Advanced Fisheries Intelligence Training

Regional Plan of Action to Promote Responsible Fishing Practices including Combating Illegal, Unreported, and Unregulated Fishing in the Region (RPOA-IUU)

20-23 February 2024

Summary Report

General Overview

In collaboration with the ATSEA-2 Project, the RPOA-IUU Secretariat organized the RPOA-IUU Advanced Fisheries Intelligence Training held for 4 (four) days from 20 to 23 February 2024 in hybrid mode. The meeting was attended by 49 participants from Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, and Viet Nam. The details of participants and organizing committee could be found in **Annex 1 and 2.** The International Monitoring, Control, and Surveillance (IMCS) Network, Department of Fisheries Canada, and INTERPOL contributed as the speakers who covered the topics, concerning intelligence collection plan, intelligence-led MCS, and strategies to address modus operandi on IUU fishing. The other remarkable speakers from Global Fishing Watch, Skylight, and C4DAS also covered the session of intelligence-led MCS and presented the utilization of artificial intelligence, machine learning, and beneficial ownership identification, respectively. The details of respective speakers could be accessed in **Annex 3.**

1. Opening Session

1.1. ATSEA-2 Project

Mr. Handoko Adi Susanto as a Regional Program Manager of the ATSEA-2 Project conveyed a welcome remark highlighting the importance of fisheries intelligence in resolving cases and bringing criminals to justice. He also mentioned that there is a mounting demand in using intelligence for providing reliable evidence in some cases. He also referred to the outcome of the foundational training of fisheries intelligence held in February 2022 and expected that the advanced fisheries intelligence could be more comprehensive and thorough compared to the first training. He also outlined that this activity aligns with ATSEA-2 Project's commitment in addressing unsustainable fisheries, including IUU fishing and emphasized that the ATSEA-2 Project has provided incremental support to the RPOA-IUU secretariat especially by facilitating the conduct of relevant assessments, organising capacity-building activities, and hosting strategic meetings.

1.2. RPOA-IUU Secretariat

The opening remarks from the RPOA-IUU secretariat was delivered by Mr. Eko Rudianto as a Vice Executive Director of the RPOA-IUU secretariat and also as a Principal Fisheries Inspector in the Directorate General of Surveillance for Marine and Fisheries Resources, Ministry of Marine Affairs and Fisheries, Indonesia. He highlighted the previous training led to several key points

underlining the importance of thorough training for fisheries intelligence training. The outcome also indicated a strong interest from participating countries in a follow-up training which more broadly touch into the intelligence-led model for monitoring, control, and surveillance (MCS) measures and operational. It was also stated that the RPOA-IUU secretariat expects that for the long terms, fisheries intelligence could be implemented in the regional level, including intelligence data and information sharing. In result, the IUU fishing eradication in the regional will be more efficient and effective.

1. Introduction

1.1. Overview of the training

The representative of the RPOA-IUU secretariay delivered the objectives of training which includes:

- Gain the country's capacity in using intelligence approach for analysis, processing and interpreting of the raw fisheries data and information;
- Increase fisheries officer's practical skill sets in optimizing the implementation of intelligence-led for combating IUU fishing and skills-based cooperative MCS action (e.g. tactical, operational, and strategic);
- Enable countries to use intelligence-led components for effective decision making for combating IUU fishing;
- Serve as information-exchange platform among countries regarding effective measures which countries have implemented to tackle modus operandi associated with IUU fishing.

She announced several guidelines of training ranging from virtual meeting protocol and provision of Q&A sessions. It was mentioned that the quiz format of the training used the Zoom Poll. The training agenda comprised five essential sessions, with two imperative sessions consisting of a speakers' session focusing intelligence-led MCS and a sharing-session. Sharing session served as a platform for countries to deliberate effective strategies to address modus operandi on IUU fishing. The average length of training was approximately 3-4 hours with a poll session to gauge participants' acquired knowledge during the training.

2. Intelligence Process

2.1. Tools for Fisheries Intelligence: Use of Remote Sensing

The "Tools for Fisheries Intelligence: Use of Remote Sensing" presentation discusses the application of remote sensing technologies like Automatic Identification System (AIS) and Vessel Monitoring System (VMS) in monitoring and managing fisheries. It highlights the advantages of space-based surveillance, including coverage of vast ocean areas and tracking of large fleets, especially in conditions of poor visibility or remote locations.

It also discusses the challenges of AIS/VMS data due to potential technical issues and deliberate tampering. The presentation covers space-based ship detection data sources such as Synthetic Aperture Radar (SAR), Radio Frequency (RF) signals, optical and Visible Infrared Imaging Radiometer Suite (VIIRS) imaging for detecting Illegal, Unreported, and Unregulated (IUU) fishing activities. AIS/VMS and space-based detection technologies, each with their unique strengths

and limitations, are more effective when combined. This synergy enhances maritime domain awareness and operational efficiency, particularly in detecting "dark vessels", ensuring a more comprehensive approach to maritime surveillance and environmental stewardship.

2.2. Tools for Fisheries Intelligence: Closed Source, Human, and Intel-Led Enforcement Strategies

The presentation on Tools for Fisheries Intelligence: Closed Source Human and Intel-Led Enforcement Strategies focuses on the enforcement and monitoring strategies within the Canadian fisheries sector. It outlines the implementation of mandatory monitoring tools, leveraging closed source intelligence (CSINT) data not available to the public but accessible to government entities for fisheries enforcement. Various data sources, including fisher-dependent and independent methods, licensing records, electronic monitoring data, and public reporting programs, are highlighted as crucial for intelligence gathering. The presentation also delves into the importance of standardised data collection, aerial surveillance, and covert intelligence operations, emphasising the role of technology and human intelligence in protecting marine resources.

2.3. Open-Source Tools for Fisheries Intelligence

The presentation on Open-Source Tools for Fisheries Intelligence provides a comprehensive overview of open-source tools and their applications in fisheries intelligence and enforcement. It covers the use of vessel identifiers, AIS with a specific example from Global Fishing Watch tools, machine learning and AI from Skylight, and beneficial and network analysis for generating intelligence and tracing illegal fishing activities. The session aims to introduce these tools to enhance the capacity for monitoring, controlling, and surveilling fishing operations, enabling effective combat against IUU fishing by utilising publicly available data and resources.

3. Country's sharing session on modus operandi on IUU fishing

3.1. Brunei Darussalam

The presentation addresses the issue of Illegal, Unreported, and Unregulated (IUU) Fishing in Brunei Darussalam, including transboundary challenges. It outlines types of IUU fishing prevalent in Brunei, such as encroachment by foreign vessels, fishing in restricted zones, use of prohibited (including destructive fishing) gear, misuse of fishing gear licence. The presentation also covers effective measures implemented to combat IUU fishing, such as joint law enforcement operations (e.g. with Marine Police and Navy), scheduled patrols, and aerial surveillance. Additionally, it discusses strategies for data collection, sharing, and dissemination to tackle IUU fishing, as well as reporting mechanisms to the Secretariat and other countries on Monitoring, Control, and Surveillance (MCS) activities, actions taken, and lessons learned.

3.2. Cambodia

The presentation focuses on Cambodia's efforts in implementing Monitoring, Control, and Surveillance (MCS) to combat Illegal, Unreported, and Unregulated (IUU) Fishing. It outlines

the types of IUU fishing observed in Cambodia, including fishing in conservation areas, use of unregistered or unlicensed vessels, and unregulated fishing gear. Effective measures such as the development and implementation of national plans, adoption of international instruments (UNFSA and PSMA), law amendments, vessel registration, and law enforcement enhancements are highlighted. Additionally, it discusses the collection and dissemination of data for legal actions against IUU fishing activities, and Cambodia's strategy to report and share information on IUU fishing at regional and bilateral meetings. It was also mentioned that Cambodia acknowledged the role of regional organizations as a platform for exchange of information on IUU fishing.

3.3. Indonesia

The presentation by Indonesia outlines its approaches and strategies against Illegal, Unreported, and Unregulated (IUU) fishing. It details IUU fishing methods, including violations of designated fishing area, landing catch port, transhipment rules, markdown vessel size and misleading/misreporting catch. Effective measures implemented include a moratorium on ex-foreign ships, the prohibition of certain nets, and the optimisation of the IUU Fishing Special Task Force. It also highlights the use of technology such as Vessel Monitoring System (VMS) and Automatic Identification System (AIS) in monitoring fishing activities and strategies for data sharing and reporting on IUU fishing activities to enhance regional cooperation and compliance. Indonesia emphasized that capacity building and training approach serves as a best approach to address modus operandi on IUU fishing. It was highlighted that Indonesia implements multi agencies cooperation and a multi door approach for IUU fishing eradication. Indonesia's representative delivered a case study of modus operandi on IUU fishing in which Indonesia closely cooperates with BAKAMLA and other relevant agencies to tackle it. Indonesia's representative introduced the platform to collect, consolidate, and analyse data called Command Centre. It was stated that Indonesia is committed to continuing to provide data and information through bilateral and multilateral settings.

3.4. Malaysia

The presentation provides an overview of Malaysia's Monitoring, Control, and Surveillance (MCS) activities to manage and conserve fishery resources sustainably and enforces the Fisheries Act of 1985. The types of IUU fishing that occur within Malaysia Fisheries Water are the use of prohibited methods, fishing in restricted zones, and foreign vessel encroachment. It also outlines the synergy through strategic cooperation with other agencies through IUU technical and main committees to assess the measures for combating IUU fishing, including policy, law, and regulation review. Malaysia's representatives highlighted their national initiatives to establish and implement Standard Operating Procedures for listing and delisting IUU fishing vessels that consists of 3 steps: detention of fishing vessels by enforcement agencies, recording of the fishing vessel information case by FISHCOM and reporting of the case to the IUU Technical Committee and IUU Steering Committee to be listed to Malaysia-IUU list.

3.5. Papua New Guinea

The presentation from Papua New Guinea discusses strategies to combat IUU (Illegal, Unreported, and Unregulated) Fishing, emphasising the importance of regional cooperation,

enhanced MCS (Monitoring, Control, and Surveillance) measures, and the adoption of international agreements. Papua New Guinea outlined some best practices to address modus operandi on IUU fishing which includes improvement of traceability and transparency, strengthened regional and international agreement, and local community engagement to raise awareness of the negative impacts of IUU fishing. It was also explained that Papua New Guinea implemented a public-private partnership to detect and monitor IUU fishing activity and added that Papua New Guinea will continue to provide periodical reports of IUU fishing to regional organisations, as an effort to increase transparency. It highlights the use of advanced technology for surveillance and data sharing through the Fisheries Information Management System (FIMS) by fusing data from various MCS tools. On strategy, PNG highlights enhanced monitoring and surveillance, international cooperation, legal and regulatory measures and public-private partnership. Additionally, it outlines the country's approach to reporting MCS activities and lessons learned to international bodies and through regional collaborations.

3.6. The Philippines

The Philippines employs a comprehensive strategy to combat IUU fishing and ensure sustainable fisheries management. This approach includes enhancing MCS capabilities, sharing information and cooperating on a regional scale, engaging in bilateral and multilateral agreements, and adopting international measures like the Port State Measures Agreement (PSMA). The Philippines highlights the IUU-Fishing Index and Threat Assessment Tool (I-FIT) that provides a standardised scoring system for comparing the prevalence, vulnerability, and responses to IUU fishing across different areas. The country also focuses on capacity building, stakeholder engagement, and addressing root causes of IUU fishing to promote responsible fishing practices and contribute to regional efforts against IUU fishing. The Philippines' representative introduced a few layers of process for enforcement activities. On strategy to report MCS, the presentation highlights: regular reporting mechanism, data sharing protocols, timely communication by being transparent and accountable.

3.7. Singapore

Despite having a small fishing industry that shall comply with Singapore's Fisheries Act 1995, it recognizes the negative impact of IUU Fishing and aligns its port state measures with the FAO Port State Measures Agreement (PSMA), denying entry to blacklisted IUU vessels. It emphasises collaboration with Regional Fisheries Management Organisations (RFMOs), participation in regional and global fisheries meetings, and inter-agency collaboration for information sharing. Singapore actively collects and disseminates information on IUU fishing to the Secretariat and other countries, working closely with the RPOA-IUU Secretariat and other regional and international counterparts to monitor and share information on IUU fishing activities.

3.8. Thailand

Thailand outlines its comprehensive strategy to combat IUU fishing, detailing the establishment and operations of the Fisheries Monitoring Center (FMC) which has been established since 2018. It highlights technological advancements, such as the Vessel Monitoring

System (VMS) and Electronic Reporting System (ERS), which bolster surveillance and enforcement. Thailand employs the AN-IUU Interactive Platform, IOTC, and e-PSM for regional data sharing. Globally, the country utilises the Global Information Exchange System, complemented by a Memorandum of Understanding at the national level to facilitate data sharing, showcasing Thailand's commitment to sustainable fisheries management and its efforts to provide timely information on IUU fishing activities to regional and global partners. Finally, it highlighted the successful resolution of the Sunflower 7 case.

3.9. Timor-Leste

Timor-Leste combines detailed strategies to counter illegal fishing, highlighting the establishment of a community-based reporting system and the integral roles of the Maritime Police Unit & Navy and the Directorate General of Fisheries. It emphasises Timor-Leste's commitment to transparency and cooperation on a national, regional, and international level, including active participation in RPOA-IUU. The focus on vulnerable areas and the mechanism for community-based surveillance underscore the country's proactive measures to provide comprehensive data on IUU fishing activities, enhancing regional efforts towards sustainable marine resource management.

3.10. Vietnam

The presentation from Vietnam highlights strategies against IUU Fishing, including adopting international and regional regulations, improving MCS systems, and enhancing data sharing and reporting mechanisms. It emphasises the use of the VMS system, collaboration with marine enforcement forces, and the importance of regional cooperation for effective monitoring and control. Vietnam commits to continuous improvement in management, monitoring, and participation in forums to share experiences and learn from global best practices in combating IUU fishing.

4. Intelligence-led operating Model

4.1. Transnational Fisheries Crime & Multi Agency Cooperation

The presentation discusses the multifaceted nature of transnational fisheries crime and emphasises the need for multi agency cooperation to combat it. It details INTERPOL's approach to tackling such crimes through intelligence-led initiatives, capacity building, and global law enforcement collaboration. The presentation also highlights the challenges in combating fisheries crime, including flags of convenience, shell companies, and the need for improved cooperation between states and agencies. INTERPOL's tools and capabilities for fighting fisheries crime, such as criminal intelligence analysis, regional investigative case meetings, and operational support teams, are showcased as essential components in the global effort against IUU fishing and related crimes.

It was mentioned that INTERPOL uses the terminology of fisheries and related crime to define and describe the forms of incidents across the fisheries sector. It was added that fisheries crime involves several multinational approaches. It was added that international cooperation could address the challenges on combating IUU fishing, considering IUU fishing is a trans-national

crime. In the scope of multi-agency collaboration, it was said the INTERPOL works closely with RFMOs and other international organisations. It was also described that Illegal fishing covers a wide range of crimes, including human trafficking, drug trafficking, document fraud, and the depletion of natural resources, with a major driving factor being corruption.

INTERPOL's representative showcased several study cases on fisheries crimes that could be addressed by strengthening multi-agency and national cooperation. The Cobija case is the most successful story for IUU fishing eradication which multiple countries are involved in.

4.2. Analysis and the directed collection of information to combat IUU fishing

The presentation focuses on the significance of criminal intelligence analysis and directed information collection in combating IUU fishing. It outlines the process of Intelligence-Led Policing, detailing how criminal intelligence analysis influences decision-makers, aids police officers and investigators, identifies leads for further investigation, and manages intelligence gaps. The presentation emphasises the importance of an Intelligence Collection Plan (ICP) to ensure focused and efficient data collection, specifying the types of information crucial for investigations, including legal entity details, event information, identification documents, transportation modes, and digital content. It advocates for collaboration between investigators, intelligence analysts, and law enforcement agencies to effectively utilise the ICP in fisheries crime operations.

It is highlighted that criminal Intelligence Analysis is a proactive approach for intelligence products combined with various available data and information sources. The representatives outlined collection intelligation plan is an initial phase to develop the type of enforcement activities and operations.

This session outlined the integration between information and analysis enhances the intelligence process, with criminal intelligence analysis playing a vital role. It was explained that intelligence analysis will help in making decisions for defining the criminal environment and assist officers in identifying the type of operation and intelligence gaps. The sessions highlighted that all phases in the intelligence cycle are crucial steps in producing intelligence products. During the collection phase, it was described that core elements of collection include filter, focus, task, and target. It was highlighted that data collection could be obtained from vessels registry information, fishing licences, supply chain records, and unloading port reports. The session also covered the purpose of the intelligence collection plan to define the best priorities and actions to address the intended issues and concerns. The criminal intelligence analysis is a key element in the intelligence process and Intelligence Collection Plan is crucial to remain focused by being effective and efficient.

5. Intelligence-led MCS

5.1. International Monitoring, Control, and Surveillance Network (IMCSN), Global Fishing Watch (GFW), Skylight, and C4DAS

The representative of IMCSN provided an overview of the differences of evidence and intelligence. It is highlighted that evidence collection must have reliable and relevant value. It is discussed that the important step for planning and directions is to understand the intended purpose and context. It is also mentioned that data could be collected from other potential resources, depending on the objectives and context of operation. The representative of IMCSN

emphasize that the combination of AI and ML could assist MCS practitioner in analysing and managing huge amount of data and information.

The sessions discussed the different interpretation of using remote sensing data, such as Satellite Radar, Optical Imagery, and VIIRS and mentioned that those data are complementary, considering its own unique and characteristics. It also cover the advantages of using remote sensing to detect IUU fishing vessels that not reporting on AIS. It was detailed that Remote sensing data analysis could use commercial imagery to fill the gaps and determine the targeted area of operations. The presentation on "Data Analysis to Support Fisheries MCS" aimed at addressing the crucial role of data analysis in the fight against illegal, unreported, and unregulated (IUU) fishing, was divided among three key presenters, each bringing a unique perspective and expertise to the topic.

Damian Johnson, a Senior MCS Specialist from the International Monitoring Control and Surveillance (IMCS) Network, focused on the overarching framework and strategies for monitoring, control, and surveillance in fisheries management. He discussed the importance of an integrated approach to MCS, leveraging data analytics to pinpoint and prioritize areas most vulnerable to IUU fishing. Johnson highlighted the necessity of global cooperation and shared intelligence to bolster the effectiveness of MCS activities.

Max Schofield, a Senior Fisheries Analyst at Global Fishing Watch, delved into the technical aspects of data analysis for detecting IUU fishing activities. Schofield showcased innovative analytical tools and techniques, including satellite imagery and AIS tracking data, to identify suspicious fishing patterns and behaviours. His presentation underscored the transformation of raw data into actionable intelligence that can guide enforcement actions and policy decisions.

Joe Ferdinando, a Senior Product Manager at Skylight, rounded off the presentation by discussing the application of data analysis in real-world enforcement and compliance scenarios. Ferdinando presented case studies where data analytics led to successful identification and prosecution of IUU fishing activities. He emphasised the role of technology in enhancing transparency and accountability in fisheries management, illustrating how data-driven insights can support more targeted and effective enforcement efforts. Together, these presenters highlighted the integral role of data analysis in the global effort to combat IUU fishing, showcasing the collaborative efforts required across various sectors and disciplines to advance fisheries management and conservation.

5.2. The Department of Fisheries and Oceans, Canada

The representative of DFO Canada delivered case study 2: Using OSINT to support covert investigations. These operations resulted in increased awareness of illegal fishing.

The study also uncovered that some vessels had been previously flagged for IUU fishing, highlighting a pattern of repeat offences. It linked several vessels to large corporate networks, indicating that these operations are well-organised and not just isolated incidents.

The key takeaway is the importance of using data analysis to track and understand IUU fishing. The study emphasises the need for international collaboration and sharing of intelligence to fight against these illegal activities more effectively.

6.1. Conclusions

The training successfully achieved its objectives, strengthening countries' intelligence capabilities for fisheries data analysis, enhancing practical skills of fisheries officers for intelligence-led actions against IUU fishing, supporting effective decision-making through intelligence-led approaches, and establishing an information-exchange platform for sharing effective measures to combat IUU fishing. During the countries' sharing session, representatives from 10 countries presented their best practices and lessons learned in responding to common modus operandi used for IUU fishing. The need for a data-sharing mechanism for the region was raised during the discussion and will be followed up this year by the RPOA-IUU Secretariat for further countries' approval.

6.2. Key Takeaways:

- Data, information and intelligence are all different. Analysed data will be information and information that has been run into the intelligence cycle will be an intelligence product which will help to direct intelligence actions at tactical, operational, as well as strategic levels.
- The source of information include the application of remote sensing technologies like Automatic Identification System (AIS) and Vessel Monitoring System (VMS), Synthetic Aperture Radar (SAR), Radio Frequency (RF) signals, optical and Visible Infrared Imaging Radiometer Suite (VIIRS), closed source intelligence (CSINT) such as licensing records, electronic monitoring data, and public reporting programs open-source tools.
- Intelligence cycle consists of 5 stages as follows: 1) planning and direction, 2) collection, 3) processing, 4) analysis and production, and concluding with 5) dissemination and feedback.
- As a lesson learned from the Philippines on IUU-Fishing Index and Threat Assessment Tool (I-FIT), the Index is useful for the identification of the prevalence, vulnerability, and responses to IUU fishing across different areas within a country. It is good lesson learned for RPOA-IUU participating countries to implement the intervention that will diminish the score of IUU fishing index. The index will help to assist the region in tracking the progress in combating IUU fishing.
- As a follow up from the first Fisheries Intelligence Training in April 2022, Indonesia has added intelligence cycle into its role and functions and established dedicated fisheries intelligence units at both national and its regional offices under the Ministry of Marine Affairs and Fisheries.
- Almost all participating countries are committed to periodically provide data and information on IUU fishing vessels through bilateral and multilateral settings.
- The use of intelligence to support Monitoring, Control and Surveillance and law enforcement is crucial to improve efficiency and effectiveness.
- It is expected that after the training, the RPOA-IUU participating countries explore the possibility of establishing intelligence units in their respective countries.
- It was informed that the data-sharing mechanism is currently under development. The data-sharing mechanism is also expected to serve as a platform for countries to share information and data on IUU fishing. The data and information shared by countries could be one of the potential sources for creating intelligence products.

Annex I. List of participants

No.	Name	Country	Organisation	Position
1.	Michelle Dods	Australia	Australian Fisheries Management Authority	Senior Intelligence Analyst
2.	Timothy Elphick	Australia	Australian Fisheries Management Authority	Senior Intelligence Analyst
3.	Hj Muhammad Faisal bin Hj Adam	Brunei Darussalam	Department of Fisheries	Senior Fisheries Licensing officers
4.	Raihan Haji Morsidi	Brunei Darussalam	Department of Fisheries	Fisheries Licensing Officer
5.	Pg. Hj. Ismial kairuluddin Pg. Hj. Seruji	Brunei Darussalam	Department of Fisheries	Asistant Fisheries Officer
6.	Surdi Erwandi Mansor	Brunei Darussalam	Fisheries Department	Senior Fisheries Licensing Officer
7.	Irwan Haji Mohd Noor	Brunei Darussalam	Department Of Fisheries, Ministry Of Primary Resources and Tourism	Head Of Licensing and Enforcement Division/Senior Fisheries Officer
8.	Amela Ayu Ashikin Hj Osman	Brunei Darussalam	Fisheries Department of Brunei	Fisheries Licensing Officer
9.	Chhorn Sokleang	Cambodia	Marin Fisheries Administration Inspectorate	Officer
10.	CHIN Leakhena	Cambodia	Department of Administrative Affairs and Litigation, Fisheries Administration	Deputy Director
11.	Aing Sokevpheaktra	Cambodia	Fisheries Administration, MAFF	Vice Chief of Contention Division
12.	Tun Ketputhearith	Cambodia	Fisheries administration	Legislative
13.	Khem Heng	Cambodia	Marine Fisheries Administration Inspectorate	Officer At Preah Sihanouk Province
14.	Tomy Budi Mulianto	Indonesia	Ministry of Marine Affairs and Fisheries	Organization Analyst
15.	Ratih Seftiariski	Indonesia	DG Surveillance Marine Resource and Fisheries	Junior Fisheries Surveillance Officer
16.	Isnanisa Woro Charity	Indonesia	Ministry of Marine Affairs and Fisheries	Fisheries Inspector
17.	Amrih Joko Waspada	Indonesia	Ministry of Marine Affairs and Fisheries	Staff

18.	Rizqi Tatri Kusuma	Indonesia	Ministry of Marine Affairs and Fisheries	Pengawas Perikanan
19.	Rachmad Sholeh Wicaksono	Indonesia	Ministry of Marine Affairs and Fisheries	Fisheries Inspector
20.	Nur Erna Liyana Binti Adam	Malaysia	Department Of Fisheries Malaysia	Fisheries Officer
21.	Nur Fardhlina Chan Binti Mahadie Chan	Malaysia	Department Of Fisheries Malaysia	Senior Fisheries Officer
22.	Muhammad Amier Azfar bin Azhar	Malaysia	Department of Fisheries, Malaysia	Fisheries Officer
23.	Faizal Ibrahim bin Suhaili	Malaysia	Department of Fisheries Malaysia	Fisheries Officer
24.	Mohamad Nur Hakim Bin Abdullah	Malaysia	Department Of Fisheries (DOF)	Fisheries Officer
25.	Jamie Maku	Papua New Guinea	National Fisheries Authority	Fishery Officer
26.	Esmond Dalle	Papua New Guinea	National Fisheries Authority	Senior Fishery Officer
27.	Rudolph IHUA	Papua New Guinea	National Fisheries Authority	Fisheries Compliance & Enforcement Officer
28.	Baden Hilary Gisa	Papua New Guinea	National Fisheries Authority	Compliance & Enforcement Officer
29.	Emil Sihono	Papua New Guinea	National Fisheries Authority	Compliance Officer
30.	Roy Ortega	Philippines	DA-Bureau of Fisheries and Aquatic Resources	Supervising Aquaculturist
31.	Jan Aristhedes Asis	Philippines	Bureau of Fisheries and Aquatic Resources	Project Development Officer III
32.	Arwin Peter T. Dumag III	Philippines	Bureau of Fisheries and Aquatic Resources	Project Development Officer III
33.	Pharis Art S. Aragon	Philippines	Bureau Of Fisheries and Aquatic Resources	Administrative Assistant III
34.	Joem Moreno	Philippines	Bureau of Fisheries and Aquatic Resources	Aquaculturist I/VMS Analyst
35.	Teh Kihua	Singapore	Singapore Food Agency	Team Lead
36.	Ng wei hong	Singapore	Singapore Food Agency	Assistant Director
37.	Lin Tingting	Singapore	Singapore Food Agency	Senior Manager, Southwest Regional Office
38.	Nirin Hengcharoen	Thailand	Department of fisheries	Fishery Biologist, Practitioner Leve

39.	Waraporn Norsit	Thailand	Department of fisheries	Fishery Office Operation level
40.	Eakapap Boonchan	Thailand	Department of fisheries	Fishery Biologist, Practitioner Level
41.	Jennarong Wannaubol	Thailand	Department of fisheries	Fishery Biologist (Professional Level)
42.	Thira Rodchevid	Thailand	Department of Fisheries	Fisheries Biologist,Professional Level
43.	Taweepong Sripha	Thailand	Department of Fisheries	Fisheries biologist professional level
44.	Panadda Sinsamutsopon	Thailand	Department of Fisheries	Fishery Office, Operational Level
45.	Jennarong Wannaubol	Thailand	Department of fisheries	Fisheries Science (Professional level)
46.	Sorawut Kanlumyai	Thailand	Department of Fisheries	Fisheries officer Experienced
47.	Rosentino Lopes	Timor Leste	National Directorate Of Inspection for Fisheries	Technical Staff
48.	Leonardo dos Santos Pereira	Timor-Leste	National Directorate of Inspection for Fisheries Directorate General of Fisheries, Aquaculture and Management of Aquatic Resources	Technical Staff
49.	Nguyễn Duy Thành	Vietnam	Vietnam Fisheries Surveillance (VFS)	Deputy Director of Information Surveillance Center, VFS

Annex II. List of organizing committee

Name	**Title**	**Institution**
Handoko Adi Susanto	ATSEA-2 RPMU/PEMSEA	Regional Project Manager
Casandra Tania	ATSEA-2 RPMU/PEMSEA	Regional Biodiversity Specialist
Chyntia Rachmadanti	ATSEA-2 RPMU/PEMSEA	Project Assistant
Matheus Eko Rudianto	RPOA-IUU	Vice Executive Director of the RPOA-IUU Secretariat
Dita Primaoktasa	RPOA-IUU	Senior Program Officer
Danang Akbar	RPOA-IUU	Cooperation Analyst
Prasetya Gunung	RPOA-IUU	Cooperation Officer
Fariez Luhur Prihastama	RPOA-IUU	RPOA-IUU Officer

Annex III. List of speakers

Name	**Title**	**Institution**

Ricardo Moraes	Criminal Intelligence Analyst	International Crime Police Organization (INTERPOL)
Claudine Leger-Charnay	Criminal Intelligence Analyst	International Crime Police Organization (INTERPOL)
Dustin De Gagne	Senior Program Officer	Department of Fisheries and Oceans, Canada
Brett Classe	Senior Compliance Program Officer, Conservation & Protection – International Program	Department of Fisheries and Oceans, Canada
Blair Thexton	Intelligence Supervisor at Marine Security Operations Centre (MSOC) West/Pacific.	Department of Fisheries and Oceans, Canada
Joe Ferdinando	Senior Product Manager	Skylight
Damian Johnson	Fisheries MCS and Compliance Specialist	International Monitoring, Control, Surveillance Network (IMCSN)
Max Schofield	Senior Fisheries Analyst	Global Fishing Watch