the implementation of the International Guidelines for the Management of Deep-sea Fisheries in the High Seas*. https://doi.org/10.4060/cd0243en

Gibbon, J. (n.d.). *How Regional Fisheries Management Organizations Can Strengthen Compliance Processes _ The Pew Charitable Trusts*.

Haas, B., McGee, J., Fleming, A., & Haward, M. (2020). Factors influencing the performance of regional fisheries management organizations. In *Marine Policy* (Vol. 113). https://doi.org/10.1016/j.marpol.2019.103787

IATTC. (2022). *No 21-2023. The tuna fishery in the eastern Pacific The high seas*.

Indian The high seas Tuna Commission. (2018). Status summary for species of tuna and tuna-like species under the IOTC mandate, as well as other species impacted by IOTC fisheries | IOTC. In *Iotc*. http://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc

International Institute for Sustainable Development. (2021). *Policy Brief : Assessing and managing fishing capacity in the context of world trade organization disciplines on fisheries subsidies*. *April*, 24. www.iisd.org/gsi

KKP. (2022). *Penangkapan Terukur*. 21.

Menteri Kelautan dan Perikanan RI. (2023). Peraturan Menteri Kelautan Dan Perikanan No 28 Tahun 2023 Tentang Peraturan Pelaksanaan Peraturan Pemerintah Nomor 11 Tahun 2023 Tentang Penangkapan Ikan Terukur. *Kementerian Kelautan Dan Perikanan RI*, 1–56.

Murtazashvili, I. (2023). Elinor Ostrom on the High Seas. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4607022

Parties, C., & Non-, C. (2022). *INDIAN THE HIGH SEAS TUNA COMMISSION : RULES OF PROCEDURE (2022)*. 1–25.

Peraturan Menteri Kelautan dan Perikanan Republik Indonesia. (2020). Peraturan Menteri Kelautan dan Perikanan Republik Indonesia Nomor 58/Permen-KP/2020 Tentang Usaha Perikanan Tangkap. *Kementrian Kelautan Dan Perikanan RI*, *2*(1), 1–163.

Peraturan Pemerintah, R. I. (2023). *Peraturan Pemerintah Republik Indonesia Nomor 11 Tahun 2023 tentang Penangkapan Ikan Terukur*. *171002*, 1–17.

Peraturan Presiden Republik Indonesia. (2009). *Peraturan Presiden Republik Indonesia Nomor 9 Tahun 2009 Tentang Lembaga Pembiayaan*. 1–8. https://www.ojk.go.id/id/kanal/iknb/regulasi/lembaga-pembiayaan/peraturan-pemerintah/Documents/Pages/Peraturan-Presiden-Nomor-9-Tahun-2009/Peraturan Presiden no. 9 th. 2009 ttg. Lembaga Pembiayaan.pdf

Presiden Republik Indonesia. (2013). *Peraturan Presiden Republik Indonesia Nomor 61 Tahun 2013 Tentang Pengesahan Convention on The Conservation and Management of Highly Migratory Fish Stocks in The Western and Central Pacific The high seas (Konvensi Tentang Konservasi dan Pengelolaan Sediaan Ikan B*. *1*.

Press, I. F.-U. (2021). *Antologi Pemikiran*. *June*, 149. http://digilib.uinkhas.ac.id/id/eprint/22028

Regional Fisheries Management Organizations (RFMOs) - IUCN SSC Shark Specialist Group. (n.d.).

Rfmo, E. (2009). Strengthening RFMOs: key insights from the case studies. *Strengthening Regional Fisheries Management Organisations*, 111–118. https://doi.org/10.1787/9789264073326-8-en

Role and Characteristics of microbes in food. (n.d.).

Sharma, O. P. (1995). India and the united nations convention on the law of the sea. *The high seas Development and International Law*, *26*(4), 391–412. https://doi.org/10.1080/00908329509546068

STATISTIK, B. P. (2007). *Peraturan Presiden Republik Indonesia Nomor 86 Tahun 2007 Tentang*. 4–6.

Sunoko, R., & Huang, H. W. (2014). Indonesia tuna fisheries development and future strategy. In *Marine Policy* (Vol. 43, pp. 174–183). https://doi.org/10.1016/j.marpol.2013.05.011

Trenggono, S. W. (2023). Penangkapan Ikan Terukur Berbasis Kuota Untuk Keberlanjutan Sumber Daya Perikanan Di Indonesia. *Jurnal Kelautan Dan Perikanan Terapan (JKPT)*, *1*, 1. https://doi.org/10.15578/jkpt.v1i0.12057

United Nations. (2023). Beyond borders: Why new "high seas" treaty is critical for the world. In *UN news*. https://news.un.org/en/story/2023/06/1137857

Wang, C., Zhao, Q., & Chang, Y. C. (2023). On the legal status of marine fishery resources: From the perspectives of international fishery law. *Heliyon*, *9*(4), e15354. https://doi.org/10.1016/j.heliyon.2023.e15354

Wang, Y., & Pan, X. (2023). Reasonable restrictions on the freedom of fishing in high seas marine protected areas from an international law perspective: an analysis. *Frontiers in Marine Science*, *10*(April), 1–14. https://doi.org/10.3389/fmars.2023.1030646

WCPFC. (2018). Current Stock Status and Advice. In *Sc14*. https://www.wcpfc.int/current-stock-status-and-advice

WCPFC. (2021). About WCPFC | WCPFC. In *Wcpfc.Int*. https://www.wcpfc.int/about-wcpfc

Ye, Y., & Link, J. M. (2023). A composite fishing index to support the monitoring and sustainable management of world fisheries. *Scientific Reports*, *13*(1), 1–16. https://doi.org/10.1038/s41598-023-37048-6

Yu, L. (2022). A Fairer Governance of High Sea Fishing through a Systemic Interpretation Approach. *Fishes*, *7*(6). https://doi.org/10.3390/fishes7060344

Yuliantiningsih, A. (2019). The Participation of Indonesia in Regional Fisheries Management Organizations (RFMOs): The Legal and Globalization Perspectives. *UNIFIKASI : Jurnal Ilmu Hukum*, *6*(2), 137. https://doi.org/10.25134/unifikasi.v6i2.1943