



Strengthening Cooperation and Management of Unregulated Fisheries

Busan, Korea - 26-27 February 2025

Executive Summary

In February 2025, the Korean Maritime Institute (KMI) and the Australian National Centre for Ocean Resources and Security (ANCORS) co-hosted an informal workshop of officials, stakeholders and experts to share information on flag State regulations and policies for distant water fishing fleets when fishing in high seas fisheries where there is no mandated regional fisheries management organization (RFMO).

Unregulated fisheries are broadly defined as fishing in areas or for fish stocks where there are no applicable conservation measures. It can also include fishing within the jurisdiction of a RFMO by vessels without nationality or flying the flag of a State not party to the RFMO.

While unregulated fishing in the absence of an RFMO is not illegal, it is nevertheless an important concern as the lack of cooperation makes it almost impossible to assess the impact on stocks and determine whether the fishery is sustainable. The lack of international regulation, monitoring and reporting can also inhibit the sustainable development of the fishery. Unregulated fishing can also cause tensions with adjacent coastal States and other distant water fishing States.

The following report summarises the discussions of the workshop, focusing on identifying priorities to enhance cooperation in the context of unregulated fisheries and examining the prevailing barriers to achieving such cooperation. Area 41 in the South Atlantic was selected as a pilot case for these explorations. Squid fisheries in this area were identified as a potential focus for future collaborative stock assessments.

The purpose of this report is not to provide guidelines or recommendations for strengthening cooperation in unregulated fisheries, but rather to outline current challenges, opportunities, and ideas discussed by participants. It is hoped that these outcomes can subsequently be communicated to the fishery authorities of China, Korea, Chinese Taipei and Japan for their consideration and to inform their decisions on potential next steps.

The objective of the discussions was not to propose the creation of new RFMOs, as this was seen as politically complex and time-consuming exercise, especially in geopolitically sensitive regions. Instead, the emphasis was on exploring alternative cooperation pathways, grounded in science and fisheries management rather than legal frameworks.

Participants reflected on the context, key priorities and challenges shaping unregulated fisheries. The discussions underlined the urgency of developing new approaches that are adaptive, inclusive, and grounded in science. A cooperative pathway based on trust and pragmatic step-by-step action was widely seen as the most promising route to achieve lasting progress. Discussions identified the following key priorities:

1. Science and Data-Led Collaboration

Scientific cooperation and data sharing was seen as a vital first step toward more effective management of unregulated fisheries. The current lack of comprehensive data makes it

difficult to assess stock status and the fisheries' sustainability. As mentioned by a participant, 'no single player can come up with all the necessary scientific data', making collaboration essential in this space.

Beginning cooperation through the scientific community was viewed as relatively low-risk and highly valuable. This bottom-up approach could lay the groundwork for longer-term engagement, helping to bridge gaps in understanding and enabling more coordinated action.

2. Ensuring Sustainability

There was consensus among participants that the central issue is not solely whether a fishery is regulated, but whether it is sustainable. In exploring the relationships between sustainability and unregulated fisheries, participants identified reporting as a foundational requirement for effective science and, by extension, sustainable management.

Participants noted that addressing sustainability involves engaging with all three components of 'I and U and U' – illegal, unreported, and unregulated fishing activities – and that improvements in any one area can contribute meaningfully to the overall goal of long-term ecological and economic viability.

3. Stimulating Trust and Engagement

Many participants attributed the lack of progress on achieving effective and sustainable management of unregulated fisheries to a general lack of appetite from industry and State actors to meaningfully engage in collaborative and regulatory action.

It was noted that engagement should be incentivised through both market forces and inclusive dialogue. It was proposed that momentum be generated through collaborative scientific initiatives (as outlined above), which can act as a constructive starting point for future cooperation.

To foster trust, participants stressed the importance of promoting transparency and ensuring that different perspectives are acknowledged and openly discussed. Clarifying the meaning and use of the IUU terminology among all stakeholders was also viewed as essential to overcome confusion and ensure a shared understanding for action.

Participants identified the newly formed FAO Sub-Committee on Fisheries Management as a potential avenue for engagement, with the suggestion that submissions—such as information papers—could help raise awareness of fisheries operating outside the remit of RFMOs and engage a broader set of stakeholders, including NGOs.

Discussion also noted useful precedents for scientific cooperation in unregulated fisheries. For example, the Standing Committee on Tuna and Billfish (SCTB) was established in 1989 as an open forum for scientists and others with an interest in the western and central Pacific tuna fisheries to discuss scientific issues related to data, research and stock assessment. It was eventually replaced in 2004 by the Scientific Committee of the Western and Central Pacific Fisheries Commission (WCPFC). The participation of scientists from coastal states and territories and distant water fishing States, and scientists from international tuna fisheries



management organizations, was particularly encouraged. For illustration, the aims of the SCTB were:

1. Coordinate fisheries data collection, compilation and dissemination according to agreed principles and procedures;
2. Review research on the biology, ecology, environment and fisheries for tunas and associated species in the western and central Pacific Ocean;
3. Identify research needs and provide a means of coordination, including the fostering of collaborative research, to most efficiently and effectively meet those needs;
4. Review information pertaining to the status of stocks of tunas and associated species in the western and central Pacific Ocean, and to produce statements on stock status where appropriate;
5. Provide opinion on various scientific issues related to data, research and stock assessment of western and central Pacific Ocean tuna fisheries.

Introduction

In February 2025, the Korean Maritime Institute (KMI) and the Australian National Centre for Ocean Resources and Security (ANCORS) co-hosted an informal workshop of officials, stakeholders and experts to share information on flag State regulations and policies for distant water fishing fleets when fishing in high seas fisheries where there is no mandated regional fisheries management organization (RFMO).

The goal of the workshop was to improve cooperation. KMI and ANCORS believe that cooperation is critical to the long-term sustainability of transboundary fisheries and hoped that the workshop discussions will help support future cooperation between flag States, and adjacent coastal States. As such, the workshop summarised the international and domestic context for these high sea fisheries, and discussed potential pathways to improve cooperation, science and management in the absence of an RFMO.

Unregulated fisheries are broadly defined as fishing in areas or for fish stocks where there are no applicable conservation measures. It can also include fishing within the jurisdiction of a RFMO by vessels without nationality or flying the flag of a State not party to the RFMO.

Unregulated fishing is often the most overlooked and misunderstood element of Illegal, Unreported and Unregulated Fishing (IUU). This is due in part to the ambiguous wording of the International Plan of Action on IUU Fishing (IPOA-IUU), which includes in subsection 3.4: “Notwithstanding paragraph 3.3, certain unregulated fishing may take place in a manner which is not in violation of applicable international law, and may not require the application of measures envisaged under the International Plan of Action.”¹ This provision stipulates that certain forms of unregulated fishing are not illegal, thus questions exist over whether it is appropriate to deem these legal unregulated activities as “IUU”.

While unregulated fishing in the absence of an RFMO is not illegal, it is nevertheless an important concern as the lack of cooperation makes it almost impossible to assess the impact on stocks and determine whether the fishery is sustainable. The lack of international regulation, monitoring and reporting can also inhibit the sustainable development of the fishery. Unregulated fishing can also cause tensions with adjacent coastal States and other distant water fishing States.

The workshop was facilitated by Professor Quentin Hanich and Dr Myeong hwa Jung. Following presentations by experts, discussions were facilitated in the Chatham House style so as to encourage all participants and observers to speak freely as experts and not be concerned with official positions. The following report summarises the discussions of the workshop, without attribution to any individual or organisation.

¹ FAO International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (2001). Available online at: <https://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7>. [23/03/23].

International Fisheries Governance

The workshop was opened by the President of KMI, Kim, Jong-Deog. He noted the importance of building stronger cooperation between flag States and coastal States and the necessity to ‘better enable science and collective management’ in unregulated fisheries, particularly in areas where it has historically been difficult to establish cooperation.

Fisheries sustainability depends on balancing national sovereignty with international cooperation. ANCORS presenters Prof. Quentin Hanich and Constance Rambourg outlined the legal frameworks, flag State responsibilities, and cooperative mechanisms essential for managing high seas and transboundary fisheries.

Legal Frameworks for managing high seas and transboundary fisheries are founded on the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which established maritime zones and flag State duties, while later agreements like the 1995 UN Fish Stocks Agreement expanded on the duty to cooperate and mandated cooperation through RFMOs. The 2009 FAO Port State Measures Agreement further expanded on this framework and combats IUU fishing by enabling port inspections and denying access to non-compliant actors. Flag States hold exclusive jurisdiction over their vessels on the high seas, including the authority to enforce fishing, safety, and environmental laws. Flag States must ensure that their vessels comply with international regulations (UNCLOS Article 94), participate in relevant RFMOs or alternative arrangements to manage shared stocks (UNFSA Article 8), and authorise vessels to fish, investigate violations, and prosecute infractions.

Critical issues raised in the presentation included:

- Unregulated fishing: Often overlooked in IUU discussions, this occurs where no RFMOs exist or by non-member vessels, threatening stock sustainability despite not being illegal under international law.
- Climate impacts: Ocean warming has shifted fish distributions 51 km/decade since the 1950s, with projected 21% biomass declines by 2100—disproportionately affecting tropical regions.
- RFMO gaps: While effective for regulated areas, 45% of transboundary stocks lack management as ranges shift beyond current RFMO zones.

Some solutions include:

- Expand RFMO coverage: Strengthen ad hoc cooperation and expand RFMO coverage to “grey zones”.

- Informal cooperation through voluntary arrangements (example of the Standing Committee on Tuna and Billfish (SCTB)²
- Climate related policies: Integrate stock shifts into quotas and monitoring.
- Equitable tools: Support developing States with technology transfer and funding.

The presentation highlighted that sovereign States must prioritise cooperation over short-term gains. Strengthening RFMOs, closing regulatory loopholes, and adapting to climate change are essential to secure global fisheries for future generations.

Key Points of Discussion on International Fisheries Governance

The discussion following the presentation concentrated on the definition of ‘unregulated fishing’ as outlined in the IPOA and its conflation with illegal and unreported fishing under the ‘IUU’ umbrella. Participants expressed concerns regarding the disconnect between the IPOA terminology and the legal state of affairs, noting that the term ‘unregulated’ – while designating potentially legal activities– often carries negative connotations and can be perceived as implying illegality. Some discussed the necessity to have a terminology that emphasises the absence of framework rather than potential illegality of fisheries, to better reflect reality.

Some participants suggested considering the term ‘I and U and U’ instead of ‘IUU’ to avoid confusion between the three concepts. The point was made that conflating all three elements (i.e., illegal, unreported and unregulated fishing) creates a misleading view which does not align with reality’s complexities.

Another topic of discussion revolved around the relationship between the unregulated status of a fishery and its sustainability. Some participants argued that the focus for discussion and cooperation should be placed on sustainability rather than the (un)regulated status of fisheries. This led to an exploration of the differences and interconnections between the two concepts. It was emphasised that access to robust traceability and scientific data is crucial for assessing and ensuring sustainability. However, in the case of unregulated fisheries, the lack of access to reliable data is a significant challenge, making it difficult to assess sustainability.

² The Standing Committee on Tuna and Billfish (SCTB) was established in 1989 as an open forum for scientists and others with an interest in the western and central pacific ocean (WCPO) tuna fisheries to discuss scientific issues related to data, research and stock assessment. It was replaced in 2004 by the Scientific Committee of the Western and Central Pacific Fisheries Commission (WCPFC). The participation of scientists from coastal states, territories, distant water fishing States, and international tuna fisheries management organizations, was particularly encouraged. The aims of the SCTB were:

1. Coordinate fisheries data collection, compilation and dissemination according to agreed principles and procedures;
2. Review research on the biology, ecology, environment and fisheries for tunas and associated species in the WCPO;
3. Identify research needs and provide a means of coordination, including the fostering of collaborative research, to most efficiently and effectively meet those needs;
4. Review information pertaining to the status of stocks of tunas and associated species in the western and central Pacific Ocean, and to produce statements on stock status where appropriate;
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Overview of High Seas Fisheries – RFMO and Unregulated

Global Fishing Watch: Transparency of Human Activity at Sea

Global Fishing Watch (GFW) is an international non-governmental organisation that leverages satellite technology, machine learning, and data visualisation to enhance transparency in human activities at sea. It supports greater transparency, sustainable ocean management, scientific research, and efforts to combat IUU fishing. In this presentation, David Kroodsma, Chief Scientist at Global Fishing Watch (GFW), talked about GFW engagement with national fishery authorities and international regulatory bodies, providing open-access data and analytical tools to improve fisheries management and inform policy decisions. GFW collects data from various fishing vessels in the ocean. For example, GFW:

- Tracks ~400,000 vessels broadcasting Automatic Identification System (AIS) signals, covering ~30 million sq km across four regions.
- Uses Sentinel-2 and radar satellites to detect "dark fleets" (vessels without AIS).
- Employs VIIRS night-light detection to monitor fleets.

One of the major challenges in monitoring high seas fisheries is the inconsistent use of AIS among fishing vessels. Some vessels disable AIS, broadcast false locations, or go 'dark' and operated without authorisation or a license, creating significant gaps in monitoring and enforcement. To address this, GFW uses multiple satellite-based remote sensing technologies, such as Sentinel-2 satellite detection and VIIRS infrared imaging, revealing that up to 40% of vessels in certain regions lack AIS tracking.

An analysis of high-seas fishing activities, particularly in the Indian Ocean, has identified notable trends. Squid fishing has increased significantly, and widespread AIS misuse is evident: approximately 20% of Maritime Mobile Service Identity (MMSI) numbers are used by multiple vessels, around 5% of vessels broadcast false locations, and nearly 40% of vessels remain unregistered. These findings show the scale of unregulated fishing and the need for monitoring systems.

The takeaways from GFW's presentation show the necessity for data transparency, enforcement mechanisms, and coordination between international regulatory bodies. Strengthening compliance measures and integrating multiple tracking technologies are important steps toward

Overview of High Seas Fisheries: High Seas Value Chains

Following GFW, Huw Thomas, from Pew Charitable Trusts, presented an overview of high seas fisheries, their value chains, key markets, and the challenges associated with unregulated fishing. He highlighted the role of RFMOs, market engagement, and necessary policy actions for improved fisheries management.

The high seas contribute significantly to global seafood supply, with tuna being the most dominant species. Other key species include squid, large pelagic fish, and toothfish. Ten countries generate over 70% of high seas fishing revenue, and major markets include Japan, the U.S., and Europe. Thailand is a key importer of small tunas, mainly skipjack and albacore used for canning, and China plays a central role in squid harvesting and export. Market decisions influence fisheries governance, making supply chain transparency and sustainability commitments crucial.

The presentation highlighted some challenges in high seas management, including overfishing and ecosystem degradation, which continue to threaten high seas biodiversity. Since 2016, overfished migratory fish stocks have increased from 36% to 40%, and unregulated squid fishing is expanding. Bycatch of vulnerable species, including sharks and rays, remains a critical issue. Poor compliance, insufficient observer coverage, and limited enforcement exacerbate the problem. According to the FAO, from 1974 to 2021 the percentage of sustainable fish populations worldwide decreased from 90% to 62%.

The presentation emphasised that seafood markets play an important role in sustainability, and that they have a responsibility to promote sustainable fisheries management. Recommendations include:

1. Committing to policies that prevent IUU fishing.
2. Enhancing supply chain traceability and vessel monitoring.
3. Advocating for science-based management at RFMOs.
4. Supporting ecosystem-based fisheries management.
5. Using technology to track fishing activities and compliance.

To protect high seas fisheries and maintain market stability, seafood markets must leverage their collective influence to engage with RFMOs, demand transparency, and advocate for stronger fisheries governance.

Key Points of Discussion on the Overview of High Seas Fisheries – RFMO and Unregulated

The discussion following these presentations highlighted the importance of integrating multiple technologies (e.g., satellite imagery, AIS, VMS etc.) to enhance the accuracy and reliability of remote sensing data. This is also important to improve the understanding of fishing patterns and activities. The benefit of improving data transparency was also discussed in the context of trust-building among countries sharing stocks, which in turn can lead to better policymaking and management in transboundary fisheries.

Participants also pointed out the issue of persisting legal and policy gaps with regards to the use of remote sensing technologies for fisheries regulations enforcement purposes. This was raised as a key loophole currently limiting the scope of application of remote sensing technologies in high seas fisheries governance.

With regards to the seafood market, participants discussed the lengthy process of educating retailers about the 'IUU' terminology. Some emphasised that changing the narrative and terminology in this area could be disruptive and counterproductive. Again, participants stressed that the issue with the 'IUU' label revolved around the conflation of the 'I and U and U' terms under one umbrella rather than the individual terms themselves.

The importance of certification schemes such as MSC to enter and secure a place in the seafood market was also highlighted. Participants believed that this situation resulted from consumers' education about these certifications, which made them more likely to buy certified products. Some highlighted that this situation reflected the governments' failure to efficiently tackle high seas fisheries management challenges, prompting market actors and third parties to step in to demand and enhance transparency, traceability and sustainability measures.

Emerging Standards

The session on emerging standards included a number of expert speakers ranging across varied topics, identifying emerging standards.

WTO Agreement on Fisheries Subsidies

In this presentation, Daniel Schaeffer, from the Pew Charitable Trusts, went over key provisions of the World Trade Organisation's (WTO) new Agreement on Fisheries Subsidies and what it means for fishing subsidies and fish stocks more generally.

The WTO Agreement on Fisheries Subsidies, adopted on 17 June 2022 at the 12th Ministerial Conference (MC12), represents a historic achievement in global environmental governance. As the first WTO agreement focused on sustainability, it addresses harmful subsidies contributing to overfishing, IUU fishing, and unregulated high seas fishing. This agreement also marks the first fully met Sustainable Development Goal (SDG 14.6).

Prohibited subsidies:

- Ban on subsidies for fishing activities targeting stocks deemed overfished by coastal States or RFMOs, unless subsidies support stock rebuilding.
- Prohibition of subsidies for vessels/operators engaged in IUU fishing, as determined by coastal States, flag States, or RFMOs. Port States play an enforcement role.
- Extension of prohibitions to fishing in areas beyond national jurisdiction lacking RFMO oversight (unregulated fishing).

The presentation highlighted that transparency and enforcement were important considerations in the Agreement. Members must notify subsidies, including vessel details, stock status, and IUU violators. Further, disputes are enforceable via the WTO's settlement system, with developing nations and LDCs granted a two-year grace period for EEZ subsidies.

The Fisheries Subsidies Agreement seeks to prohibit harmful fisheries subsidies and address the widespread depredation of fish stocks. For example, Members must exercise caution when subsidising vessels under foreign flags or targeting stocks with unknown status. However, challenges remain in ensuring that WTO members fully implement and comply with the agreement's provisions.

A significant issue is the challenges faced by developing countries in adapting to new sustainability standards. Many developing States rely heavily on fisheries subsidies to support their economies. As a result, WTO negotiations include provisions for special and differential treatment, allowing these countries time and flexibility to transition toward sustainable fisheries while mitigating potential economic disruptions. As an example, LDCs and small-scale fishers ($\leq 0.8\%$ global catch) benefit from extended notification periods (every 4 years) and technical assistance.

Looking ahead, the presenter noted that ongoing negotiations aim to refine subsidy rules further and establish monitoring systems to ensure compliance. The effectiveness of these efforts will, however, depend on political will, capacity-building initiatives, and international cooperation.

Sustainable Seafood Market Transformation in Japan

Wakao Hanaoka, CEO and Founder of Seafood Legacy, then talked about the sustainable seafood market transformation in Japan, and the factors driving this transformation, and what it means for seafood production in Japan.

As the fourth-largest seafood import market globally, Japan plays a crucial role in influencing fisheries governance and sustainability trends. Japan's seafood industry is shifting from voluntary efforts to mandatory frameworks. Historically, sustainability efforts were driven by individual companies implementing responsible sourcing policies. However, in recent years, Japan has introduced stronger import controls, traceability requirements, and human rights regulations to align with international standards.

A significant trend in Japan's seafood sector is the growing engagement of key industry players and financial stakeholders. Major seafood companies, such as Nissui and Maruha Nichiro, have adopted sustainability policies, including resource assessments and commitments to responsible procurement. At the same time, financial institutions, including Mizuho Financial Group, have begun recognising the financial risks associated with unsustainable fishing practices, further pushing companies to adopt more sustainable approaches.

The Tokyo Sustainable Seafood Summit was highlighted as an important platform for knowledge-sharing and collaboration among industry stakeholders. The summit brings together seafood companies, government agencies, and NGOs to discuss sustainability challenges and solutions, helping shape Japan's seafood governance.

Hanaoka-san noted that Japan's unique position as a market State enables it to drive global seafood sustainability—leveraging corporate action, financial incentives, and policy advocacy.

The shift from voluntary measures to mandatory standards signals a transformative era for the industry.

Global Dialogue on Seafood Traceability: A Global Standard for Seafood Traceability

Next, Huw Thomas presented on behalf of the Global Dialogue on Seafood Traceability (GDST), an initiative aimed at establishing a global standard for seafood traceability. GDST emphasises collaboration over competition, as highlighted by the quote: “Traceability is not a competitive space, it’s a collaborative space. Everyone must participate for it to work.” The presentation outlined the evolution, challenges, and benefits of adopting the GDST standard, which is designed to simplify digital data exchange across seafood supply chains.

GDST was convened by WWF-US and the Institute of Food Technologists (IFT). Since its inception in 2017, it has released multiple versions of its traceability standard and transitioned into a partnership organisation. By 2024, GDST had over 70 global partners, including governments and certification schemes, and had initiated pilots with four governments. The standard focuses on interoperability, leveraging existing GS1 data standards to ensure seamless communication between systems.

The seafood industry faces significant issues such as overfishing, seafood fraud, illegal fishing, and human rights abuses like human trafficking and slavery. These challenges underscore the need for robust traceability systems. The lack of standardised data formats and inconsistent language complicates the movement of data through supply chains. The presenter noted a number of seafood macrotrends influencing the industry, including:

- Sustainability: Increasing demand for transparency and pre-competitive collaboration on topics like forced labour and feed ingredients.
- Trade Regulations: Including new market and source State regulations.
- Digital Technology: Advancements in technology are enabling better data sharing and interoperability, as seen in initiatives like Seafood 2030.
- Geopolitics: Issues like IUU fishing and foreign vessel activities increase the need for data to demonstrate presence.

The GDST standard uses an event-based framework, breaking down supply chains into Critical Tracking Events (CTEs) and Key Data Elements (KDEs). CTEs define where data should be captured, while KDEs specify what data is needed. This framework ensures consistency, reduces repetitive data collection, and improves reliability.

GDST provides tools like the Capability Test (to assess software compatibility) and the Completeness Tool (to evaluate data coverage). Indonesia is a leading example, having upgraded its national traceability system, Stelina, to align with GDST. This move enhances Indonesia’s ability to combat illegal fishing and meet global market demands.

With GDST adoption, the seafood industry aims to move from reactive traceability to proactive supply chain management. This includes near-real-time verification of sourcing and compliance, ensuring sustainable and ethical practices.

Global Labour Regulations: Major Trends & Fisheries Sector Countermeasures

Chanyeop Park from the Korean Maritime Institute then provided an analysis of U.S. foreign policy on labour and fisheries, major labour issues in Korean fisheries, and strategies for addressing these challenges. The U.S. implemented stringent labour and human rights policies, particularly targeting forced labour and human trafficking in global supply chains, including the fisheries sector. Key policies include:

- Trump Administration (2017–2021): Focused on "America First," enforcing trade agreements like USMCA, which prohibits forced labour products and adopts labour protections.
- Biden Administration (2021–2025): Emphasised multilateral cooperation, enacting the Uyghur Forced Labor Prevention Act and enhancing supply chain monitoring through initiatives like the Indo-Pacific Economic Framework (IPEF).
- Trump's Second Term (2025–2029): Expected to prioritise bilateral arrangements and domestic fisheries capacity.

The Tariff Act of 1930 serves as the legal basis for banning forced labour products, enforced by Customs and Border Protection (CBP) through measures like Withhold Release Orders (WROs). The U.S. also links IUU fishing with forced labour, as highlighted in Biden's 2022 National Security Memorandum.

The U.S. Department of State's reports highlight critical concerns in South Korea's fisheries sector. Issues include forced labour risks for migrant workers, exemptions from overtime pay for distant-water fishers, and inadequate housing. In 2022–2023, Korea dropped to Tier 2 due to wage discrimination, poor working conditions for foreign fishers, and weak inspections. However, it regained Tier 1 in 2024 after implementing reforms.

Korea has introduced measures to improve conditions, such as mandatory port calls within a year for distant-water vessels and banning recruitment fees. However, challenges remain in enforcing policies and prosecuting labour trafficking.

The presentation outlined that a critical focus should be on the strengthening of global labour norms, particularly through expanding import bans on goods produced with forced labour, enhancing international cooperation with organisations like the FAO and ILO, and integrating labour standards into regulations targeting IUU fishing. Another focus should be on the protection of human rights for workers in the fisheries industry. This involves diversifying systems to safeguard foreign fishers' rights—such as access to education, training, and reporting mechanisms.

Improving working conditions requires concrete actions such as adopting international conventions like ILO C188 and investing in safety technologies to reduce workplace hazards. These measures should be complemented by global cooperation initiatives that establish credible certification systems and enhance partnerships between fishing nations, labour-sending countries, and international organisations.

Labour Standards

Fishing is a vital source of livelihood for millions, yet labour conditions onboard vessels remain a significant concern, with widespread reports of forced labour, child labour, and hazardous working environments. Daniel Schaeffer from the Pew Charitable Trusts, highlighted the challenges and ongoing efforts to improve labour standards in the global fishing industry.

A key issue is the intersection between IUU fishing and labour abuses. IUU operations often exploit workers through deceptive recruitment, withheld wages, and threats of violence, while avoiding regulatory oversight. Statistics reveal alarming trends, including 24.9 million forced labour victims worldwide—many in fisheries—and documented child labour in 20 countries, where children endure dangerous conditions that harm their health and development.

To address these challenges, international frameworks like the ILO Work in Fishing Convention (C.188) set comprehensive standards for minimum age, medical care, rest periods, and safety. Since its 2007 adoption, the convention has been ratified by several nations, though broader implementation is needed. RFMOs, such as the WCPFC, complement these efforts by developing conservation measures and advocating for fair working conditions.

National legislation in countries like Indonesia and New Zealand aligns with global standards, while NGOs play a role in exposing abuses and promoting ethical practices. Organisations like the Environmental Justice Foundation (EJF) and International Transport Workers' Federation (ITF) campaign against exploitation, and certifications like the Marine Stewardship Council (MSC) incorporate labour criteria into sustainability benchmarks. The ITF also leads initiatives to ratify C.188, develop collective bargaining agreements, and combat the Flag of Convenience (FOC) system, which enables lax regulations and labour abuses.

Despite progress, enforcement remains hindered by jurisdictional complexities, resource shortages, and the clandestine nature of IUU fishing. Solutions require stronger international cooperation, transparency in supply chains, and technological advancements for monitoring.

Global Standards for Flag State Performance in High Seas Fisheries

Daniel Schaeffer then addressed the need for global standards to regulate flag State performance in high seas fisheries. It highlighted the challenges of managing fisheries in areas beyond national jurisdiction, particularly for highly mobile species like squid, which face overexploitation due to insufficient regulations and monitoring. The Voluntary Guidelines for Flag State Performance (VGFSP), adopted by the FAO in 2014, provides a framework for flag States to fulfil their international duties. Key components include:

- Monitoring, Control, and Surveillance (MCS): Implementation of vessel monitoring systems (VMS), observer programs, and port State measures to ensure compliance.
- Information Exchange and Cooperation: Preventing "flag-hopping" and enhancing collaboration between flag States, coastal States, and RFMOs.

- Compliance and Enforcement: Encouraging flag States to take action against non-compliant vessels and supporting developing countries in meeting their responsibilities.

The Pew's Flag State Performance Assessment Tool operationalises the VGFSP by identifying strengths and weaknesses in existing regulations to combat IUU fishing, and promoting practices and cooperation to enhance transparency and accountability. It also assists developing nations in fulfilling flag State obligations through technical and financial support.

High seas fisheries face critical challenges, including rampant unregulated fishing—86% of global squid harvests occur in areas without oversight—driving overexploitation and conflict between industrial and small-scale fishers. The absence of catch limits or vessel controls in squid fishing further accelerates this resource depletion.

To address these issues flag States, coastal nations, and RFMOs must work together to establish regulations, particularly for squid fisheries. Leveraging technologies like AIS and VIIRS can enhance monitoring and data-driven policies, while catch limits and sustainable practices can curb overfishing. Equitable solutions must also prioritise support for developing nations to ensure their meaningful participation in global fisheries governance.

Science and Data in the BBNJ Agreement

Finally, Professor Quentin Hanich presented on behalf of Dr Ina Tessnow-von Wysocki and introduced the new Biodiversity Beyond National Jurisdiction (BBNJ) Agreement (also known as the High Seas Treaty). The BBNJ Agreement aims to ensure the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction. Its objective is to enhance international cooperation and coordination, aligning with UNCLOS, while respecting existing frameworks like RFMOs.

The BBNJ Agreement applies globally to the high seas, complementing RFMOs that manage specific regions or species (e.g., tuna, squid). Article 5 ensures BBNJ does not undermine existing agreements (e.g., RFMOs) but promotes coherence and coordination among them. Article 8 emphasises international cooperation, including marine scientific research and technology transfer, particularly for developing States. The Agreement establishes a secretariat and a decision-making Conference of Parties (COP), but also establishes:

- A Scientific and Technical Body (STB) which will provide expert advice, ensuring multidisciplinary expertise, gender balance, and equitable geographical representation. The STB will collaborate with other bodies on Environmental Impact Assessments (EIAs) and develop guidelines for sustainable practices.
- A Clearing-House Mechanism (CHM), which is an open-access platform managed by the BBNJ Secretariat that will facilitate data transparency (e.g., environmental baselines, marine genetic resources), technology transfer to developing nations, links to global databases, including Indigenous and local knowledge (with consent), and aims to enhance monitoring of activities in ABNJ.

The BBNJ Agreement may have a substantive role in Unregulated Fisheries, given their lack of RFMO mandates. BBNJ could:

- ensure sustainable use of marine biodiversity, including fish stocks.
- promote cooperation with RFMOs to address gaps in unregulated fisheries.
- conduct EIAs and establish area-based management tools (ABMTs).
- strengthen data collection and inform policy via the STB and CHM.

The BBNJ Agreement fills critical governance gaps in ABNJ by integrating science, data transparency, and equitable technology transfer. Its success hinges on collaboration with RFMOs, robust monitoring mechanisms, and support for developing nations to achieve global marine sustainability goals.

Key Points of Discussion on Emerging Standards

Participants discussed the various emerging standards in high seas fisheries governance to tackle IUU fishing, crew labour abuses, and science integration and data transparency issues. They noted the international legal and policy frameworks' heavy reliance on flag State responsibility in these areas.

With regards to fisheries subsidies, it was noted that the 2022 WTO agreement had a positive impact on flag States' domestic policies, creating a strong incentive for internal measures to match the agreement's standards. However, participants commented that challenges subsist regarding the implementation of the agreement. In particular, it was noted that commercial subsidies typically target multiple species, making it difficult to assess whether a subsidy should be prohibited when only one/or some of the stocks is/are overfished.

Participants also discussed the important role of market States and market actors in addressing IUU fishing. They emphasised that leveraging industry and financial stakeholders can significantly improve seafood sustainability. For example, it was noted during the discussion that banking institutions are starting to use sustainability as a financing criterion, creating strong incentives for transformative actions towards sustainable practices. However, participants questioned the availability of tools for market actors to assess companies' sustainability practices. The lengthy process involved in educating market players on the IUU terminology was reiterated, along with the need to maintain this hard-earned understanding of the concept. Several participants noted that any changes to the narratives or terms around IUU fishing would need to include –and be carefully communicated to – market stakeholders. The importance of emerging standards to improve seafood traceability was also discussed. Seminar attendees highlighted that traceability efforts should prioritise standardising data formatting over addressing data shortages, to ensure smooth communication through the various steps of the supply chain.

Participants discussed the relationships between crew labour standards and IUU fishing. They recognised that IUU fishing and human rights abuses often intersect but questioned whether

a violation of labour standards could amount to IUU fishing. Some highlighted that such an interpretation could be unfair due to the ambiguity of the IUU terminology. Others commented that the IPOA was introduced before crew labour standards became a key concern in fisheries management, so they should not be included under the IUU umbrella. It was also noted that the tripartite working group on IUU fishing, comprising the ILO, IMO and FAO, has yet to take concrete steps to address labour abuses, likely due to the differing interest and funding streams of the three UN agencies. Participants also recognised that cooperation between unions and industry actors is an important step to improve transparency and accountability of crew labour conditions on the high seas, though it remains politically challenging.

Lastly, the discussion highlighted uncertainty regarding the interactions between the BBNJ Agreement and RFMOs. While the relationships between those remain unclear, some expressed optimism about the BBNJ agreement's potential to enhance cooperation, data sharing, transparency and robustness.

Distant Water Fishing Fleets, Policies and Regulations

Korea

Jung-re Riley Kim from the Ministry of Oceans and Fisheries of Korea detailed the nation's approach to managing its distant water fishing fleet while considering economic interests with international conservation obligations.

Korea currently operates 210 fishing vessels outside its EEZ, representing a significant reduction from its 1990s peak of 810 vessels. This reflects Korea's commitment to sustainable fishing practices and compliance with evolving international standards. For example, Korea engages with multiple RFMOs, including WCPFC, ICCAT, SPRFMO, and NPFC.

Korea maintains 50 vessels in the FAO 41 Area (Southeast Atlantic):

- 29 jiggers targeting squid
- 10 bottom longliners
- 11 trawlers

These operations are governed by stringent monitoring measures, including real-time VMS with 10-minute polling intervals, 100% observer coverage for toothfish fisheries and 50% observer coverage for cod and squid trawling, and mandatory move-on rules requiring vessels to relocate 2 nautical miles upon encountering vulnerable marine ecosystems.

Korea's Distant Water Fisheries Development Act serves as the legal backbone for implementing binding RFMO measures, FAO Port State Measures Agreement provisions, and establishment of a Fisheries Monitoring Center (FMC) for comprehensive surveillance

The Ministry supplements this with specific directives for the FAO 41 Area, including:

- Prior authorisation requirements for transshipment and landing
- Fishing effort restrictions
- Bottom fishing regulations

Korean vessels employ advanced bycatch reduction technologies such as marine mammal repelling devices (escape grids, kites, and pingers), electronic reporting systems for daily catch and bycatch documentation, and special protocols for seabird interactions

While Korea has made significant progress, the presentation acknowledged persistent gaps in global fisheries governance. Including ensuring consistent regulation across all high seas areas, improving data collection in remote fishing zones, and strengthening enforcement mechanisms internationally.

China

China's distant-water fishing (DWF) industry, established in 1985, operates under a legal and policy framework aligned with international conventions like UNCLOS. Governed by the Ministry of Agriculture and Rural Affairs (MARA) in collaboration with other ministries, China's system integrates Five-Year Plans (capping vessels at 3,000 by 2020) and White Papers (2020, 2023) to prioritise sustainability, flag State duties, and international cooperation. Presenters Jiangfeng Zhu, Fan Zhang and Yuru He from Shanghai Ocean University, China, outlined current control measures and sustainable fishing practices, and the current progress made safeguarding fishers rights and labour conditions. Vessel Monitoring and Control measures include:

- Strict VMS requirements: Hourly position reporting (exceeding RFMO standards) and e-logbooks (mandatory since 2024 for high seas fisheries) for real-time catch data.
- Observer Programs: 100% coverage for tuna purse seiners and Antarctic krill fleets, with incremental increases in other fisheries.
- E-Monitoring: AI-powered video surveillance on >100 tuna vessels.

Seasonal moratoriums have been implemented to promote sustainable fishing practices, including seasonal bans on squid fishing in critical high seas regions such as the Southwest Atlantic. Additionally, strict protocols require mandatory reporting of bycatch involving protected species like marine mammals, sea turtles, and seabirds, along with clear guidelines for their safe release. Fisheries are also required to align with RFMOs by adopting shark conservation measures and gear restrictions to minimise unintended harm to non-target species.

Significant progress has been made in safeguarding workers' rights, including the ratification of ILO conventions—specifically the Forced Labor Convention (No. 29) and the Abolition of Forced Labor Convention (No. 105)—in 2023. Revised Management Measures for Fishing Crew (2022) have strengthened protections by improving wage standards, insurance coverage, and working conditions.

To strengthen global fisheries governance, active participation in eight RFMOs—including the WCPFC and the ICCAT—have been prioritised. Bilateral partnerships with fishing nations such as Japan, South Korea, and the EU have also been made, exemplified by efforts like the China-EU Working Group to combat IUU fishing. Additionally, port State measures are enforced, including denying access to ports for vessels listed by RFMOs as IUU offenders, while accelerating adherence to the FAO Port State Measures Agreement (PSMA).

Domestic legal frameworks have also been reinforced through the revised Fisheries Law (2020), which introduces penalties for unauthorised fishing in foreign waters and strengthens supply chain traceability. Ecologically sustainable practices are being advanced by designating specific landing ports and implementing catch documentation schemes to align production with marine ecosystem preservation. These measures collectively aim to harmonise economic interests with long-term environmental sustainability.

Japan

Japan examined how global changes are reshaping Japan's fisheries policy and why action from RFMOs is needed to address shifting marine ecosystems.

Taisuke Iwano, Assistant Director of the International Affairs Division at the Fisheries Agency of Japan explained that Japan's distant-water fishing operations have undergone significant contraction, with tuna fisheries dominating activities through longline, pole-and-line, and purse seine methods. The fleet has shrunk by approximately 60% since 2007, reflecting broader industry trends. In 2022, distant-water catches accounted for just 7% of Japan's total fisheries production (0.26 million tons), a dramatic decline from 37% (3.98 million tons) in 1973. As such, the position of distant water fishery in Japan has shifted and the other categories such as offshore fisheries has gained higher importance.

Masanori Miyahara, Adviser to the Minister of Agriculture, Forestry and Fisheries of Japan, then discussed how climate change has had a severe impact on Japanese fisheries. Coastal waters have warmed +1.19°C over 100 years, and marine heatwaves (e.g., July 2021 event) are disrupting ecosystems. Key species like Pacific saury, squid, and salmon have seen catastrophic declines. Pacific saury migration patterns have shifted offshore due to warming, reducing EEZ catches, and pacific mackerel stocks face emergency cuts, with 2025 ABCs proposed at 57,000 tons (down from 327,000 tons).

Japan is rethinking its fisheries approach through prioritising sustainability within EEZs and advocating for stronger Conservation and Management Measures (CMMs) through RFMOs. Japan is also addressing ecosystem shifts through revised stock assessments and quota systems and through diplomatic pressure by urging fishing States to implement timely CMMs to prevent coastal State impacts.

Japan's fisheries policy now emphasises climate resilience and coastal State cooperation over distant-water expansion. With marine ecosystems undergoing rapid transformation, the nation is shifting toward precautionary management and regional collaboration. However,

the presentation also underscored a need for RFMOs to accelerate science-based decision-making to address environmental changes.

Chinese Taipei

Joseph Fu, from the Overseas Fisheries Development Council (OFDC), talked about how OFDC serves as Chinese Taipei's central coordinating body for distant-water fisheries, managing international cooperation, vessel monitoring systems (VMS), observer programs, and e-logbook implementation. The presenter explained that Chinese Taipei's fleet operates across four key fisheries:

- Tuna Longline: 950 vessels targeting albacore, yellowfin, and bigeye tuna across three oceans (190,000 MT annual catch).
- Tuna Purse Seine: 34 vessels in WCPFC waters (200,000 MT).
- Pacific Saury: <105 vessels under NPFC management.
- Squid Jigging: <80 vessels in SPRFMO areas and SW Atlantic waters.

Chinese Taipei aligns with global standards through participation in RFMOs (e.g., WCPFC, IOTC, ICCAT) and regional bodies (SPRFMO, NPFC). Conservation measures include the implementation of high seas driftnet ban, bycatch mitigation for protected species, catch limits and documentation schemes (CDS), monitoring systems, and port State controls.

Chinese Taipei's distant-water fisheries management exemplifies a comprehensive approach integrating conservation, compliance, and social responsibility. Through OFDC's coordination and active multilateral engagement, Chinese Taipei maintains a globally competitive fleet while adhering to international sustainability standards. The presentation underscores their commitment to responsible fisheries governance, though it notes the need for strengthened cooperation in unregulated fishing zones.

Other Flag States

Daniel Schaeffer from the Pew Charitable Trusts then examined the regulatory frameworks governing DWF across other key fishing nations and regions, highlighting efforts to promote sustainability and responsible practices. He focused on the European Union, Spain, the United States, and other major fishing nations, emphasising their unique approaches to managing high-seas fisheries.

The EU has established a comprehensive regulatory framework under the SMEFF Regulation, which prioritises sustainability and transparency. Spain, as an EU member, aligns closely with these regulations, implementing additional national oversight to ensure compliance. Key measures include:

- Authorisations to Fish: Strict licensing based on sustainability principles.
- Electronic Monitoring: Mandatory e-reporting and VMS for real-time tracking.
- Crew Welfare: Adherence to international labour standards.

- Transparency: Requirements for transshipment and landing reports, along with gear and species-specific restrictions to minimise bycatch.

The United States of America (USA) regulates DWF under the Magnuson-Stevens Act (MSA), with a focus on science-based management:

- Sustainable Licensing: Fishing authorisations tied to stock assessments and ecosystem impacts.
- Data Reporting: Mandatory electronic monitoring and detailed catch reporting.
- Enforcement: Robust VMS and observer programs to combat IUU fishing.
- Crew Protections: Policies to safeguard labour rights aboard fishing vessels.

Other Major Fishing Nations

- Russia: Targets high-value species in the North Pacific and Antarctic.
- Norway & Iceland: Focus on North Atlantic stocks (e.g., cod, haddock).
- Argentina, Chile, and Peru: Regional leaders in squid and pelagic fisheries,

While fisheries regulations differ across nations, several priorities consistently emerge. First, sustainability remains paramount, with science-based catch quotas and gear restrictions implemented to protect fish stocks. Second, technological solutions like VMS, e-logbooks, and onboard observers are increasingly adopted to improve transparency and compliance. Third, labour standards are gaining attention, with a growing focus on ensuring fair working conditions and crew welfare. Finally, the need for stronger global coordination is evident, as aligning national policies with RFMO measures is critical to combating unregulated fishing.

Key Discussion Points on Distant Water Fishing Fleets, National Policies and Regulations

The participants highlighted overall progress in China, Korea, Japan and Chinese Taipei's policies and regulations to improve DWF labour, sustainability, transparency and traceability standards. Some participants highlighted domestic training programmes and compliance incentives aimed at industry stakeholders to promote a better understanding of newly implemented standards, ultimately leading to improved compliance and enhanced sustainability outcomes.

However, the discussion also shed light on many unresolved challenges. In particular, it emphasised the importance of addressing unregulated fishing activities in FAO Area 41, especially those related to squid fishing. In this context, participants highlighted the need for cooperation between coastal States and DWFNs. It was also suggested that third parties, such as the MSC, could play an important role in addressing the gaps left by the lack of cooperation among State actors by certifying fisheries products sourced in this area by vessels operating under strict management measures and regulations.

The dialogue between participants further stressed that Japan and Korea are facing similar challenges regarding stocks variations. In response to environmental changes, both States are

exploring the adoption of a “coastal State” mindset and approaches to fisheries management and policymaking.

Lastly, it was noted that North Asian flag States have varying domestic procedures to integrate RFMO CMMs into their national legislation. While some have established automatic integration processes (e.g. Korea), others rely on ad hoc reviews of existing laws and stakeholder dialogues before making changes to domestic regulations. It was noted that the latter approach can be problematic, as it requires political support to implement these changes.

Pathways for Strengthening Cooperation in Unregulated Fisheries

This section provides a summary of the discussions held by participants on the second day of the workshop, which centred on identifying priorities to enhance cooperation in the context of unregulated fisheries and examining the prevailing barriers to achieving such cooperation.

Scope and Framing

The discussions centred on identifying practical and collaborative responses to fisheries operating in areas where no RFMO or formal regulatory framework currently exists. Area 41 was selected as a pilot case for these explorations. Squid fisheries in this area were identified as a potential focus for future collaborative stock assessments.

The objective of the discussions was not to propose the creation of new RFMOs, as this was seen as politically complex and time-consuming exercise, especially in geopolitically sensitive regions. Instead, the emphasis was on exploring alternative cooperation pathways, grounded in science and fisheries management rather than legal frameworks.

The purpose of this report is not to provide guidelines or recommendations for strengthening cooperation in unregulated fisheries, but rather to outline current challenges, opportunities, and ideas discussed by participants. It is hoped that these outcomes can subsequently be communicated to the fishery authorities of China, Korea, Chinese Taipei and Japan for their consideration and to inform their decisions on potential next steps.

The development of a bottom-up, step-by-step approach for further cooperation was widely supported by participants.

Key Priorities Identified

- Science and Data-Led Collaboration

Scientific cooperation and data sharing was seen as a vital first step toward more effective management of unregulated fisheries. The current lack of comprehensive data makes it difficult to assess stock status and the fisheries’ sustainability. As mentioned by a participant, ‘no single player can come up with all the necessary scientific data’, making collaboration essential in this space.

Beginning cooperation through the scientific community was viewed as relatively low-risk and highly valuable. This bottom-up approach could lay the groundwork for longer-term engagement, helping to bridge gaps in understanding and enabling more coordinated action.

- Ensuring Sustainability

There was consensus among participants that the central issue is not solely whether a fishery is regulated, but whether it is sustainable. In exploring the relationships between sustainability and unregulated fisheries, participants identified reporting as a foundational requirement for effective science and, by extension, sustainable management.

Participants noted that addressing sustainability involves engaging with all three components of 'I and U and U' – illegal, unreported, and unregulated fishing activities – and that improvements in any one area can contribute meaningfully to the overall goal of long-term ecological and economic viability.

- Stimulating Trust and Engagement

Many participants attributed the lack of progress on achieving effective and sustainable management of unregulated fisheries to a general lack of appetite from industry and State actors to meaningfully engage in collaborative and regulatory action.

It was noted that engagement should be incentivised through both market forces and inclusive dialogue. It was proposed that momentum be generated through collaborative scientific initiatives (as outlined above), which can act as a constructive starting point for future cooperation.

To foster trust, participants stressed the importance of promoting transparency and ensuring that different perspectives are acknowledged and openly discussed. Clarifying the meaning and use of the IUU terminology among all stakeholders was also viewed as essential to overcome confusion and ensure a shared understanding for action.

Participants identified the newly formed FAO Sub-Committee on Fisheries Management as a potential avenue for engagement, with the suggestion that submissions—such as information papers—could help raise awareness of fisheries operating outside the remit of RFMOs and engage a broader set of stakeholders, including NGOs.

Discussion also noted useful precedents for scientific cooperation in unregulated fisheries. For example, the Standing Committee on Tuna and Billfish (SCTB) was established in 1989 as an open forum for scientists and others with an interest in the western and central Pacific tuna fisheries to discuss scientific issues related to data, research and stock assessment. It was eventually replaced in 2004 by the Scientific Committee of the Western and Central Pacific Fisheries Commission (WCPFC). The participation of scientists from coastal states and territories and distant water fishing States, and scientists from international tuna fisheries management organizations, was particularly encouraged. For illustration, the aims of the SCTB were:

1. Coordinate fisheries data collection, compilation and dissemination according to agreed principles and procedures;
2. Review research on the biology, ecology, environment and fisheries for tunas and associated species in the western and central Pacific Ocean;
3. Identify research needs and provide a means of coordination, including the fostering of collaborative research, to most efficiently and effectively meet those needs;
4. Review information pertaining to the status of stocks of tunas and associated species in the western and central Pacific Ocean, and to produce statements on stock status where appropriate;
5. Provide opinion on various scientific issues related to data, research and stock assessment of western and central Pacific Ocean tuna fisheries.

A stepwise approach was discussed, with built-in safeguards to ensure that cooperation leads to concrete outcomes over time.

Key Challenges Identified

- Science and Data-Sharing

Participants discussed the barriers to data-sharing. These included confidentiality concerns and government restrictions, especially outside of RFMO contexts. It was noted that the main challenge was not accessing or generating the necessary data, but rather the willingness or ability to share it, particularly due to industry reluctance or government restrictions on scientists.

One proposed solution was to share outputs (e.g. assessment results or summaries) without disclosing full datasets. As one participant pointed out, such scientific cooperation could ‘perhaps [be] easier because [it] can protect confidential information from industry and bypass bureaucratic authorisation processes – as long as we can collaborate and protect privacy’. Others agreed that this approach could enable joint stock assessments and informed management decisions without compromising sensitive information.

- Terminology Confusion

The term ‘IUU’ was widely regarded by participants as problematic. This was primarily due to its conflation of a wide range of distinct fishing activities—some of which may be legal, while others are not—under a single label. Participants agreed that the lack of differentiation creates confusion, particularly around unregulated fisheries that are not necessarily illegal, yet are often perceived as such due to the term’s negative connotations. It was noted that the resulting ambiguity complicates accurate reporting and monitoring efforts, and can undermine trust, credibility, and constructive engagement among stakeholders.

Participants emphasised the importance of clarifying the terminology to better reflect the diversity of situations on the ground. Doing so would not only help reduce misunderstanding but also support strengthened cooperation. It was further noted that this clarification process

should involve continued engagement with all relevant stakeholders to ensure a shared understanding and the development of a common narrative going forward.

- Governance

Participants pointed out that cooperation in unregulated areas currently depends largely on the goodwill of flag States. While some States have made strong high-level commitments to ensure effective management, participants noted that there is often a disconnect between such declarations and the actions taken on the ground. In Area 41 in particular, the lack of coordinated activity and shared data makes it challenging to formulate or implement effective management responses.

Finally, one participant flagged that any proposed cooperation mechanism should, in their view, be designed to avoid placing an excessive burden on fisheries agencies. They pointed out that issues that fall beyond the agencies' scope may be better addressed through complementary policy processes.

Closing Reflections

Participants reflected on the context, key priorities and challenges shaping unregulated fisheries. The discussions underlined the urgency of developing new approaches that are adaptive, inclusive, and grounded in science. A cooperative pathway based on trust and pragmatic step-by-step action was widely seen as the most promising route to achieve lasting progress.

There was broad support among participants for continuing informal dialogues and reconvening periodically to build on the discussions held. These conversations were viewed as valuable not only for information exchange but also for fostering mutual understanding and laying the groundwork for future cooperation, potentially taking wider contexts such as climate change into consideration. Maintaining this momentum through regular engagement was seen as critical to deepening relationships, identifying shared priorities, and gradually creating the conditions for more structured collaboration over time.

Appendix - Speakers list (alphabetical order)

Shui-Kai Chang

Dr. Shui-Kai Chang is a distinguished professor at National Sun Yat-sen University, specialising in the conservation and management of marine resources. He has collaborated with the government to promote sustainable practices in the utilisation of marine resources, particularly in distant-water tuna fisheries. As a member of the national delegation, he participated in meetings of the major tuna RFMOs (tRFMOs) across the three oceans. Currently, Dr. Chang focuses on scientific issues related to the Western and Central Pacific Fisheries Commission (WCPFC), contributing significantly to the sustainable management of essential fishery resources.

Joseph Fu

Joseph Fu is the Acting Chief Executive Officer of the Overseas Fisheries Development Council (OFDC). He has long been instrumental in assisting Chinese Taipei's Fisheries Agency with marine fisheries conservation and effective management. With years of practical experience in providing services to the government, participating in RFMO meetings, formulating relevant policies, and communicating with stakeholders, he possesses in-depth knowledge of Chinese Taipei's distant-water fisheries and their challenges, and the needs for sustainable fisheries development. Under his leadership, OFDC supports the government in managing fisheries statistics, vessel monitoring system, observer programs, fishery improvement projects, and social responsibility projects, while providing consultancy on the international trends in fisheries conservation.

Wakao Hanaoka

After spending over 15 years of his youth in Southeast Asia, Wakao moved to the USA and graduated from the Florida Institute of Technology's Department of Ocean Engineering and Marine Sciences. His illustrious journey in sustainable seafood began in the Maldives and Malaysia. In 2007, he took the helm at Greenpeace Japan, launching and leading the Sustainable Seafood Project with vision and dedication.

Upon establishing his independence, in July 2015, Wakao founded Seafood Legacy Co., Ltd. in Tokyo, marking a new chapter in his mission to preserve the legacy of abundant seafood, a testament to the vital interconnections of marine ecosystems, economy, and society. Wakao's strategic vision involves forging robust alliances among a broad spectrum of stakeholders, including the seafood industry, financial sectors, governmental agencies, NGOs, academic institutions, and media, on national and international levels. His tireless dedication catalyses a paradigm shift, positioning environmentally sustainable and socially responsible seafood as the cornerstone of the Japanese and Asian seafood markets. Wakao was named SeaWeb's Seafood Champion Award Leadership Category in 2019. Wakao also holds a number of Japanese and global advisory and committee positions.

Quentin Hanich

Professor Quentin Hanich leads the Fisheries Governance Research Program at the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, where he is a Nippon Foundation Ocean Nexus Research Chair. He has established various international research partnerships focusing on ocean governance and equity, marine conservation, and the sustainable and equitable management of transboundary fisheries. In addition to his roles at the University of Wollongong, Professor Hanich chairs the Indian Ocean Tuna Commission's allocation committee, and is a member of the United Nations Pool of Experts for the World Ocean Assessments.

Yuru He

Dr. Yuru He is a social scientist with a broad interest in ocean and fisheries laws, governance, ethics and social responsibility. She obtained her BAs at China Foreign Affairs University, MAs at University of Manchester, and a PhD degree in Fisheries Resources at Shanghai Ocean University. As a member of Center for International Compliance of Distant-water Fishery, Dr. He has been engaged in multiple RFMOs meetings, and provide legal and policy advise for the fishery authority of China and industries.

Taisuke Iwano

Taisuke Iwano graduated with a Bachelor in Science (Marine Science) from the University of Tokyo in 2011. He then joined the Fisheries Agency of Japan, initially working in domestic fisheries management. He has been assigned to the following positions:

- 2012 – Joined FAJ, mainly in charge of domestic fishery management.
- 2019-2022 - First Secretary, Development Cooperation Section, Embassy of Japan in Fiji (Fishery Attaché)
- 2022-2024 - Assistant Director, International Affairs Division (Bilateral Consultation)
- 2024 to present - Assistant Director, International Affairs Division (RFMOs)

Myeong hwa Jung

Myeonghwa Jung is research fellow at the Fisheries Research Division of the Korea Maritime Institute. She is responsible for Fisheries Research Division. Her research focuses on international fisheries trade, international fisheries cooperation, and Korean distant water fisheries especially on IUU fishing related policy. Myeonghwa Jung holds a BA in International trade from Pusan National University, an MA in International Trade from Sogang University, and a PhD in International trade from Korea Marine & Ocean University.

Jung-re Riley Kim

Jung-re Riley Kim handles Regional Fisheries Management Organizations (RFMO) related issues at the Ministry of Oceans and Fisheries in Korea. She has engaged in multilateral fisheries negotiations since 2010, when she first joined the Ministry. She represents Korea at various RFMOs including the Western and Central Pacific Fisheries Commission (WCPFC) and

North Pacific Fisheries Commission (NPFC). Her responsibilities also cover negotiations in the Antarctic areas through the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), and she has been in the Korean delegation to the Central Arctic Unregulated Fisheries Prevention Agreement (CAOFA). Over the last several years, she served in officer positions of various RFMOs:

- Chair of Standing Committee on Compliance and Implementation (SCIC) of CCAMLR from 2017 to 2020;
- Vice Chair of the WCPFC from 2015 to 2018;
- Chair of the WCPFC from 2019 to 2022;
- Vice Chair of the Indian Ocean Tuna Commission (IOTC) from 2018 to 2021;
- Chair of the IOTC from 2022 to 2025;
- Vice Chair of the NPFC from 2023;
- Co-Convener of the Harmonization Symposium of CCAMLR in 2024
- Chair of the South Pacific Regional Fisheries Management Organization (SPRFMO) from 2024

David Kroodsmma

David Kroodsmma leads the Global Fishing Watch research team, which includes data scientists and machine learning engineers and a network of research partners around the globe. The research team's goal is to develop the new datasets, models, and methods that underpin the Global Fishing Watch platform and the scientific discoveries of our partners. David has overseen the development of the organization's key algorithms, including our fishing, transshipment, and dark target algorithms, and has co-authored 20 peer reviewed papers with the research network. Prior to joining Global Fishing Watch, David worked as a researcher, data journalist, climate advocate, and author. He studied physics and earth systems science at Stanford University, and focused his graduate work on modelling the earth's carbon cycle. David has also spent three years of his life traveling by bicycle, and has biked across North and South America, Asia, and parts of Europe.

Hoki Lo

Ko-Jung Lo leads the development and implementation of Global Fishing Watch's programmatic work in Asia, working collaboratively with an international team to design and carry out projects that leverage open data for improved fisheries management. Engaging a diverse set of stakeholders that span the private and public sector as well as civil society, Lo seeks to support the adoption of open data solutions and build capacity to adequately support them. Before joining Global Fishing Watch, Lo was project lead at Greenpeace East Asia, where she oversaw organizational development and served as the first staff member of the Taipei office. Between 2015 and 2019, she successfully led multiple local and regional Greenpeace projects focused on reducing plastic waste, tackling overconsumption and

advocating for sustainable energy initiatives. She holds a bachelor's degree in history and a master's degree in climate change and sustainable development from National Taiwan University.

Masanori Miyahara

Advisor to Minister for Agriculture, Forestry and Fisheries, Japan. Consultant and advisor for other entities such as ANCORS, RWE Renewables and Sojitz. Previously, President of Japan Fisheries Research and Education Agency (FRA) and Deputy Director-General of the Fisheries Agency of Japan (FAJ). Chair of Northern Committee of WCPFC (now in 11th term).

Chanyeop Park

Chanyeop Park is a senior researcher at the Fisheries Research Division of the Korea Maritime Institute. His research focuses on Korean fisheries policy, international labour standards, and legal and institutional frameworks for fisheries labour. Chanyeop Park holds a BA in Economics from Stony Brook University, an MA in International Trade from Sungkyunkwan University, and has completed a PhD program in Agricultural and Resource Economics at Seoul National University. Recently, he has been leading research on domestic legal responses to forced labour issues in the fisheries industry.

Constance Rambourg

Constance Rambourg is an Ocean law and policy researcher with expertise in marine conservation policy and transboundary fisheries management. She is a Research Fellow at the Australian National Centre for Ocean Resources and Security (ANCORS), working on an Australian Research Council-funded project to support the development of a law and policy framework for cost-effective remote sensing in maritime enforcement. Constance is a fellow of the Nippon Foundation Ocean Nexus Program and a lecturer in Ocean Development and Conservation at University of Wollongong (UOW). She holds a Master of Maritime Policy from UOW, a Bachelor of Laws (LLB) from the University College London, as well as a French law certificate from Université Paris II (Panthéon-Assas). She is in the final process of submitting her PhD thesis on the relationships between colonialism and the implementation of large-scale marine protected areas in overseas territories.

Daniel Schaeffer

For the past five years, Daniel Schaeffer has led Pew's Ending Illegal Fishing Project. He joined after 27 years in the United States Coast Guard, where he directed fisheries enforcement and protected marine resources. Schaeffer's extensive experience includes over 350 enforcement actions, policy development, and international cooperation. He has participated in multilateral meetings, treaty negotiations, and bilateral enforcement agreements, contributing to global fisheries enforcement efforts.

Huw Thomas

Huw Thomas founded 3 Pillars Seafood in 2020 to provide responsible sourcing and supply chain advice to seafood processors, retailers, and non-governmental organisations. With a

career spanning more than 30 years in the seafood world Huw has been Fisheries & Aquaculture Manager of a UK retailer, led the market engagement work for Pew Trust aiming to end illegal fishing, the Technical Director of one of the UKs leading chilled seafood processing companies and run a shrimp processing plant in Vietnam. More recently Thomas has taken the Executive Director role at Global Dialogue on Seafood Traceability (GDST) which he combines with his ongoing market-facing educational roles with Pew and Global Fishing Watch. Recognised as a thought leader in the evolving world that seafood industry sustainability programmes sit, he brings a unique perspective and insight to supply chain risks, mitigation, and certification efforts.

Ina Tessnow-von Wysocki

Ina Tessnow-von Wysocki is an Ocean Nexus Postdoctoral Research Fellow at the Australian National Centre for Ocean Resources and Security (ANCORS), based at the University of Wollongong. Her research on international ocean governance in areas beyond national jurisdiction focuses on ocean equity with regards to multi-jurisdictional coherence of fisheries, deep-sea mining and marine biodiversity governance. She holds a B.A. in Politics, International Relations and Asian Studies from Griffith University, Australia, a M.A. of International Relations from the joint program at Humboldt University Berlin, Freie University and University of Potsdam, Germany and a PhD in Political Science from the University of Vienna, Austria.

Fan Zhang

Fan Zhang is a Professor at Shanghai Ocean University, also serving as China's head scientist of the International Commission for the Conservation of Atlantic Tunas (ICCAT). Fan is broadly interested in several areas of fisheries science, including fish population dynamics, stock assessment, fisheries management, etc. Fan obtained his BSc and MSc degrees at Ocean University of China and acquired a PhD degree at University of Guelph. Before taking his current position, Fan was a Research Scientist at Memorial University of Newfoundland.

Jiangfeng Zhu

Dr. Jiangfeng Zhu is a fishery stock assessment scientist for species in China's tuna fisheries. The main objective of his work is to evaluate the impact of fishing on population dynamics and develop robust management advice. He also works on the national observer program, logbook program, and database development for China's distant-water tuna fisheries. As a scientific advisor to the fishery authority of China and industries, Dr. Zhu has been regularly attending scientific and management related meetings in tuna RFMOs over the past 10 years.

Rapporteurs

Constance Rambourg

Constance Rambourg is an Ocean law and policy researcher with expertise in marine conservation policy and transboundary fisheries management. She recently started working on an Australian Research Council-funded project to support the development of a law and policy framework for cost-effective remote sensing in maritime enforcement. She is simultaneously finalising her PhD thesis on the relationships between colonialism and the implementation of large-scale marine protected areas in overseas territories. Constance is a fellow of the Nippon Foundation Ocean Nexus Program and a lecturer in Ocean Development and Conservation at University of Wollongong (UOW). She holds a Master of Maritime Policy from UOW, a Bachelor of Laws (LLB) from the University College London, as well as a French law certificate from Université Paris II (Panthéon-Assas).

Sunnefa Yeatman Omarsdottir

Sunnefa Yeatman Omarsdottir is a PhD candidate at the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong. Her research examines regulatory gaps in international law and policy regarding anthropogenic underwater noise pollution, focusing on the potential of the Biodiversity Beyond National Jurisdiction Agreement (BBNJ) to establish measures for its mitigation. Her work analyses the role of the BBNJ Agreement, the United Nations Convention on the Law of the Sea, and existing organisations such as the International Maritime Organisation and the International Seabed Authority. Sunnefa holds an MSc in Environmental Policy from Wageningen University, Netherlands, with an honours in sustainable development diplomacy.