



Report of the

SIXTH GLOBAL FISHERIES ENFORCEMENT TRAINING WORKSHOP (GFETW)

Bangkok, Thailand, 18 – 22 February 2019



(Photo: Courtesy Francisco Blaha)



Purse seiners anchored in the lagoon at Majuro, Republic of the Marshall Islands

(Photo: Courtesy Francisco Blaha)

Report of the
Sixth Global Fisheries Enforcement Training Workshop (GFETW)
Bangkok, Thailand, 18 – 22 February 2019

PREPARATION OF THE DOCUMENT

This document contains the report of the Sixth Global Fisheries Enforcement Training Workshop (GFETW), which was convened in Bangkok, Thailand from 18 to 22 February 2019. The Workshop was organised by the International Monitoring, Control and Surveillance (MCS) Network and the Department of Fisheries, Thailand. The 6th GFETW was sponsored by Fisheries and Oceans Canada, the Food and Agriculture Organization of the United Nations, the Directorate of Fisheries of Norway, the United States National Oceanic and Atmospheric Administration and The Pew Charitable Trusts. Any mistakes in form, formatting or wording is solely the responsibility of the International MCS Network Secretariat.

ABSTRACT

The document contains the report of the Sixth Global Fisheries Enforcement Training Workshop (GFETW) held in Bangkok, Thailand from 18 to 22 February 2019.

The 6th GFETW built on the success of the first five GFETWs, which convened in Kuala Lumpur, Malaysia in 2005, in Trondheim, Norway in 2008, in Maputo, Mozambique in 2011, in San José, Costa Rica in 2014, and Auckland, New Zealand in 2016. Previous Workshops promoted cooperation between enforcement authorities across national borders and facilitated the introduction of new monitoring technologies. Each Workshop has raised awareness of the importance of effective enforcement of fisheries laws and helped to facilitate networking connections between maritime and law enforcement professionals.

Enhancing cooperation is a primary focus of the International Monitoring, Control and Surveillance (MCS) Network with a special emphasis on collaboration with developing countries. The 6th GFETW was successful in bringing together more than 158 participants from 40 countries, including MCS practitioners from 24 State governments, including 22 developing countries. MCS experts of six regional fisheries management organisations (RFMOs) also participated in the Workshop. Intergovernmental organisations represented at the 6th GFETW included the United Nations Food and Agriculture Organization (FAO), the United Nations Office on Drugs and Crime (UNODC), INTERPOL, the Pacific Islands Forum Fisheries Agency (FFA) and the Indian Ocean Commission (IOC). Moreover, there were participants from 11 non-governmental organisations (NGO) and five participants from academia.

The conference was structured in sessions according to themes, including: International and Regional Cooperation; the Actors, International and Regional Cooperation; the Facilitators, Emerging Technologies in MCS; Implementation of the FAO Agreement on Port State Measures; Analyzing and Sharing MCS Data and Intelligence; IUU Risk Assessment Frameworks; “Chasing the Thunder” Presentation and Roundtable; Capacity Building for Better Enforcement Action; Role of MCS Practitioners in Combatting Crime Associated with and/or Related to Fisheries; Improved Compliance in RFMOs; Control and Enforcement over Transshipment; 3rd Stop IUU Fishing Awards; and a panel on Global IUU Risks, Estimations and Quantification.

Links to all presentations used during the course of GFETW6 can be found here:
<http://gfetw.org/presentations-6th-gfetw/>

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ACRONYMS

ABM	Automatic Behavioural Monitoring
ABNJ	Areas Beyond National Jurisdiction
AFRDEC	Andaman Sea Fisheries Research and Development Center
AHWGERS	NEAFC Ad Hoc Working Group on Electronic Reporting Systems
AI	Artificial Intelligence
AIS	Automatic Identification System
ALC	Automatic Location Communicator
ALC	Acuerdo de Libre Comercio
AREP	Advance Request for Entry into Port
ASEAN	Association of Southeast Asian Nations
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for Conservation of Southern Bluefin Tuna
CCM	Member, Cooperating Non-Member or Participating Territory
CCTV	Closed Circuit Television
CDC	Centre for Disease Control
CDS	Catch Documentation Scheme
CFP	EU Common Fisheries Policy
C & P	Conservation and Protection Branch (Canada)
CPC	Contracting Party, Cooperating Non-Contracting Party or Fishing Entity
CMAR	Eastern Tropical Pacific Marine Corridor
CMM	Conservation and Management Measure
CMS	Compliance Monitoring Scheme
COFI	Committee on Fisheries
CSIRO	Commonwealth Scientific and Industrial Research Organization (Australia)
DAVE	Data Analysis and Visualization Environment
DEFRA	Department for Environment, Food & Rural Affairs (UK)
DFO	Fisheries and Oceans Canada
DoF	Department of Fisheries
DWFN	Distant Water Fishing Nation
EC	European Commission
EEZ	Exclusive Economic Zone
EFCA	European Fisheries Control Agency
EJF	Environmental Justice Foundation
EJN	Earth Journalism Network
EM	Electronic Monitoring
EMI	Environmental Management Inspectorate (South Africa)
EMSA	EU Maritime Safety Agency
ER/ERS	Electronic Reporting (system)
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCO	Fisheries Control Officer (South Africa)
FCWG	Fisheries Crime Working Group (INTERPOL)
FFA	Pacific Islands Forum Fisheries Agency
FiA	Fish-i Africa
FIMS	Fisheries Information Management System
FIT	Flying Inspection Teams (Thailand)

FLEQRT	Philippines Fishery Law Enforcement Quick Response Team
FLUX	Fisheries Language for Universal Exchange
FMC	Fisheries Monitoring Centre
FMS	Fisheries Monitoring System
GFETW	Global Fisheries Enforcement Training Workshop
GIES	Global Information Exchange System
GPS	Global Positioning System
GREP	Groupe Environment Recherche
GRWG	Global Record Working Group
GSM	Global System for Mobile Communications
HMTC	Harmonized Minimum Terms and Conditions
IATTC	Inter-American Tropical Tuna Commission
ICASA	Institute for Complex Additive Systems Analysis
ICCAT	International Commission for the Conservation of Atlantic Tunas
IFCA	Inshore Fisheries and Conservation Authority
IGO	Inter-governmental Organisation
ILO	International Labour Organization
IMA	Illicit Market Analyses (INTERPOL)
IMCS Network	International Monitoring, Control and Surveillance Network
IMD	Import Movement Document Thailand
IMO	International Maritime Organization
IMS	Integrated Maritime Services (UK)
INTERPOL	International Criminal Police Organization
IOC	Indian Ocean Commission
IOTC	Indian Ocean Tuna Commission
IPID	Independent Police Investigative Directorate (South Africa)
IPOA-IUU	International Plan of Action to Prevent, Deter and Eliminate IUU Fishing
ISMF	Integrated System for Marine Fisheries
ISSF	International Seafood Sustainability Foundation
ISTs	Investigative Support Teams (INTERPOL)
IUU	Illegal, Unreported and Unregulated (fishing)
JRFE	Journalists for Responsible Fisheries and Environment
LE	Law Enforcement
MCS	Monitoring, Control and Surveillance
MIMRA	Marshall Islands Marine Resources Authority
MMEA	Malaysia Maritime Enforcement Agency
MMO	Marine Management Organization (UK)
MNPII	National Roundtable on Illegal Fishing and Illicit Fishing Activities (Colombia)
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MPF	Malaysia Police Force
MTC	Minimum Terms and Conditions
NAF	North Atlantic Format (information exchange)
NA-FIG	North Atlantic Fisheries Intelligence Group
NAFO	Northwest Atlantic Fisheries Organization
NAP	National Adaptation Plan (Colombia)
NEAFC	North-East Atlantic Fisheries Commission

NFDS	Nordenfjeldske Development Services
NGO	Non-Governmental Organisation
NIM	National Intelligence Model (UK)
NMU	Nelson Mandela University
NOAA	National Oceanic and Atmospheric Administration
NPFC	North Pacific Fisheries Commission
ODA	Overseas Development Agency
OFDC	Overseas Fisheries Development Council
OFTCD	Overseas Fisheries and Transshipment Control Division (Thailand)
OLE	Office of Law Enforcement
PIMPAC	Pacific Islands Managed and Protected Area Community
PIPA	Phoenix Islands Protected Area
PIPO	Port In-Port Out Controlling Centers
PIPSM	Pacific Island Port State Measures Project
PNA	Parties to the Nauru Agreement
PNG	Papua New Guinea
PSE	Processing Statement Endorsement
PSMA	Port State Measures Agreement
RCU	Regional Coordination Unit
RF	Radio Frequency
RFSP	Regional Fisheries Surveillance Plan
RFID	Radio Frequency Identification
RFMO	Regional Fisheries Management Organisation
RIACMs	Regional Investigative and Analytical Case Meetings (INTERPOL)
RPOA-IUU	Regional Plan of Action to Promote Responsible Fishing Practices
SADEC	Southern African Development Community
SAFET	Seafood and Fisheries Emerging Technologies Conference
S-AIS	Satellite-AIS
SATs	Special Arrest Teams (Thailand)
SDG	Sustainable Development Goal
SEAFDEC	Southeast Asian Fisheries Development Centre
SIDS	Small Island Developing States
SIF	Stop Illegal Fishing
SIGMA	Système d'information Géo Maritime
SIOFA	Southern Indian Ocean Fisheries Agreement
SIPI	Spanish Intelligence System
SMS	Short Messaging Service
SPC	The Pacific Community
SPRFMO	South Pacific Regional Fisheries Management Organisation
SWIOFC	South West Indian Ocean Fisheries Commission
T-AIS	Terrestrial - AIS
TMT	Trygg Mat Tracking
TWG-IE	Technical Working Group – Information Exchange
UAV	Unmanned Aerial Vehicle
UK-OT	United Kingdom Overseas Territories
UN-CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNFSA	United Nations Fish Stocks Agreement

UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development
UVI	Unique Vessel Identifier
VIIRS	Visible Infrared Imaging Radiometer Suite
VME	Vulnerable Marine Ecosystems
VMS	Vessel Monitoring System
WATF	West Africa Task Force
WCPFC	Western and Central Pacific Fisheries Commission
WWF	World Wildlife Fund

INTRODUCTION

1. This document is the official record of the Sixth Global Fisheries Enforcement Training Workshop (6th GFETW), which was held in Bangkok, Thailand from 18 to 22 February 2019. The Workshop was organised by the International Monitoring, Control and Surveillance (MCS) Network and Department of Fisheries, Thailand. The 6th GFETW was sponsored by:

- Fisheries and Oceans Canada (DFO);
- United Nations Food and Agricultural Organization (FAO);
- Norway Directorate of Fisheries;
- The Pew Charitable Trusts; and
- The United States National Oceanic and Atmospheric Administration (NOAA).

2. Many individuals and organisations contributed to the success of the 6th GFETW, but most of the planning and organising was carried out by the 6th GFETW Steering Committee. This Committee was composed of International MCS Network member representatives from around the world, including from the Department of Fisheries of Thailand and the International MCS Network Secretariat. A sincere thank you to this dedicated group of individuals for taking the lead and making the 6th GFETW in Thailand a reality.

3. Like previous Workshops, the 6th GFETW was highly successful in bringing together a global community of fisheries MCS professionals to share information and experiences and to receive training on a broad array of MCS topics. The theme of the 6th GFETW was ‘Closing the Net’ through global cooperation between flag, coastal, port and market States for effective enforcement of international and domestic law. The focus of the Workshop was *“Regional and global collective efforts in combatting IUU fishing using effective MCS management tools including enforcement powers to protect the sustainability and cultural and economic viability of all fish stocks.”*

4. The 6th GFETW witnessed cases both where measures to stop IUU fishing were not working and cases where concrete progress in effectively combatting IUU fishing activities had been achieved. Whereas at earlier GFETWs, the global task to combat IUU fishing appeared almost insurmountable, at the 6th GFETW, professionals and MCS practitioners reported real progress in implementing effective measures against IUU fishing through enhanced international cooperation in several regions, especially through increased country adoption of the FAO Port State Measures Agreement. Nonetheless, combatting IUU fishing remains a huge challenge, necessitating sustained enforcement efforts of countries and forward movement of international measures designed to protect fisheries resources and legal fishing activities worldwide.

5. Throughout each session, the 6th GFETW showcased examples of operational level cooperation, where authorities worked together through international partnerships, sponsorships and technical assistance aimed at combatting IUU fishing activities. This catalysed discussion—in plenary, in small groups and on the margins—about enhancing the effectiveness of combatting IUU activities, inter alia, through capacity building and participating in joint operations between countries. In one session, international and regional MCS cooperation was illustrated by multiple presenters who described different contributions to stopping vessels that had been fishing illegally for Patagonian toothfish in the Southern Ocean for many years. In the

framework of INTERPOL, 20 countries in total participated in the actions and investigations that successfully stopped the illegal activities of these vessels and resulted in the identification and prosecution of certain beneficial owners.

6. The 6th GFETW presentations focused on several themes at once, the purpose being to maximize the benefits from information sharing between actors to foster international and regional cooperation, emerging technologies in MCS, and capacity building for better enforcement action. During the course of the workshop, participants presented case studies of methods used to track vessels that do not respond to law enforcement actions, including satellite triangulation to monitor suspicious vessel activity, and compilation of statistical analyses of potential IUU fishing currently occurring globally. MCS professionals and other GFETW participants and stakeholders had the opportunity to learn from each other regarding examples where national and regional efforts were directed to tackle IUU fishing. This multipronged approach makes the framework, goals, and objectives of the GFETW effective and unique.

Workshop Background

7. For decades, IUU fishing has proliferated due primarily to the globalisation of the fishing industry and increased demand for fishery products. In 2001, FAO adopted the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), which defines IUU fishing activities. IUU activities are a primary obstacle to achieving sustainable fisheries and a threat to food security. They directly compromise livelihoods, and they have detrimental effects on the environment. Combatting IUU has become a priority for the international community over the past 20 years, resulting in many initiatives by international organisations, governments, non-governmental organisations, civil society, and others.

8. IUU fishing activities take place both on the high seas and within waters under national jurisdiction, and, due to globalisation in the marketplace, no region or area is immune to these activities or their harmful effects. Since individual States working on their own cannot solve such an extensive problem, combatting IUU activities requires communication, cooperation, and collaboration among national fisheries enforcement authorities.

9. IUU activities involve a spectrum of activities and are not confined to the act of fishing. They include transport, sale, purchase, processing and other steps in the supply and distribution chain. The amount of IUU activity that occurs and the costs attributable to IUU activities are difficult to quantify due to the covert nature of IUU operations, but, in 2009, the value was estimated to be USD10-23.5 billion annually. This estimation is currently under review considering the progress in several areas due to efforts of the international community to combat IUU fishing.

10. The gradual strengthening of the International MCS Network, which is made up of dedicated MCS practitioners who know each other personally, has facilitated some of these international efforts and cooperation, including but not limited to, exchange of information and best practices, mutual technical and logistic support and joint activities. However, despite the progress made over the last 20 years, there is still a long way to go in combatting IUU activities in all parts of the world.

11. The overarching goal of the International MCS Network is to improve the efficiency and effectiveness of fisheries related MCS activities through enhanced cooperation, coordination, information

collection and exchange among competent national organisations and institutions. As an initial step toward realising its goal, the Network convened the 1st GFETW in Kuala Lumpur, Malaysia, in 2005.¹ It brought together operational-level MCS professionals from around the world dedicated to resolving IUU fishing issues and provided them with training on a wide range of MCS topics. Participants discussed the latest developments, the different tools available to assist countries in dealing more efficiently with IUU fishing, and methods for applying these tools through legal systems

12. Due to the success of the first Workshop, the 2nd GFETW was convened in Trondheim, Norway, in 2008 (FAO Fisheries and Aquaculture Report No. 885)² to further the work of the global community of operational MCS professionals and to offer them a global platform for sharing information and exchanging experiences and best practices. The participants learned about the latest, most effective, and innovative tools and methods being used to detect IUU activities and apprehend those who engage in these practices. The outcomes of the 2nd GFETW were recorded in the 2008 Trondheim Declaration, in which participants recognised the serious threat posed by IUU fishing and the need for cooperative MCS. By means of the Declaration, the participants also called for increased training and capacity building and more opportunities for productive international cooperation, as well as encouraging countries to join the International MCS Network and endorsing the continuation of the Network's core services.

13. The 3rd GFETW, convened in Maputo, Mozambique in 2011, expanded on the progress of the first two Workshops by adopting a focus on the special needs of developing countries in successfully implementing MCS programmes. The participants in the 3rd GFETW emphasised the urgent need for expanded cooperation on all levels, given that the transactions investigated often span many jurisdictions around the world. They further recognised the need for increased data sharing and discussed the MCS implementation challenges that small-scale fisheries must confront.

14. The 4th GFETW was held in San José, Costa Rica in 2014 (FAO Fisheries and Aquaculture Report No. 1078)³ and focused on the protection of artisanal and regional fishing communities through the promotion of legal, reported, and regulated fisheries. Many national laws reserve near-shore areas for local fishing communities but developing countries have limited resources to devote to MCS and enforcement to protect small-scale fisheries. At the 4th GFETW, low-cost MCS solutions and information-sharing were identified as key at both small-scale and regional levels, as was establishing trust—trust between fishers and government authorities and trust among various governments. MCS systems that also improve safety at sea can help to incentivise participation and build this critical trust. A good number of presentations offered concrete examples of programs and systems that are working at national and regional scales, inspiring similar cooperative efforts in other communities and regions.

¹ FAO/FishCode. 2007. *Report of the Global Fisheries Enforcement Training Workshop. Kuala Lumpur, Malaysia, 18–22 July 2005*. FAO/FishCode Review No. 18. Rome, FAO. 66 pp. Includes a CD-ROM and a DVD. (also available at www.fao.org/docrep/009/a0962e/a0962e00.htm).

² FAO. 2009. *Report of the Second Global Fisheries Enforcement Training Workshop. Trondheim, Norway, 7–11 August 2008*. FAO Fisheries and Aquaculture Report No. 885. Rome. 70 pp. Includes a CD-ROM. (also available at www.fao.org/docrep/012/i0896e/i0896e00.pdf).

³ FAO. 2015. *Report of the Fourth Global Fisheries Enforcement Training Workshop. San José, Costa Rica, 17–21 July 2014*. FAO Fisheries and Aquaculture Report No. 1078. Rome. 100 pp. (also available at <http://www.fao.org/3/a-i4488e.pdf>).

15. The 5th GFETW was convened in Auckland, New Zealand in 2016⁴ with a theme of “Working together to combat IUU fishing to ensure the sustainability of world fish stocks”. The New Zealand EEZ is the fourth largest in the world and is accountable for maritime responsibilities reaching from the Southern Ocean through to the Pacific. New Zealand’s close relationship with many Pacific Island Nations enabled their robust representation. Collective efforts in combatting IUU fishing in the Pacific region were shared with the international community of 5th GFETW participants.

Workshop Objectives

16. The main objectives of the 6th GFETW were to offer a global platform enabling MCS professionals:
- to become acquainted with their counterparts in other countries and to build trust in personal relationships;
 - to promote the sharing of information and exchange of experiences and best practices;
 - to promote, where possible, initiation of operational cooperation between national fisheries enforcement authorities;
 - to enhance understanding of relevant international instruments, notably those adopted by FAO, and activities of international organisations such as INTERPOL and the Pacific Islands Forum Fisheries Agency; and
 - to learn about both cost-effective, proven MCS technologies as well as new and emerging technologies and strategies to combat IUU fishing activities.

Participation and Agenda

17. The 6th GFETW was convened for five days, allowing sufficient time for sessions to conclude with interactive discussion and question and answer periods. The programme consisted of eleven thematic sessions, one special evening session, and included break-out sessions in addition to a Keynote Address and an opening and a closing session. Breaks were held between each session to allow participants to continue sharing ideas on the topics presented. Group meals and the Networking Day with optional field trips allowed for additional networking opportunities throughout the week. The Workshop programme appears as Appendix 1.

18. The 6th GFETW was attended by 158 participants from 40 countries, including MCS practitioners from 24 State governments, including 22 developing countries. One regional economic integration organisation (the European Union) was represented, and MCS experts of eight regional fisheries management organisations: Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Inter-American Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), Indian Ocean Tuna Commission (IOTC), Northeast Atlantic Fisheries Commission (NEAFC), North Pacific Fisheries Commission (NPFC), South Pacific Regional Fisheries Management Organisation (SPRFMO) and the Western and Central Pacific Fisheries Commission (WCPFC) also participated in the Workshop. Intergovernmental organisations represented at the Workshop included FAO, INTERPOL, the Pacific Islands Forum Fisheries Agency (FFA), the Indian Ocean Commission (IOC), and the Regional Plan of Action to Promote Responsible Fishing Practices including Combatting IUU Fishing in the Southeast Asia Region (RPOA-IUU). At least seven non-governmental organisations were

⁴ FAO Fisheries and Aquaculture Report 1203.

represented by 15 participants, and there were 20 representatives of other affiliations. Over 50 participants contributed presentations or served as facilitators in the main sessions and special sessions. The List of Participants is shown as Appendix 2.

19. Participants in the 6th GFETW were asked to complete an evaluation of the usefulness and applicability of the different sessions within the Workshop to their own organisations and work. They were also requested to identify the most useful individual presentations. A total of 16 evaluations were filled out anonymously and returned to the International MCS Network Secretariat, representing a response rate of about 10%. A copy of the questionnaire appears as Appendix 3.

OPENING SESSION

20. On Monday morning, 18 February 2019, the 6th Global Fisheries Enforcement Training Workshop (6th GFETW) was opened by Mr. Parnpun Worranut, Department of Fisheries, Thailand. Opening addresses were delivered by Mr. Todd Dubois, Vice-Chair, International MCS Network, Ms Kundhavi Kadiresan, Assistant Director-General and FAO's Regional Representative for Asia and the Pacific, and Mr. Niwat Suthemeechaikul, Vice Minister of Agriculture and Cooperatives, Thailand.

21. Mr. Todd Dubois began his address, welcoming the participants to the 6th Global Fisheries Enforcement Training Workshop. After a journey of 14 years through Europe, Africa, Central America and Oceania, the Workshop returned to Asia. He noted that not only has the International MCS Network increased in membership, but the Workshops have also increased in participation. The theme of this Workshop indicated that as MCS practitioners, all stakeholders must 'close the net' together and enhance cooperation, coordination, and information sharing between flag, coastal, port and market States to prevent the perpetuation of IUU fishing activities. The Workshop offered the opportunity to learn from one another, to share ideas and to develop and strengthen relationships.

22. The International MCS Network was established to promote cooperation and exchange of information and ideas, to coordinate capacity building and training activities, and to develop activities in line with the needs of MCS practitioners around the world. The Network links MCS practitioners with other organisations such as FAO, INTERPOL, and many regional entities who are focused on combatting IUU fishing. The Network also promotes exchanges of MCS equipment and expertise among countries, the organisation of the Global Fisheries Enforcement Training Workshops and sponsorship of the Stop IUU Fishing Award.

23. Mr. Dubois offered thanks to the sponsors of the GFETW who provided both financial and in-kind support to the International MCS Network Secretariat staff who made the Workshop possible and for the efforts of the host, the Department of Fisheries, Thailand, who welcomed participants to the 6th GFETW.

24. Assistant Director-General Ms Kundhavi Kadiresan of the FAO Regional Office for Asia and Pacific delivered opening remarks with a focus upon the importance of the 2009 FAO Agreement on Port State Measures (PSMA) in the region and throughout the world. Fisheries provide a vital source of food, employment, recreation, trade and economic well-being for billions of people. It is, therefore, necessary to have in place national and international fisheries policies and management measures which ensure that

fisheries practices are conducted sustainably and that reflect the principles of the Code of Conduct for Responsible Fisheries.

25. The Assistant Director-General stated that one of the main challenges for fisheries management is effectively addressing IUU fishing. Therefore, FAO advocated for ratification of the 2009 FAO PSMA to prevent, deter, and eliminate IUU fishing, as well as complementary instruments to combat IUU fishing. Now is the time to implement PSMA, an important MCS tool for enforcement authorities. However, for MCS measures to be effective, they need to be complementary to a strong legal, policy and institutional framework. FAO has assisted 19 developing coastal States and Small Island Developing States through a capacity development programme to support the implementation of the PSMA and its complementary instruments to combat IUU fishing. This coming year FAO will be providing technical assistance to another 12 countries.

26. In closing, Ms Kadiresan stated that the information and approaches discussed and studied at the GFETW are essential to ensuring that MCS activities are not implemented and conducted in isolation. She encouraged all MCS practitioners to work together through the sharing of experiences, best practices to overcome challenges, and to close the net on IUU fishing activities worldwide.

27. Welcome remarks were next delivered by Mr. Niwat Sutteemeechaikul, Vice Minister of Agriculture and Cooperatives, Thailand on behalf of the host country. He indicated the main purpose of the Workshop was to improve and enhance the capacity in enforcing fisheries legislation at national, regional and global levels, as well as to provide a platform for discussion, exchange of information and experience between MCS practitioners from all over the world.

28. Thailand has declared addressing IUU fishing as a priority on their national agenda with the view to promote responsible and sustainable fisheries. To achieve this goal, Thailand combats IUU fishing through a legal framework, fisheries resources management, fleet management, MCS, traceability and law enforcement. In recognition of the success of these efforts, the EU formally announced the lifting of their “Yellow Card” for Thailand as of 08 January 2019. Thailand is pleased to share their experiences in preventing, deterring, and eliminating IUU fishing to promote sustainable fisheries management at the national, regional, and international levels.

29. The Vice Minister thanked the International MCS Network for considering Thailand as the host country and venue for the 6th GFETW. On behalf of Thailand, the 6th GFETW was declared officially open.

30. The group photo session followed, and a copy of the photograph appears as Appendix 4.

KEYNOTE ADDRESS: THE ROLE OF MCS IN THE IMPLEMENTATION OF RESPONSIBLE FISHERIES MANAGEMENT

31. The keynote address was delivered by Dr Matthew Camilleri, Head Fishing Operations and Technology Branch, Fisheries and Aquaculture Department of the FAO. He commenced his remarks by stating that the world’s population is projected to increase exponentially from a recorded 7.6 billion people

in 2017 to 8.6 billion in 2030, to 9.8 billion in 2050 and finally 11.2 billion people in 2100. The number of undernourished people has been increasing as well; reaching an estimated 821 million in 2017. Global fish utilisation and consumption has increased with population; fish protein provides a major contribution to the dietary needs of the global population. World capture fisheries have remained steady while agriculture fisheries have increased.

32. The value of food lost or wasted at a global level is estimated to be USD 1 trillion. Fish and seafood losses account for 35 percent; 8 percent of fish caught globally is thrown back into the sea. In most cases, the fish are dead, dying or severely damaged. This is equivalent to almost 3 billion Atlantic salmon. The 10.5 million tonnes of discards annually consist of 4.6 million tonnes from bottom trawl fishing, 0.36 million tonnes from longlines, 1.3 million tonnes from purse seine, 0.9 million tonnes from gillnets and 1 million tonnes from midwater trawl fishing. Moreover, the trend for marine fish stocks is increased overfishing.

33. Sound fisheries management guarantees the long-term conservation and sustainable use of fisheries resources while maintaining their quality, diversity, and availability for present and future generations. This is achieved through: (1) actions by States, individually, in consultation with national stakeholders, (2) bilateral/multilateral cooperation among States, (3) efforts of RFMOs and (4) contributions from relevant governmental and non-governmental organisations. General considerations for fisheries management are resource characteristics, biodiversity and ecological concerns, environmental constraints, fleet capacity and technological considerations, timescales, socio-economic dimensions, institutional set-up and coordination, and stakeholder participation.

34. Discussion ensued of the fisheries management process. Steps include the formulation of fisheries policy and legislative framework; formulation of management plans; adoption of fisheries regulations; monitoring, control, and surveillance; and implementation and enforcement. All steps consider the objectives and considerations from data collection, research and analyses of fish stocks, ecology, environment, catch, effort, fishing operations, trade, processing, and socioeconomics.

35. Combatting IUU fishing necessitates strong political will and concerted action, including through RFMOs, by flag States, port States, coastal States, and market States. Also required are the capacity and resources needed to detect IUU fishing, enforce regulations through MCS, and to act and prosecute violations. There are many international fisheries instruments and tools to combat IUU fishing, among which are the IPOA-IUU (2001), PSMA (2009) and the Global Record VG-CDS (2017).

36. Dr Camilleri provided an overview of the PSMA requirements and operations. For the PSMA and complementary instruments to be effective, States need to move ahead with developing implementation strategies, supported by sound policy, legal and institutional frameworks, as well as operational mechanisms sustained by sufficient human and financial resources.

37. In conclusion, Dr Camilleri posed the question of what is required to secure adequate supplies of fish for present and future generations, and where is MCS essential? National, regional, and global mechanisms and governance frameworks need to be strengthened to effectively implement fisheries management plans based upon the best scientific advice. Discards and postharvest losses need to be reduced through technological innovations. Actions need to be stepped up to combat IUU fishing. Developing

countries' national capacity needs to be strengthened to sustainably, develop, manage, regulate and monitor their fisheries, and improve market access. Adaptation strategies need to be developed to deal with the impact of climate change on fisheries and, finally, pollution and other anthropogenic impacts, including destructive fishing practices on marine ecosystems, need to be reduced.

38. The following plenary session, facilitated by Dr Chumnarn Pongsri, Senior Advisor on Fisheries Foreign Affairs, Department of Fisheries, Thailand, focused on international and regional MCS cooperation. The six presentations were designed to present the challenges and pitfalls facing each player in combatting IUU activities.

SESSION 1: INTERNATIONAL AND REGIONAL COOPERATION: THE ACTORS

Challenges for a Processing State in Combatting IUU Fishing: Dr Adisorn Promthep, Director General, Department of Fisheries, Thailand.

A Market State Perspective: the EU Role in the Fight Against IUU Fishing - State of Play after Nine Years of Application of the EU Regulation: Mr. Roberto Cesari, EU DG MARE Head of Unit for Bilateral Fisheries Agreement, EC.

Eradicating IUU Fishing: The Role of the State over their Nationals: Lessons Learned from the Spanish Operations Against IUU Fishing: Ms Monica Corrales, Deputy General Director of Legal Affairs, Ministry of Agriculture, Fisheries and Food, General Secretary of Fisheries, Spain.

Moroccan Strategy in MCS: What Impact on IUU Fishing? (EN); Stratégie marocaine en matière de suivi, contrôle et surveillance, quel impact sur la pêche INN?: Ms. Fatima Rahamani, Inspector and Auditor of Fisheries Activities, Department of Fisheries, Morocco.

Canadian Efforts to Combat IUU Activity: Mr. Brent Napier, Chief, Enforcement Programs, and Mr. Sean Wheeler, Senior Program Officer, Pacific, DFO.

Korea's Effort to Promote Sustainable Distant Water Fisheries: Mr. Yu Seek, Inspector and Ms. Kim Suyeon, Policy Advisor, Fisheries Monitoring Center, Ministry of Oceans, Republic of Korea.

39. The first plenary session was held on the first day of the 6th GFETW. The facilitator was Dr. Chumnarn Pongsri, Senior Advisor on Fisheries Foreign Affairs, Department of Fisheries, Thailand. Session 1 consisted of two sections, before and after lunch.

Challenges for processing States in combatting IUU

40. The first presentation in the first session was delivered by Dr Adisorn Promthep, Director General of the Department of Fisheries of Thailand. Dr Promthep provided a broad overview of Thailand's challenges as a processing State in combatting IUU.

41. The EU's policies emphasise traceability and import control. One major challenge is maintaining the competitive advantage of the fishing industry while still conducting thorough inspections and processing controls.

42. For import control, the shipping agent requests a permit to land; there is an inspection at the port; next, a permit to unload is provided. The unloading of the vessel moves to the processing control. The fish are sorted by type and weighed; next is processing, and a processing statement is issued. Then the products are exported.

43. Currently, at import control, the shipping agent submits an Advance Request for Entry into Port (AREP) and additional documents are provided through an electronic system. An AIS tracking analysis is utilised to cross-check with the information on the AREP. In suspicious cases, documents are verified with VMS tracking history and verified with flag States, coastal States and relevant agencies or organizations such as the FFA or IOTC. A fishing vessel without fish on board must comply with PSM procedures. There is also information-sharing for port entry authorization between agencies (Department of Fisheries, Marine Department and Customs).

44. By combatting IUU, a processing State will achieve a competitive edge through PSM for their products.

A Market State Perspective: the EU Role in the Fight Against IUU - Fishing State of Play after Nine Years of Application of the EU Regulation

45. The second presentation was delivered by Mr. Roberto Cesari, of the IUU Fisheries Policy Unit (EU DG MARE) at the EC. His presentation focused on the fight against IUU as a global challenge and the role of the EU.

46. The EU was prompted to combat IUU fishing to maintain a level playing field between EU-produced fish and imported fish. It also wanted to ensure the traceability of all fishery products traded in the EU in the whole supply chain.

47. The fight against IUU fishing is one of the key actions of the Joint Communication on 'International Ocean Governance: An Agenda for the Future of our Oceans', the EU reply to the UN 2030 Agenda for

Sustainable Development Goal 14. Goal 14 is to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

48. The EU IUU policy is mainly rooted in EU's market State responsibilities. The EU IUU Regulation does not impose any new obligations to non-EU States. The implementation of the IUU Regulation towards third countries is based on the existing commitments for flag, coastal, market, and port States deriving from international texts. The IUU Regulation is a non-discriminatory instrument applying to all non-EU countries intending to export fishery products to the EU. It also provides for a series of provisions applicable to the Member States (e.g. treatment of nationals and sanctions) that align the EU with its international obligations.

49. The catch certification scheme is the primary operational tool provided by the EU IUU Regulation to ensure that fishery products that arrive in the EU market are not derived from IUU activities. The scheme is based upon the assumption that it is the responsibility of the flag State to certify that the catches obtained by the vessels flying its flag have been obtained in compliance with applicable rules at both the international and national levels. The catch certificate must accompany all fishery products imported into the EU. A new version of the catch certificate is to be launched this year with a real-time EU database for reference.

50. The EU has bilateral cooperation with more than 50 non-EU countries. The EU assesses all aspects of fisheries governance (administrative and legal frameworks, traceability systems, management of fleet) that derive from international obligations. Outcomes of bilateral cooperation with non-EU countries are improved governance, strengthened MCS, and improved traceability throughout the supply chain.

51. One recent action that has been taken regarding non-EU countries has been the lifting of the “Yellow Card” issued by the EU to Thailand (21 April 2015 –8 January 2019). Within the last three and a half years, the EU and Thai authorities have engaged in a very fruitful process of cooperation. The result is a reinforcement of the legal and policy systems which control the Thai fleet (strengthening of MCS systems (VMS, logbook, inspections at sea, inspections at port, etc.) and also the foreign fishing vessels that land their products in Thailand to supply the Thai processing industry. Thailand has been a vital partner for the EU given the essential role played by the country for the sustainability of marine resources in the Pacific and the Indian Ocean, not only for the activity of the Thai fleet but also for the central role in the international supply chain due to the well-developed Thai processing industry.

52. In conclusion, tools for the challenges in the fight against IUU fishing are full implementation of the 2001 FAO IPOA, the FAO PSMA, global catch certificates, IMO numbers, increased exchange of information, and improved traceability.

53. After the lunch break Session 1 continued.

Eradicating IUU Fishing: the Role of the State over their Nationals: Lessons Learned from the Spanish Operations Against IUU Fishing

54. This presentation was delivered by Ms Monica Corrales, Deputy General Director of Legal Affairs for the Ministry of Agriculture, Fisheries and Food, at the General Secretary of Fisheries, Spain. Her presentation focused on the role of the State in controlling and sanctioning nationals involved in IUU fishing and how this was responsible for the success of Spanish operations against IUU fishing. An integrated and holistic response is essential to face the IUU challenge; all key players should be involved.

55. The legal framework consists of international, EU and Spanish components. Regional Management Article 78 of the United Nations Sustainable Fisheries Resolution of 2018 urges States to effectively exercise

jurisdiction and control over their nationals to deter them from engaging in IUU fishing activities. The FAO IPOA-IUU 2001 Article 18 states that all States should strengthen cooperation to identify those nationals who are operators or beneficial owners of vessels involved in IUU fishing. RFMOs maintain IUU vessel lists and are developing policies for identification of nationals. The EU legally binding framework includes regulations on CFP and community control systems for ensuring compliance and implementation to prevent, deter and eliminate IUU fishing. In December 2014, the Spanish regulation 33/2014 on fisheries was approved. The scope of the new law has measures to efficiently dissuade Spanish nationals from engaging in IUU activities and strengthens the enforcement system. Key tools of the Spanish regulation are previous actions, sanctions up to 600,000 Euros, a point system for serious infringements and a national register of infringements.

56. The Spanish experience has had several cases of success; they are the YUYUS Operation (criminal proceedings) and the Sparrow Operation (administrative sanctions). The Spanish Civil Guard launched the YUYUS Operation to investigate the commission of crimes against wildlife, money laundering and criminal organisations. The Sparrow Operation launched administrative sanctions to the following vessels: *Songhua, Yongding, Kunlun, Tiantai, Viking, Seabull 22, Thunder* and *Tchaw*. Spain shut down three international entrepreneurial networks with headquarters in Spain. The networks received administrative sanctions for the management and operation of IUU vessels between 2013 and 2018.

57. In the Sparrow Operations, the links to the entrepreneurial networks were proven through insurance (processing and management, beneficiaries and inspection), repairs and supplies (who is ordering them and who ultimately pays for them, crew (recruitment and wage payment), documentation of the front companies (inspections and sent by other states), and vessel documentation (certificates and licenses, processing before foreign authorities).

58. The keys for success in the Spanish experience were mutual assistance from third countries (Australia, New Zealand, Malaysia, Belize), international cooperation (RFMOs, INTERPOL, NGO's) and from the EU (member states and EC). The IUU intelligence task force and legal team investigated cases according to internal alerts or risk analysis, analysed data, cross-checked information and inspections of non-EU country vessels in Spanish ports.

59. In summation, Spain, as a member of the EU is strongly committed to fighting against IUU. Its experience is based upon stronger sanctions, robust control and inspection systems and international cooperation.

Moroccan Strategy in MCS: What Impact on IUU Fishing? (EN); Strategie marocaine en matiere de suivi, controle et surveillance, quel impact sur la peche INN?

60. The presentation from Ms Fatima Rahamani, fishery policy auditor and evaluator from the Department of Fisheries, Morocco discussed the fisheries sector and its socio-economic benefits for Morocco. Facts included the 3,500-km coastline, the contribution of 2.5 percent to the national GDP, and Morocco as a top fish producer in Africa, producing 1,368,000 tonnes of fish in 2017. The total exportations of fishery products were 8.5 percent, and agri-food exports fishery products equalled 44 percent of exports.

61. *Haleutis* is a business streamlining project taking place in Morocco, which contributes to the improvement of crucial fishing industry activities.

62. Morocco has tackled IUU fishing by strengthening the legal framework. For example, national Law 15-12 has been strengthened, which determines rules for foreign fishing vessels to land and/or transship

products. It also sets measures to ensure that fish products marketed in Morocco do not originate from IUU fishing. Morocco's legislation also integrates several provisions of the 2009 PSMA among having a typology of offences. The strengthening of the institutional framework is supported by Law 28-07 on the safety of food products. This law sets forth the sanitation level, health visits, issuance, suspension, withdrawal and updating of authorizations and approvals, and the program of institutional health visits, including fishing vessels. Law 14-08 on fish trade also sets the conditions under which trading activity is organised and determining the criteria that merchants must meet to perform the activity.

63. The institutional framework is composed of control and inspection operations and the General Inspectorate of the Department of Maritime Fisheries. Strengthening national fishing regulations includes monitoring of control and inspection operations, coordination and monitoring of IUU fishing, and having a national centre for fishing vessel surveillance. Also, auditing the *Haleutis* strategy projects is recommended for continued growth of fisheries law enforcement.

64. When it comes to the establishment of procedures, means and technical tools, there needs to be a national control plan, coordination of resources dedicated to fishing, prioritization and the definition of the objectives to be achieved in inspection and control, and follow through with the execution of objectives. Follow through comes in the form of inspection and control procedures, definition of execution means the methods of monitoring (indicators, reporting) for assessments, consequent evaluations, and improvement.

65. Ideal models of catch certification procedures are programs such as the NOAA Seafood Import Monitoring Program, the EU Regulation 4486 CC Verification Program, and the ICCAT Recommendation 15-10 to document bluefin tuna harvest.

66. Projects for the identification of national small-scale fishing boats by radio frequency identification (RFID) offer better control over the fishing sector. It aids with safety of personnel, real-time monitoring of fishing resources, and lastly, it provides reliable scientific data on fishing. VMS tags utilized in Morocco are the best way to implement this type of surveillance.

67. In Morocco, the impact of monitoring and control in VMS and RFID are that developed fishing areas are more respected (no-go areas, biological rest). Catch certification has been beneficial to international compliance and ability to implement management measures for sustainable fisheries. The National Control Plan in Morocco, though implementation started only in 2017, will reduce the informal catches.

68. In conclusion, there are lessons to be learned from the Moroccan experience. Adopting the IUU law regulation of port state measures before the ratification of the PSMA strengthened legal and procedural systems. The catch certification process has been digitized, enabling effective catch verification; new VMS-ERS software has been acquired. There is state support for the installation of VMS aboard fishing vessels and RFID. A national control plan (with methodologies, means, values, targets, indicators, reporting) has been established. The *Haleutis* strategy provided control for optimizing the fishing industry activities.

Canadian Efforts to Combat IUU Activity

69. Mr. Brent Napier, Enforcement Programs Chief and Mr. Sean Wheeler, Senior Program Officer Pacific, for the Canadian Department of Fisheries and Oceans (DFO), presented, ‘Canadian Efforts to Combat IUU Activity.’

70. Canada has a long history of conducting fisheries enforcement activities targeted to combat IUU activity by working collaboratively through international organisations to coordinate MCS activities. In the North Atlantic, program elements include aerial surveillance of 600 dedicated hours/year, patrol vessels, at-sea inspections, EM by VMS, satellite, data analysis, and intelligence gathering.

71. On Canada’s Pacific coast, aerial surveillance patrols have been conducted since 1991 in response to the United Nations General Assembly Resolution 46/215 prohibiting large scale drift netting on the high seas. As a fundamental part of the Canadian contribution to multinational efforts to combat this activity, Canada undertakes Operation Driftnet in identified high threat areas in the Pacific to detect and deter IUU fishing.

72. Canada works closely with other responsible fishing nations to coordinate assets. On the Pacific, these are Operation High Seas Driftnet (US, Japan) and counter IUU missions. On the Atlantic, these are NAFO for joint patrols and inspector workshops (US and EU inspectors). In the North, these are Canada-Greenland enforcement collaborations. Patrols also covered the high seas and areas in the South Pacific of Fiji, Tuvalu, Kiribati, and Tokelau.

73. The collaborative efforts include US surface patrols with high seas boarding and inspections and shipriders supported by CP-140 (Aurora) aerial support and multinational and integrated presence which targeted high seas enforcement and national waters of small island states. These should ideally be intelligence-led endeavours for high effectiveness.

74. Canada’s National Fisheries Intelligence Service (NFIS) engages with the international law enforcement community to contribute to, and benefit from, enhanced global intelligence sharing. Canada gathers covert and public sources of information including satellite data, historical sighting information, industry information, market information, and analyses data gathered from apprehended driftnet vessels. Canada maintains engagement with the Organization of Economic Cooperation and Development (OECD) Tax Crimes Working Group and the United Nations Office on Drugs and Crime (UNODC) Fish Crime Conferences. Canada is hosting the next North Atlantic Fisheries Intelligence Group (NA-FIG) in March 2019.

75. NFIS has contributed to three INTERPOL investigations between 2013 through 2018. They are Operations Stingray (IUU fishing West Africa), Spindrift (Illegal Abalone harvest and trade), and Spillway (IUU vessels fishing in the CCAMLR Region). Currently, NFIS is reviewing opportunities, including supporting efforts to increase transparency, to support the development of UAV technology and systems that can detect dark targets.

76. Canada has committed CAD 11.6 million to combat IUU fishing with CAD 1.6 million allocated to intelligence initiatives. CAD 10 million is directed to technology investments such as space-based and remote sensing.

Korea's Effort to Promote Sustainable Distant Water Fisheries

77. Mr. Yu Seek, Inspector and Ms Kim Suyeon, Policy Advisor at Fisheries Monitoring Centre, Ministry of Oceans, Republic of Korea presented, "Korea's Effort to Promote Sustainable Distant Water Fisheries."

78. Korea's first distant water fishing voyage was conducted by the fishing vessel *Jinam* in 1957; now there are 220 Korean-flagged distant fishing water vessels. The key fishery gear types are purse seine, longline, trawl, potting, and jigging. Catch from overseas equates to 21 percent of Korea's entire fish exports.

79. The distant water fishing policy is a four-pillared structure comprised of a legal framework, MCS, international cooperation, and engagement with industry players. The legal framework includes a development act, which controls fines and keeps in line with UNFSA, National Plan of Inspection on High-Risk Vessels, CDS (effective from June 2017), increased port control and catch verification, and a Vessel Decommissioning Plan.

80. MCS in Korea includes 24/7 full-time coverage and information sharing at the Fishing Monitoring Centre (FMC). Monitoring Tools include FMS (VMS +ERS combined), KFIMS Satellite, AIS Service and piloting EM. For catch monitoring, Korea employs comprehensive data management on fishing activities and transshipment authorisation and landing control.

81. International cooperation for the Ministry of Oceans and Fisheries includes an annual international conference for sustainable fisheries, a Korea-EU Joint Statement to fight IUU fishing (signed in October, 2018), an ODA project in West Africa, and cooperation with coastal States and NGOs (MOU, Hotline.). Korea also has a commitment through RFMOs.

82. To engage with the fishing industry, the Korean government has mandatory education for fishing personnel, policy promotion including systems demonstration and outreach in town hall-style meetings.

83. Korea envisions itself continuing to be a responsible flag, port, and market State. Engaging internationally remains an objective as does comprehensive IUU deterrent policies.

SESSION 2: International and Regional Cooperation: The Facilitators

Mutual Concern and Commitment to Combat IUU Fishing in the Region: Mr. Sahono Budianto, RPOA-IUU Secretariat Member, Head of Cooperation and Public Relations, Ministry of Marine Affairs and Fisheries, Indonesia.

Establishment of Sub-Regional Cooperation on Monitoring, Control and Surveillance in Fisheries in the Southeast Asia Region: Dr Worawit Wanchana, Policy and Program Coordinator, SEAFDEC.

FFA Regional MCS Strategy: Mr. Vivian Fernandes, Compliance Policy Adviser, FFA.

Galapagos Case Study: Regional Cooperation Built Through Peer-to-Peer Exchanges: Ms Meaghan Brosnan, Marine Program Director, WildAid.

SWIOFish1 – StaRFISH: Mr. Daroomalingum Mauree, consultant, IOC/SWIOFC/WB Secretariats.

FISH-i Africa: Lessons Learned in Regional Cooperation: Mr. Per Erik Bergh, Program Coordinator/ Executive Committee Member, Stop Illegal Fishing; CEO Nordenfjeldske Development Services - Managing Director NFDS Africa.

Discussion, comments, questions & answers

Mutual Concern and Commitment to Combat IUU Fishing in the Region

84. Mr. Budiarto, RPOA-IUU Secretariat Member, Head of Cooperation and Public Relations, at the Ministry of Marine Affairs and Fisheries, Indonesia presented on the Regional Plan of Action to Promote Responsibly Fishing Practices (RPOA-IUU).

85. The plan was agreed upon on 4 May 2007, in Bali-Indonesia. The RPOA-IUU consisted of 11 Participating Countries (Australia, Brunei Darussalam, Cambodia, Indonesia, Malaysia, Papua New Guinea, Philippines, Singapura, Thailand, Timor Leste and Vietnam). The goal of the RPOA-IUU was to maintain the marine environment and fisheries resources and to optimise the benefit of responsible fishing practices. The focus areas were the sub-regional Gulf of Thailand (Thailand, Cambodia, Malaysia, Viet Nam); sub-regional Southern and Eastern of South China Seas, Sulu-Sulawesi Seas (Malaysia, Indonesia, Brunei Darussalam, Philippines), and sub-regional Arafura-Timor Seas (Australia, Indonesia, PNG, and Timor Leste).

86. Structurally, the RPOA-IUU is led by Ministers, a Coordination Committee that collaborates with working groups, a Secretariat, and an ad hoc working group. The Coordination Committee is a high-level decision-making body providing strategic advice and direction to RPOA-IUU member countries. The ad

hoc working group is an information gathering hub for RPOA-IUU. It reports to the Coordinating Committee on the state of fishery resources in the region and related matters relevant to conservation such as technical and scientific questions concerning the implementation of RPOA-IUU. The Secretariat is mostly an administrative role and public interface.

87. RPOA-IUU is a voluntary instrument and takes its core principles from existing international fisheries instruments to promote responsible fishing practices. Its objective is to enhance and strengthen the overall level of management in the region. The core elements are listed as follows: resource management, implementation of international and regional instruments, engaging regional and multilateral organisations, ensuring flag State responsibilities, port State measures, local market measures, strengthening MCS, transshipment at sea, local capacity building, coastal State responsibilities, and implementation.

88. Current resource management activities utilise a Human Capacity Development approach to strengthen marine capture fisheries management at regional, national and provincial levels. Implementation of international and regional instruments, follow-up actions on the assessment impacts of IUU fishing and the EU IUU Regulation to deter and eliminate IUU fishing. MCS strengthening activities are conducted such as developing a matrix of national, sub-regional and regional MCS issues to guide the work of the networks, facilitating regular and sub-regional MCS meetings, and monitoring the progress of work priorities and plans.

Establishment of Sub-Regional Cooperation on Monitoring, Control and Surveillance in Fisheries in the Southeast Asia Region

89. Dr. Worawit Wanchana, of the Southeast Asian Fisheries Development Centre (SEAFDEC) presented on SEAFDEC, an autonomous inter-governmental body established as a regional treaty organisation on 28 December 1967. The vision of the organisation is the sustainable management and development of fisheries and aquaculture to contribute to food security, poverty alleviation and the livelihoods of people in Southeast Asia. SEAFDEC is comprised of six departments covering marine fishing and aquaculture, resource development and research.

90. Bilateral, sub-regional, and regional coordination are the cornerstone of SEAFDEC's work, and their goal is an established sub-regional MCS network. Sub-regional agreements cannot be legally binding in and of themselves but must be built on trust and recognition of the fact that there are mutual benefits. Thus, SEAFDEC's work centres around building common understanding and cooperation.

91. In the Southeast Asian region, IUU fishing takes the form of unlicensed fishing, unauthorized transshipment/landing of catch across borders, poaching in other country's EEZs, illegal fishing and trading practices of live reef food fish, reef-based ornamental and endangered aquatic species, and IUU fishing in high seas and RFMO areas.

92. Initiatives addressing IUU fishing are built around improving fishery law, MCS-related bilateral dialogues and RPOA capacity. The ASEAN guidelines for preventing the entry of IUU fishery products are the starting point for SEAFDEC's work.

93. The most important SEAFDEC initiative is the MCS Network in Gulf of Thailand and Andaman Sea, which connects the (1) North Andaman MCS Network, the (2) Gulf of Thailand MCS Network, and the (3) Southern Anadaman MCS Network. The process of creating this network involved three steps, identifying priorities on cooperation with neighbouring countries, holding sub-regional meetings to compare national priorities, and finally creating a framework in which to meet regularly. This network implements the UNCLOS and UNFSA.

94. An MCS working group is to be linked with the existing national networks starting in mid-2019.

95. Challenges that are the main concern of countries in the sub-regional network are overfishing, degraded coastal and marine environment, increasing demand for land and coastal areas, and negative impacts of climate change. Sustainability remains at the forefront of all SEAFDEC's work.

FFA Regional MCS Strategy

96. Mr. Vivian Fernandes, Compliance Policy Adviser of the Pacific Islands Forum Fisheries Agency (FFA) explained that the FFA's mission is to strengthen national capacity and regional solidarity for sustainable tuna fisheries.

97. The FFA was established in 1979, with 15 Pacific Island members plus Australia and New Zealand. Its purpose is related to fisheries management, development and MCS. Member country interests mostly lead the measures and activities of the FFA Secretariat. The FFA hopes to strengthen compliance and enforcement throughout the regional FFA MCS framework to reduce IUU fishing impacting the tuna fishery. The vision they hold is one of social and economic development through sustainable management of offshore fishery resources.

98. The FFA Regional MCS Strategy (RMCSS) includes goals and objectives tied to electronic licensing, regional strategy building, and information exchange. The RMCSS hopes to achieve greater compliance through engaging governments to respond in a timely and effective manner to all potential non-compliance activity.

Galapagos Case Study: Regional Cooperation Built Through Peer-to-Peer Exchanges

99. Ms. Meaghan Brosnan presented the WildAid Marine Peer-to-Peer Exchange Program, which aims to build effective fisheries enforcement systems. The Marine Protection Program has a four-part model comprised of bringing together the right people, at the right place, at the right time, with the right systems. What this looks like is peer-led interaction, site visits, an agenda with unstructured time, and facilitation by WildAid of follow-up opportunities. The model allows for inter-agency collaboration and direct and indirect knowledge-sharing sessions. The site visits offer a unique chance for professionals to gain a deeper understanding of the issues at play in fisheries enforcement systems. Very importantly, the unstructured time allows individuals to form secure connections so that this work can remain strong into the future.

SWIOFish1 - StaRFISH

100. The member states of the Indian Ocean Commission (IOC), as well as Kenya and Tanzania, are already exchanging information on entry/exit reports, lists of licenced vessels and observer data that concern scientific observation in EEZs. Participating States requested that the IOC finance the development of the StaRFISH software to simplify the management of MCS data and to rapidly identify inconsistencies that may be linked to illegal activities. It was also needed for the harmonisation of information between the countries.

101. With StaRFISH, the region will have an entry/exit database for the entire zone of cooperation. It will be easily accessible, harmonised, and verifiable with VMS reporting. “Système d'information Géo Maritime (SIGMA),” regional VMS and the web database StaRFISH are now connected.

102. Barring constraints on Wi-Fi, this database will allow for the rapid sharing of information, cumulative enrichment of information, centralised information, and enhanced risk assessment capabilities. This program concerns all fishing vessels except domestic vessels whose activities occur solely in the EEZ of their flag state. Information to be shared includes EEZ entry and exit reports, innocent passage into EEZ, inspection reports at sea and in port, sighting information, vessel registry, registration number and contact information.

103. Mr. Mauree described the computer server architecture as well as the HTTPS Protocol. The server is at the headquarters of the IOC, Mauritius. Applicable users include the national FMC, the managers of observer's programs, and the Regional Fisheries Surveillance Plan (RFSP) who govern the system with the technical unit and the Regional Coordination Unit. The system employs the use of access restrictions to personnel who are authorised to use the data.

104. Data is highly confidential and may only be used in connection with the management of fisheries MCS, and responsibility falls on each State that uses it to protect the disclosure of the data.

FISH-i Africa: Lessons Learnt in Regional Cooperation?

105. Mr. Per Erik Bergh, Executive Committee Member of Stop Illegal Fishing presented on FISH-i Africa, the operational task force of eight coastal States in the Western Indian Ocean (WIO) including Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia and Tanzania. FISH-i was built on a concept that recognises the need for low cost, sustainable and smarter MCS solutions.

106. Illegal fishing and fisheries crimes are difficult to see, detect and pursue. Therefore, it is crucial to have information gathering and sharing through a real-time mechanism for all. The FISH-i model supports enforcement officers.

107. The FISH-i Africa Task Force is an information-sharing platform that has many enforcement tools, provides technical support and research, and that structurally includes peer pressure among member countries to act. This is an important tool to promote transparency and combat corruption in the fisheries sector.

108. Regional cooperation is the solution, but it is also complex, and the member countries of FiA is no exception. While the eight countries have a common interest in the shared tuna stocks in the region, there are significant differences in development level and Human Development Indexes. These collaborations require a shared vision of the future of MCS.

109. Vessel identity fraud represents a major problem; document and ID forgery are large problems. RFMOs can help reduce fraud, and they often do, but they rely heavily on information provided by the flag States. Poor marking and identification results in little oversight, and responsibility is not always obvious. Flag State authorities are often far away from the operations of flagged fishing vessels and communication is almost impossible due to language barriers and difficulties in knowing who to contact. Regulations are not enforced, leading to a chaotic environment. Even when illegalities are visible, action is not always possible, an example being the legal issues related to the high seas.

110. Human trafficking, illegal by-catch, and drug smuggling pose challenges to enforcement officers too. It is expected that between 22 and 40 tonnes of drugs arrive in East Africa each year. Most are on their way to other markets, but the trade is turning small-scale fishers into heroin addicts – a sad social development carrying other risks related to security and social issues as well.

111. In the next decade, China and Taiwan will need to be a focus of MCS initiatives. Right now, examples from FISH-i and the West Africa Task Force (WATF) indicate gross negligence by the flag State and unacceptable levels of non-compliance. Corruption is rife and illegal operators will always target the weakest links, such as flags of convenience and ports of non-compliance.

112. The FiA model could work anywhere where there is a shared vision amongst a regional group to deal with illegal fishing. The big vision would be to bridge a network of such groups to facilitate information exchange and communication between flag, coastal, port and market States. This would be a serious tool in the fight against IUU fishing and fisheries crimes.

Discussion, Comments, Questions & Answers

113. The first comment made in the second session concerned sharing of data between Fish-i Africa member countries, suggesting that an agreement with the Indian Ocean Commission might help facilitate information sharing.

114. Other participants reflected upon other regional and cooperative efforts similar to those presented by the panellists, including a global initiative temporarily called Sea Scout, which was working on identifying pilot projects and partners to collaborate internationally to improve fisheries enforcement. A participant from Thailand described sharing experiences with neighbouring countries about preparing for PSMA implementation and establishing marine fisheries policies.

115. A two-part question about sharing data was asked, specifically, does SEAFDEC share information with the FFA, and does INTERPOL share information about vessels and people of interest with the Pacific transnational crime units? For SEAFDEC, the answer was “no,” because SEAFDEC is a commitment between the ASEAN Member States. However, ASEAN Member States are currently discussing requests

by some countries to share with the RPOA-IUU Secretariat, which would extend to four non-ASEAN member countries. For INTERPOL, whether it shares information depends on the instructions of member countries who provide the information. Those countries specify the purpose of the information and with whom the information should be shared. If INTERPOL determines that the information would affect other jurisdictions, it may contact the country who provided it and request to share with relevant third countries.

Session 3: EMERGING TECHNOLOGIES IN MCS

Conclusions from the SAFET Conference 2019 and Overview: Mr. Bubba Cook, Program Manager, Smart Fishing Initiative (SFI) at the World Wide Fund for Nature (WWF – SFI).

Applications of Data Analysis and Visualization Environment (DAVE) to Predict and Interdict IUU Fishing Activity: Dr. Richard W. Miller and Dr. Van Romero, Institute for Complex Additive Systems Analysis (ICASA) of the New Mexico Institute of Mining and Technology.

Complex Additive Systems Analysis – Use of VIIRS Boat Detection Data in Detecting Illegal Commercial Fishing in Restricted Municipal Waters in the Philippines: Dr. Chris D. Elvidge, Earth Observation Group, Payne Institute for Public Safety, Colorado School of Mines.

Machine-Learning of VMS Data: Mr. Bundit Kullavniyaya, Head of Vessel Monitoring System workgroup, DoF, Thailand; Environmental Science Faculty at Burapha University and Ms. Natalie Tellwright, Senior Fisheries Analyst, OceanMind.

Effective Tools and Techniques for PSMA: Mr. Bradley Soule, Chief Fisheries Analyst, OceanMind.

Discussion, Comments, Questions & Answers

116. The third session was facilitated by Bubba Cook, the Western and Central Pacific Tuna Programme Manager of the Smart Fishing Initiative (SFI) at the World Wide Fund for Nature. The session focused on emerging MCS technologies, tools, and methodologies that show potential for wider implementation for combatting IUU fishing.

Conclusions from the SAFET Conference 2019 and Overview

117. The session facilitator also served as the first speaker. Mr. Bubba Cook presented on the conclusions of the Seafood and Fisheries Emerging Technologies (SAFET) Conference. The 2019 theme of the SAFET conference was ‘Illuminating the Supply Chain’.

118. The topics covered by the SAFET conference consisted of Catch Documentation and Traceability; Unmanned Surveillance; Genetics; Biochemical Markers; and Spectrometry; EM; AI and Machine Learning; Integrated Satellite Imaging & Tracking; Cryptocurrencies and Blockchain and Data Management Solutions. The Conference set up was a mix of plenary sessions and small Workshops on specific topics.

119. A range of discussion themes was identified at the SAFET conference. There is a need for a comprehensive approach, the use of conventions and incentives to promote participation. One take away was that data should be comprised in catch documentation schemes together with tracking and other verification data to have sustainable exploitation of living marine resources. It is necessary to illuminate the whole chain from the net to the plate of the consumer with data.

120. Collaboration and thoughtful systems planning were another point of emphasis for a solution to legally and sustainably caught fish being competitive in markets with products originating from IUU fishing activities. Traceability is generally under-resourced, and costs are a major barrier. Legal requirements and regulatory impediments do not always facilitate traceability. Critical elements to achieve success are collaboration, integration and the human factor. Also, vision, motivation and political will together with the availability of enough resources are crucial factors. Building on existing systems is considered the preferable option. Creating new systems may undermine or weaken existing systems.

121. Emerging technologies are improving rapidly. A range of technologies for monitoring the different fishing activities in the chain are readily available on the market. The data becoming available through monitoring the activities in the chain is growing exponentially, but artificial intelligence for analyzing this mass data is still being developed.

122. To finalise his presentation, Mr. Cook quoted Steve Jobs, saying, “Technology is nothing. What’s important is that you have a faith in people, that they’re basically good and smart, and if you give them tools, they’ll do wonderful things with them.”

Applications of Data Analysis & Visualization Environment (DAVE) to Predict and Interdict IUUF Activity

123. Dr. Richard W. Miller and Dr. Van Romero from the Institute for Complex Additive Systems Analysis (ICASA) of the New Mexico Institute of Mining and Technology presented on DAVE (Data Analysis and Visualization Environment) and how it could be applied to fisheries.

124. DAVE is a graphical data analysis environment built by ICASA. Although it has not been developed for fisheries, it can be applied to illegal fisheries. Data from all relevant sources may be fed into the environment for automated, comprehensive data analysis, while outputs can be visualized both in graphical informational displays as well as in reports for further analysis.

125. DAVE enables the fusion of large, noisy, and/or disparate data sets and the rapid development of analytical prototypes and modular, snap-in analytic, visualization and processing modules by using existing plug-ins for complex network analysis, time series analysis and computer network forensics.

126. Most source data from fisheries monitoring, surveillance and inspection can be input while initial efforts are focused on VIIRS and AIS data. Prototype analytical approaches are developed as well as a simple agent-based fishing model. Work in progress includes ingestion of additional data sets as available (closed source, social networks, etc.), advanced analytic approaches (situational awareness/alerting) and validation agent-based models to real-world data.

Complex Additive Systems Analysis – Use of VIIRS Boat Detection Data in Detecting Illegal Commercial Fishing in Restricted Municipal Waters in the Philippines

127. Next, Dr. Chris Elvidge, of Earth Observation Group, Payne Institute for Public Safety, Colorado School of Mines presented on the use of Visible Infrared Imaging Radiometer Suite (VIIRS) boat detection data to detect illegal commercial fishing in restricted municipal waters in the Philippines. The VIIRS' primary mission is weather prediction, while as a by-catch it detects fishing boats (purse seiners and ring-net fishing vessels) using lights for fishing at night. Low light imaging data are collected by NOAA weather satellites at night to enable detection of moonlit clouds and detection of electric lighting. Algorithms run on images' output points to reduce the vast data volume to points which correspond to fishing vessels.

128. The product is global every night with a nominal temporal latency of four hours. File sizes are modest and ready for downloading (open access). The system can be programmed for transmission of alerts for individual zones of interest such as marine protected areas (MPA). Temporal records extend back to 2012, making it possible to monitor trends, outline fishing grounds, and assess the effectiveness of enforcement and management efforts. In Asia, VIIRS detects vastly more numbers of vessels than AIS or VMS by a factor of nine in Indonesia.

129. Federal, provincial, and local government units in the Philippines use the alerts to plan and conduct enforcement actions for illegal commercial fishing boats. For example, in 2018, more than 20 apprehensions credited to VIIRS were reported for one region. Email, SMS, and Telegram send Visual Boat Detection alerts.

130. Finally, Mr. Elvidge appeals not only to focus on AIS data but that authorities consider using VIIRS data for detection of fishing vessels using light for fishing. The daily data are available online. The data shows that VIIRS VBD alerts are successful in supporting the enforcement of MPA's and fishing closures.

Machine Learning of VMS Data

131. Next Mr. Bundit Kullavniyaya, Head of Vessel Monitoring System Workgroup, Department of Fisheries Thailand, and Ms. Natalie Tellwright, Fisheries Analyst at OceanMind, presented the systems developed by DoF to exploit VMS data through machine learning for enforcement of fisheries legislation. Since 2015, the VMS Centre has been upgraded progressively. VMS increases the efficiency of MCS operations and makes traditional means of surveillance more cost-effective, uniquely when integrated with

vessel registration data. All Thai-flagged vessels greater than 30GT are required to have VMS, which means that almost 6,000 Thai-flagged vessels transmit VMS messages hourly.

132. Monitoring fisheries in Thailand is a complex task with five permanent closed areas and six seasonal restricted areas and many other provisions applying to a range of fleets using different gears and targeting different resources. Therefore, a relatively small number of analysts are required monitor large numbers of fishing vessels involved in various fisheries.

133. As Mr. Bundit stated in his opening address, there is no other way than to automate the monitoring process and instantly identify high-risk fishing behaviour. The collaboration with OceanMind aimed to support the DoF to identify suspicious fishing vessel behaviour. Data generated by Vessel Monitoring System (VMS) devices fitted on Thai fishing and fishing support vessels focus monitoring and investigative efforts on high-risk vessels, rather than opting for the manual process of clicking through all the vessels all the time.

134. This can be achieved by automation and specifically accurate alerts of fishing. A Machine Learning algorithm has been developed to detect fishing activity by 19 different gear types used in Thailand's domestic fisheries.

135. Gear type used had to be contrasted with the relevant Thailand regulations such as closed areas and gear restrictions to identify non-compliant fishing activity. Non-compliant activities are displayed in the format of feed of alerts to the DoF.

136. Machine learning is a method of automated data analysis. It is a branch of artificial intelligence based on the idea that systems can learn from data and identify patterns with minimal human intervention. The machine was fed with three years of historical VMS data from almost 6,000 different vessels across all 19 gear types so that it would have a solid starting place for analysis. Human expertise gave hints to the machine to identify parts of the vessel tracking data corresponding with fishing activity, so that the machine could distinguish between steaming and fishing. Furthermore, data concerning, for example, the duration of the fishing trip has been incorporated to help predict the gear type. Over 700 regulatory rules were configured and tested.

137. 'Fishing activity by gear type' is contrasted with the provisions of applicable fisheries regulations to produce compliant 'events' or non-compliant 'alerts'. Indeed, when the Machine Learning 'predicted gear type' does not match with the 'licensed gear' an alert is produced. Alerts are visualized in a feed grouped by risk. High-risk alerts are prohibited fishing activity such as fishing in a restricted area, fishing in an area that requires a license, and vessels that are not licensed.

138. Other automated alerts are included to provide analysts with a fuller picture of vessel behaviour. Some of these alerts fall under the medium risk category such as proximity to another vessel, at-sea transshipment and gaps in the transmission of data. Proximity alerts are generated when two vessels are detected close to one other while transshipment alerts are generated when data from one vessel shows drifting speeds and tracks consistent with at-sea transshipping. Low-risk events relate for example to

‘steaming’ and are included for situational awareness. The feed of alerts is split into the different monitoring areas to align with the teams’ monitoring areas.

139. Analysts mark the alert ✓ accurate or ✘ inaccurate, which is fed back to the algorithm to improve accuracy. Fundamentality, tracking technologies produce a lot of data and Machine Learning provides a solution to sifting through tons of data by quickly identifying key elements of tracks to review. Rules can be reconfigured as laws change, so alerts stay accurate.

140. Finally, some of the future opportunities and challenges relate to sharing alerts with other surveillance divisions. At-sea patrol and Port in-Port Out (PIPO) controlling centres could be useful as well as VMS data for other fisheries management applications, such as marine spatial planning.

141. Another option is to begin focusing on identification of other behaviours to be contrasted with labour laws. Moreover, alerts could be linked with traceability systems to support transparency in the supply chain.

142. Positional datasets such as AIS or GSM-based VMS units, and migrating existing Machine Learning to a cloud-based system (Microsoft) could be utilized to allow scalability and speed.

143. Finally, challenges in the field of prosecution remain since VMS data must be supplemented with other evidence. Infringements detected through VMS data need to be met with effective enforcement and MCS capabilities on the ground.

Effective Tools and Techniques for PSMA

144. The last presenter in this session was Mr. Bradley Soule, Chief Fisheries Analyst at OceanMind who shared his experience in assisting DoF with the implementation of PSMA in Thailand. PSMA, and, in particular, its Articles 6 and 16, require governments of port States to process and understand significant new volumes of information concerning the activities of foreign fishing vessels visiting their ports, including those foreign vessels that do not fish in their waters.

145. About 805,801 tonnes of fish are landed in the ports of Thailand, while they export 481,748 tonnes. Each year 400 foreign vessels visit ports in Thailand. Each refrigerated cargo vessel receives the fish from 5 to 15 donor vessels.

146. PSMA requires port States to check landing of foreign vessels in its ports, which includes amongst other things: verification of vessel identity; tracking analysis to confirm vessel activity; confirmation of donor vessels catch areas; confirmation of transshipment port and dates; at-sea proximity analysis; identification of risks in vessel behaviour (slow speeds, gaps); compliance with regulations (closed areas/closed seasons; compliance with licenses/ authorizations.

147. Data analysis and risk assessment support effective enforcement by helping the port State make informed decisions on whether to allow a vessel to enter a port, as well as informing buyers on the possible risks identified for that shipment.

148. The first decision to be considered by the port State concerns granting access to a port. When gaps in information have been identified the port State contacts the flag State and/or the relevant RFMO to confirm, for example, the existence of a license, the vessel's trip dates, last port call, and high-risk port calls, authorities then reach out to coastal and flag States to verify legality. If risks are adequately mitigated at this stage, the jurisdictions will allow entry to port for inspection. When the inspection confirms serious doubts on the legality of the activities, offloading may be denied.

149. IUU lists do not provide much value as they are mainly about weak prosecutions and government response. IUU listing does not equal possible IUU fishing.

150. In line with Article 6 of PSMA, a Web-based Service for common use is being developed for governments as well as seafood suppliers/ receivers with the purpose of information sharing. User groups of the portal are defined as, suppliers, port States, coastal and flag States, and receivers (processors of wholesale and retailers). Each user group will be able to consult and update inputs of information.

151. The Web-based Service is expected to lower costs and increase compliance by transparency. The portal will conduct a pre-arrival analysis of 'vessel of interest activities', identify compliance risks using the pre-arrival AREP analysis and ensure the automated reporting of risks based on overall risk assessment (including undeclared arrivals – AIS). By engaging the private sector in the risk assessment process, buyers will enhance their understanding of what products correspond to legitimate catches as well as risks that certain products may be originating from IUU activities. In this manner, the portal is expected to contribute to a culture of compliance.

Discussion, Comments, Questions, and Answers

152. Mr. Alastair McDonnell (INTERPOL) asked OceanMind and the Department of Fisheries (DoF) When fishing vessels are denied entry into port, where does the fish or vessel go? How does it get communicated and to whom?

153. The response was that best practice would be to let all into the port and ask the important questions. Most of the time there is no criminal activity. It is important to study the boats that are getting sent away and the communications surrounding the denials, but most importantly, we should focus on where these investigations lead.

154. CSIRO stated to OceanMind: Our Machine Learning technology has two stages, (1) pattern identification/tracker identification and (2) fishing, which determines gear type. Then the rules are configured by gear type and they decide if the fishing activity was approved or if it wasn't, which then sets off the alert system.

155. CSIRO followed this up with a question to OceanMind: Could this technology assist Indian Ocean countries if you were called upon? We have three processing plants in the region, and all have ratified the PSMA and have support from the IOTC, but this technology would be very helpful. Could this be done?

156. The reply from OceanMind: Free market is a big opportunity; we are happy to provide support. There is opportunity to connect with coastal States and plants. There will be a good discussion later this week with the Marshall Islands on collaboration. Information can be mutually beneficial. How much fish

came off the boat? We are happy to contribute our expertise and there are other good contacts to be made here.

157. Ms. Michele Kuruc (WWF) asked Mr. Christopher Elvidge: - Can you describe the amount of USAID grants that allowed your team to do this?

158. The reply from Mr. Elvidge: We received three years of support at modest levels. It has helped a lot with work from Manila and Jakarta, to the first program office. We have supported the development of algorithms. The program first started with Manila; later the Philippines was added and now we have a global product. From 2017 to present we have a global product, financial support with USAID was essential.

159. A second inquiry from Ms. Kuruc: How much of your data is paper based?

160. Reply from Mr. Elvidge: We rely predominantly on paper-based data. There is first a written document, then it is turned into a document that can be scanned on a computer for key words and numbers. Automating the system is coming slowly. We have a large paper legacy, but we can still go back in time by taking old data and putting it into the system. We are working diligently to include all the data we have.

Session 4: Implementation of the FAO Agreement on Port State Measures

Port State Measures: An Integration Tool in Combating IUU Fishing: the Latin American Experience: Mr. Alejandro Covarrubias, Head of the International Affairs Unit, National Fisheries Service (SERNAPESCA), Chile.

Spain's Experience in the Implementation of the PSMA: Ms. Marta López Gómez, Secretaría General de Pesca, Ministry for Agriculture, Fisheries and Food, Spain.

NEAFC - NEAFC Implementation of Port State Measures: Mr. Hrannar Asgeirsson, Surveillance Expert, Directorate of Fisheries Ministry of Industries and Innovation, Iceland.

Lessons Learned on Thailand's Port State Measures Implementation for Combating IUU Fishing: Mr. Thira Rodchevid, Leader of Thailand Port State Measures Team, Royal Thai Government, Department of Fisheries.

Implementation of the Port State Measures Agreement in Southeast Asia: Ms. Dita Liliana, Research Associate, Centre for International Law, National University of Singapore.

Discussion Comments, Questions & Answers

Port State Measures: An Integration Tool in Combating IUU Fishing: the Latin American Experience

161. Mr. Alejandro Covarrubias, Head of International Affairs, National Fisheries Service in Chile provided the first presentation and focussed on the implementation of PSMA in Chile, as well as the cooperation between Latin American countries strategizing against IUU fishing.

162. Mr. Covarrubias began with a review of tasks port States must complete under the PSMA, and continued on the topic of international cooperation with relevant states and organisations as an introduction of the process leading to cooperation in Latin America; from diagnosis of existing national legal structures and institutions as well as capacities to sanction infringements in each country. He also included a SWOT analysis and analysis of applicable procedures.

163. An MCS network has been established in Latin America. With the union of force in the Pacific, from Chile in the south to Costa Rica in the north, a ‘wall’ of ports has been built, where all apply similar procedures to foreign vessels that wish to land fish in their ports. Minimum standards of regulatory and procedural requirements are harmonised at the regional level. Cooperation between different types of States and with RFMOs has been improved and institutionalised. The network promotes efficiency and integration with other protection measures in port States, and it integrates and coordinates a broader system of controls in the port State.

164. Mr. Covarrubias continued to elaborate on the experiences of Chile with port controls since 2004, citing the national legislation providing the legal basis for port control. In total, seven ports have been designated for the landing of fish by foreign vessels. Since 2004, 487 applications for port access have been received by the competent authorities of which 25.3 percent (123) have been rejected. A statistical breakdown of the cases was provided.

Spain’s Experience in the Implementation of the PSMA

165. Ms. Marta López Gómez, from the Head of the Spanish IUU/PSMA Department, Secretaría General de Pesca, Ministry for Agriculture, Fisheries and Food presented the systems in place in Spain to ensure the implementation of PSMA.

166. Ms. Lopez summarised international requirements (FAO), EU legislation and Spanish national legislation regulating the landing of fish and fishery products, which provide a solid legal basis for control of landings by foreign vessels. Spain has designated 24 ports where foreign vessels may land fish.

167. Appropriate IT tools are a prerequisite for the implementation of PSMA. The Spanish intelligence System SIPE includes a database (TERCERPES) and Integral Management System to control IUU fishing (SIGCPI). Ms. Lopez displayed detailed forms and steps.

168. The section in charge includes 34 staff members divided by different tasks (document checks, validation of certificates, analysts, intelligence, inspection) who are working with 84 fishery inspectors and 15 legal advisors. The section is seated in the Ministry in Madrid. The team cooperates on a routine basis with national services outside fisheries (Customs, Port authorities, regional departments, health, state security, forces, etc.), the EC and the EFCA as well as relevant third Countries and RFMO's. Communication requires language skills and skills to access and use external data systems and to handle the data (AIS, VMS, Copernicus, etc.).

169. Spain monitors 100 percent of the landings, which includes at least five percent of the landings randomly selected subject to physical inspections. Physical inspections of landings are based on risk assessment (cross-check of information from different sources such as alerts, IUU lists and suspects, sightings, missing data and or reports/declarations, history, etc.) and 100 percent checking of landing documents.

170. Physical inspections are carried by specialised fishing inspectors and include compliance checks, not only of mandatory documents but also of vessels plans, logbooks, last port entries, registers and licenses, insurance documents along with the physical catch on board. Physical inspections are a core element in landing control as the prosecution of infringements requires documentation and evidence demonstrating a violation of applicable legislative provisions.

171. Ms. Lopez listed a number of vessels involved in IUU fishing activities detained with the assistance of Spain such as *Viking* sunk in Indonesia, *Songua*, *Sea Bull* and *Yungdung* all detained in Cape Verde, *Thunder* sunk in Sao Tome, *Kunlun* detained in Senegal and *Tchaw*, *Anthony* and *Northern Warrior* detained in Spain. These vessels have been stopped, but it is not enough. For fisheries to be profitable, the catch must be landed and marketed. Together we have to build a wall ensuring that fish from IUU fishing activities cannot be landed and marketed.

172. It is a work in progress, but efficiency of landing control requires the of interchange of information in real-time. FLUX, a common digital language for exchange of fisheries data the FAO Global Record to verify registration data of vessels, licenses and inspections validated by State authorities, harmonisation of catch certification schemes and enhancement of transparency are all promising areas to be integrated globally. Artificial intelligence, including machine learning, will contribute to the automation of risk assessment (real time) and thus, both reduce costs and increase transparency.

173. Ms. Lopez concluded by stating that political will, sufficient budget, and ingenuity on the part of team members are essential to successfully implementing PSMA.

NEAFC Implementation of Port State Measures

174. Mr. Hrannar Asgeirsson, Surveillance Expert, Directorate of Fisheries Ministry of Industries and Innovation, Iceland, and at the NEAFC Secretariat, presented the measures implemented by NEAFC in line with the PSMA. A couple of months prior to this workshop, Mr. Asgeirsson succeeded Mr. Joao Neves as MCS officer for the NEAFC secretariat. He became responsible for monitoring fishing activities and follow-

up of inspection and surveillance activities in the NEAFC area. Since 2017, Mr. Ásgeirsson has also been a member of the North Atlantic Fisheries Intelligence Group (NA-FIG).

175. After introducing the institutional structure of NEAFC, its contracting parties and cooperating parties, Mr. Ásgeirsson elaborated on the history of the NEAFC port State measures. NEAFC has more than ten years of experience in applying port State measures. Since 2007, NEAFC implemented port State measures. The information and communication systems have been progressively upgraded.

176. Mr. Ásgeirsson presented in detail the form types used (defined electronically – FLUX- for smooth fully automatic communication between all relevant parties.), the numbers of forms exchanged and the national monitoring centres.

177. Finally, Mr. Ásgeirsson elaborated on the key question whether, after ten years, NEAFC achieved the desired results. The PSM together with other measures such as the IUU listing has resulted in an enormous effect on IUU fishing; in 2006 there were ten IUU vessels in NEAFC Convention Area while since 2007 IUU fishing activity (fishing without authorization) in the Convention Area has been eliminated. Engagement in activity contrary to NEAFC rules by authorized vessels is subject to a series of provisions: Infringement Procedures (art. 28); List of Serious Infringements (art. 29); Follow up in the Case of Serious Infringements (art. 30); Measures taken by Contracting Parties (art. 31); Reporting on Surveillance and Inspection Activities (art. 32); Reporting of Infringements and Follow Up (art. 33). All authorized vessels operating in the NEAFC area are properly monitored while Contracting Parties are deploying means of inspection and surveillance in the NEAFC area to verify compliance (The NEAFC inspection party may inspect any Contracting Party vessels operating in the area).

Lessons Learned on Thailand's Port State Measures Implementation for Combating IUU Fishing

178. Next, Mr. Thira Rodchevid, Leader of Thailand Port State Measures Team presented the lessons learned on the implementation of PSMA in Thailand and focused on e-traceability as an important innovation to increase the capacity and capability to control fish and fish products throughout the supply chain.

179. Thailand, as one of the largest seafood processors and exporters in the world, acceded to the PSMA in May 2016. As a port State, Thailand must understand the activities of all fishing and carrier vessels visiting their ports that operate overseas. Thailand imported 805,801 tonnes of tuna in 2018. Tuna of which 80 percent, came through foreign refrigerated cargo vessels. Each refrigerated cargo vessel receives catch from between 5 to 15 donor fishing vessels operating across multiple high seas and coastal state jurisdictions. Analysis and investigation are required to ensure the legality of product landed in Thailand from foreign-flagged vessels.

180. The core elements of landing control consist of, the Legal Framework, the MCS scheme, e-traceability system, and cooperation. The first implementation on PSMA started with the FAO Pilot Project at Phuket ports in October 2014. Subsequent legal provisions and electronic systems have been upgraded to take account of practical challenges and to ensure the effectiveness meets full PSMA compliance.

181. Before entry to port, the first step is to control foreign vessels that request entry to port in Thailand. The shipping agent submits an AREP via an electronic system 72 hours before estimated time of arrival. Then DoF checks the information in AREP against the relevant documents such as vessel registration transshipment license, transshipment declaration, stowage plan, donor vessel registration and fishing license of donor vessel. In addition, the AIS Tracking system is used to cross-check the information in AREP. The process includes confirmation of vessel identity, analysis of tracking data, validation of authorization to fish (license) and verification of information in AREP. On this basis, an overall risk assessment is carried out, and risks will be identified.

182. At the stage of entry to port, two agencies play a role in controlling foreign flag vessels, the Fisheries Inspection Organization (FIO) and Fisheries Quarantine and Inspection Department (FQID) and the Customs Department. PSM staff controls every truck from pier to factory. FQID control the sorting and sizing at factory. Then the actual weight and species to be used is captured in the Import Movement Document (IMD), which is the key document of the importation before processing.

183. The PSE (Processing Statement Endorsement) module within the system covers the processing at establishments before the issuing of the Processing Statement document before exportation. The verified information on the catch and the relevant data from the PSM and FSW systems is then transmitted to the PSE system. Both electronic traceability systems enable Thailand's traceability system to be complete. These are important innovations to increase the capacity and capability of DoF officials to control fish and fish products throughout the supply chain. The most important aspect of these systems is the support provided through the information exchange involving all stakeholders (i.e. private sector inter-governmental agencies and relevant states). This dramatically increases transparency and develops a complete traceability system that ensures no IUU fish enter the international supply chain through Thailand.

184. Cooperation is the key element to achieving PSMA implementation. Communication through established channels is the best way to verify the vessel and fisheries products before authorization to enter Thai ports. Cross-checking with flag States, coastal States, port States, and other relevant agencies, such as IOTC, FFA, and INTERPOL, to verify the origin and legality of imported fish have been the standard practised. In suspicious cases, flag and/or coastal State and port State authorities are contacted immediately.

Implementation of the Port State Measures Agreement in Southeast Asia

185. Ms. Dita Liliansa, a research associate from the Centre for International Law, National University of Singapore presented on regional bodies in Southeast Asia dealing with fisheries and what their roles were in implementing the PSMA. These regional bodies are the Association of Southeast Asian Nations (ASEAN), SEAFDEC, APFIC, RPOA-IUU and CTI-CFF. There are some forms of coordination between them either in a formal or informal manner. For example, SEAFDEC and APFIC are some of the RPOA-IUU Advisory Bodies and the CTI-CFF had sent a representative to attend the RPOA-IUU Coordination Committee meeting.

186. In early 2019, the members of the PSMA in the SE Asia region were only Indonesia, Myanmar, Philippines, and Thailand. However, other states in the region had expressed their intention to implement the PSMA or at least referred to the PSMA when preparing their NPOA-IUU. All the aforementioned

regional bodies have also expressed their intention to pursue regional cooperation towards the implementation of the PSMA in the region. For instance, SEAFDEC has encouraged ASEAN member states to designate and publish information on their designated ports through a SEAFDEC mechanism.

187. The presentation included various informative infographics such as a comparison of the intention of different members to pursue cooperation in implementing international law, the comparison of membership to different international agreements, the members' intentions to implement PSMA, and coordination between regional bodies already taking place.

188. Ms. Liliansa concluded that many littoral States of the seas in Southeast Asia intend to implement the PSMA even though some of them have not ratified it. Despite not having a direct mandate to assist in the implementation of the PSMA, the regional bodies play a significant role in promoting the PSMA and building States' capacity to implement the PSMA. Some ASEAN member states have also expressed their intention to prepare an NPOA-IUU linked to port State measures, which will advance the cause as well. Lastly, a major factor includes the willingness of non-parties to the PSMA to report the status of their implementation on port state measures, despite lacking formal legal obligations to do so.

Discussion, Comments, Questions and Answers

189. An inquiry was made from SEAFDEC to Thailand—What level of cooperation is there with Somalian authority? Thailand response: We share info from DoF.

190. Mr. Laurence Edwards (Marshall Islands) commented to Thailand – Must comply with Thailand-Malaysia and Thailand – deny port entry if they do not comply. Thailand stated that we share information but must comply and only then will be permitted to offload at Thai ports.

191. Ms. Michele Kuruc asked, What progress in identical owners of IUU vessels? Spain responded that it has made progress.

SESSION 5: ANALYZING AND SHARING MCS DATA AND INTELLIGENCE

Global Information Exchange to Combat IUU Fishing: Dr. Matthew Camilleri, Head of Fishing Operations and Technology Branch, FAO.

A Common Language: The Importance of a Global Standard for Exchanging Fisheries: Mr. Hrannar Asgeirsson, Surveillance Expert, Directorate of Fisheries Ministry of Industries and Innovation, Iceland & NEAFC.

Operational Global Cooperation in Real Time: Mr. Bjarne Schultz, Senior MCS Adviser in the Control Section at the Directorate of Fisheries, Norway.

Surveillance for IUU Threats in the EEZs of the UK Overseas Territories: Mr. Andrew Deary, Head of Compliance and Enforcement, Blue Belt, Marine Management Organisation, UK.

Digital Monitoring of Commercial Fishing and a Geospatial Monitoring Tool: Mr. Howard Reid, District Compliance Manager (Canterbury/Westland), Ministry of Primary Industries, New Zealand.

Canada's Strategic Threat and Risk Assessment: An Intelligence Tool to Fight Against IUU: Mr. Yves Goulet, Director, National Fisheries Intelligence Service, Canada.

Collaborative Effort between Fishery Managers and Law Enforcement in Alaska to Combat IUU Fishing, Mr. Scott Gray & Mr. Steve Lewis, NOAA Office of Law Enforcement.

National Coordination Enforcement Agencies in Combating IUU Fishing in Malaysia: Mr. Muhamad Abdul Rauf Abdullah, Department of Fisheries, Malaysia.

Discussion, Comments, Questions & Answers

192. The next session on Tuesday was about analyzing and sharing data and intelligence. It took place after lunch and was facilitated by Mr. Gary Orr, Compliance Investigation Services, Ministry for Primary Industries, New Zealand.

Global Information Exchange to Combat IUU Fishing

193. Dr. Matthew Camilleri, Head of Fishing Operations and Technology Branch, FAO, began this session by indicating authorities require information for making well-founded decisions when applying legislation. In total, 4.6 million fishing vessels operate worldwide, of which a significant part also operates outside the waters of the flag State. Moreover, catches are processed and marketed globally. To this end, reliable (certified) up to date (real-time) information is lacking. This presentation focused on the information gap in world fisheries and how sharing can be executed.

194. The FAO has set up two global information exchange systems: Global Record (vessels and operations) and the PSMA GIES (inspections, actions, NCP, DP).

195. The Global Record serves as a single access point for vessel information. It is much more than a list of authorized vessels; it contains certified up-to-date information on fishing transport and supply vessels from official sources. Dr. Camilleri briefly summarized the content of the Global Record as well as the

different phases for the population of the Global Record (Phase 1: 100 GT (or 24 m) and above, Phase 2: between 50 and 100 GT (18-24 m), Phase 3: between 10 and 50 GT (12-18 m)). The Global Record contains currently almost 9,000 vessels or approximately one-third of the world fleet eligible in Phase 1. Data can be entered into the Global Record manually (Web form and CSV files) and automatically (FLUX and RFBs, IHSM data links).

196. The Global Record was launched officially July 2018 after several meetings of the Global Record Working Group (GRWG) and the Specialized Core Working Group. The next GRWG will be held in May 2019 in the Republic of Korea.

197. Mr. Camilleri elaborated further on the links with PSMA. Vessel and inspection information should be linked upon the request of entry into port, historical and authorization details and compliance information should be verified and fed into a risk analysis. Article 16 of PSMA provides for the electronic exchange of information, which includes guarantees for confidentiality. The Technical Working Group on Information Exchange (TWG-IE) is discussing implementation in a public section and a restricted session on inspections. The conceptual design is in progress and will be discussed at the meeting in May 2019. To ensure the operation of Exchange of Information systems in producing and communicating reliable, up-to-date information, GRWG and TWG-IE should agree on standards, formats and information exchange mechanism (FLUX).

198. In his concluding remarks, Dr. Camilleri appealed to all MCS practitioners to utilize the Global Record, to participate in the process GRWG and TWG-IE and to submit the required information, compliance summary and inspection report, through the relevant authority.

A Common Language: The Importance of a Global Standard for Exchanging Fisheries

199. Mr. Hrannar Asgeirsson, Surveillance Expert, delivered his second presentation of the day on the information exchange system in NEAFC. NEAFC has developed, since the millennium, a fully automated system for communication between contracting parties and is considered a pioneer in this area.

200. Since the year 2000, NEAFC has been using a standardized format, The North Atlantic Format (NAF), which is used for automatic communication between fishing vessels, flag State Fisheries Monitoring Centres and the NEAFC Secretariat. NAF is a slash-delimited format that can be read by computers and as text. Reports and messages, related to control, inspection and surveillance, VMS and monitoring activities, have been defined in an electronic format based on NAF.

201. In 2016, a NEAFC Ad Hoc Working Group on ERS (AHWGERS) began to explore the feasibility of using the UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic Business) P1000 FLUX (Fisheries Language for Universal Exchange) standard for exchange of fishing activity information. FLUX provides a harmonised message standard that allows RFMO's to automatically access the electronic data, which is generated from the E-Logbooks from fishing vessels.

202. Mr. Asgeirsson presented in some detail the technical functioning of FLUX. The NAF format is readable by the receiving server and inserted into a database. In FLUX, fishing activity messages are

encapsulated in the FLUX TX transportation layer envelope, which is then processed on the receiving end. FLUX messages are larger than NAF messages and may incur slightly higher communication costs for vessels at sea but are more sophisticated in a modern IT environment.

203. FLUX is only a 'language'. Stakeholders are free to develop their systems as long as systems are programmed to communicate in the same 'language'. As far as NEAFC is concerned the implementation of the standard will apply within the scope of the NEAFC Scheme of Control and Enforcement and will be outlined in the scheme and should be read in conjunction with the Scheme.

204. A global standard opens for automatic data exchange between different systems such as fishing vessels to FMC; FMC to RFMO; RFMO to other relevant RFMO; RFMO to science organisations like ICES; RFMO to FAO; Global Record and IUU lists. Notably, the amounts of data to be exchanged between market, coastal, flag and port States under PSMA would be facilitated by using FLUX. Currently, NEAFC functions as a data exchange hub between FMC's in the future other data exchange hubs are possible (for example Global Record and GIES). Using a universal standard can help secure that the information required is submitted.

205. It is necessary to incorporate quality control systems to maximize the benefits of automatic data exchange. Quality control should be on each end, while the integrity of the message should be checked before transmission while the consistency of the content should be checked at the receiving end (automatic transmission of ACK / NAK with relevant error codes and automatic handling of ACK / NAK received with error codes).

206. Experience has shown that strict requirements for the correct submission of reports should be respected. Therefore, NEAFC rules stipulate that failure may lead to an automatic and immediate suspension of authorization to fish.

207. Mr. Asgeirsson concluded his presentation on a general note, warning that the amount of available fisheries data is growing exponentially to the extent that it is virtually impossible to process and communicate manually. When not processed, and exchanged automatically, it will be impossible to explore the available data within short delays. When available data are not standardized, manual intervention will be required to explore, verify and cross-check the data. This will be a time-consuming exercise and will tie up the scarce officials there are. This may cause unacceptable delays or even refusal of use of ports.

208. Furthermore, the risk is real that IUU operators will hide behind data chaos. Indeed, dealing with compliance data manually is not sustainable in the long-term. Compatibility of data and common exchange protocols between all stakeholders should be a priority in combatting IUU activities. Therefore, he appealed to all parties to invest in FLUX.

Operational Global Cooperation in Real Time

209. Next, Mr. Bjarne Schultz, Senior MCS Adviser in the Control Section at the Directorate of Fisheries, in Norway focussed on the options for remote operational cooperation with partner countries. Since countries have different interests in fisheries, different capacities, and different means to monitor fisheries, Mr. Schultz made a case for bilateral cooperation in monitoring fishing activities on the high seas and, where

appropriate, in EEZ's. When fishing activities are remotely monitored, intelligence shared and data analysed, partners may carry out a joint risk assessment to take advantage of analytical skills and experience of partner countries authorities.

210. The Norwegian Coastal Administration owns two satellites (both polar circling). All AIS signals received by these satellites are stored in a database. The main purpose is ship traffic safety, but the data can be used to monitor fishing activities. Norway plans to share this information with partners for the purpose of preventing, deterring, and eliminating illegal, unreported, and unregulated fisheries. The satellites make it technically possible to cooperate in real time and share intelligence. They also make it possible to track activity back in time, to follow special vessels or vessel groups from special flag States. This information can be used in connection with other intelligence.

211. In order not to delay the presentation through a live consultation of the Norwegian MCS analytical Unit (poor internet connection), Mr. Schultz presented 11 slides with concrete examples of remote analytical support for coastal States in the Pacific based on data gathered by the Norwegian satellites.

212. To conclude his presentation, Mr. Schultz underlined that creativity is important to succeed, but in general, today's informatics solutions permit remote cooperation between administrations. Sharing of knowledge and experience is beneficial to combating IUU activities. Norway is ready to engage in bilateral cooperation in the field of remote monitoring of fishing activities and to share analytical expertise.

Surveillance for IUU Fishing Threats in the EEZs of the UK Overseas Territories

213. Next, Mr. Andrew Deary, Head of Compliance and Enforcement of the UK Blue Belt Programme, Marine Management Organisation (MMO), presented on the intelligence and risk based MCS work done by the MMO and the Blue Belt Programme.

214. The MMO was developed for delivering planning, licensing, fisheries management, and enforcement to the Scottish, Northern Ireland and Welsh waters. They work with the UK's Blue Belt Programme.

215. The Blue Belt Programme was based on a government manifesto which committed the government to conserving over four million square kilometres of marine environment. It focusses on the improvement of scientific understanding of the marine environment and the development of evidence-based, marine management strategies. It incorporates surveillance and enforcement into its strategies.

216. The UK's oversea territories (OT) where these programs run include the Pitcairn Islands, British Antarctic Territory, South Georgia and Sandwich Islands, Tristan da Cunha, St. Helena, Ascension Island, and British Indian Ocean Territory.

217. One challenge faced by these initiatives are the size of the EEZ and the types of IUU and OT capacity. The National Intelligence Model (NIM) is structured around assets and creates the following intelligence products: strategic assessment, tactical assessment, target profile, and problem profiles.

218. To determine risks the Blue Belt Programme first identifies fisheries, then it identifies the enforcement risks, and then it determines the likelihood of IUU. Following these initial assessment steps, it determines the impact of the IUU taking place, and puts forth a final assessment which includes a strategic assessment, a vessel threat profile and MCS countermeasures and actions.

219. The National Maritime Information Service and MMO work together along with EMSA and OceanMind to provide an integrated surveillance picture with Integrated Maritime Services (IMS) and Automatic Behavioural Monitoring (ABM).

220. The Blue Belt Programme and the MMO are both continuing to maintain and improve the MCS activities they execute regularly. These programs are effective at mitigating IUU fishing in the UK-OT regions.

Digital Monitoring of Commercial Fishing and a Geospatial Monitoring Tool

221. Mr. Howard Reid, of the Ministry of Primary Industries, of New Zealand, discussed the transition to digital monitoring and the vast quantity and complexity of data from digital monitoring necessitating new tools to visualize and analyse information.

222. The incumbent catch effort reporting system is paper based in about 15 different formats, submitted monthly and to be hand keyed. This process has a highly variable error rate, due to many factors, from transcription errors to illegible handwriting. Fishery Officers spend a significant portion of their time working through the discrepancies this system creates. After entry and checking, fishing information may not be available for weeks or potentially months after the fishing has occurred.

223. Position reporting has been required for predominantly large factory trawlers for some time. These vessel tracks were viewable on a standalone VMS. Relevant fisheries layers and information could be added to this, while catch information could be viewed in three separate databases.

224. The introduction of the new Digital Monitoring regime began in 2017 with large factory trawlers reporting catch effort in a digital form. The phased introduction of the remainder of the fishing industry to the digital monitoring regime will occur through the rest of 2019. By November of this year, all commercial fishers will be electronically reporting their fishing activity, catch and GPS position in nearly real time. Catch effort reports will be submitted by the end of each day and will describe all fishing events, with an initial estimate of catch, any incidental bycatch, details of processing or catch disposal, and at the end of a trip, the catch landed.

225. Generally, position reporting is required every 10 minutes. AIS-based systems submit reports every three minutes, and some systems will allow the Ministry to adjust the reporting frequency. Fishery Officers will be able to view fishing information on the vessel reporting device. During an inspection, Fishery Officers will have access to data stored on the reporting device, and the vessel track can be examined on the chart plotter, vessel inspections can be conducted similarly to the past. However, the number of vessels submitting positions will increase from the current 50 (VMS) to 1,100 (GMS) and more positions will be submitted. All fishing information will be available the day after it occurred at the latest.

226. With this dramatic increase in data availability and the digital format, it has been important to ease access and automate exploration of data to take advantage of this technological advance and simplify the inspection portion of the enforcement role. Fishery Officers can prepare well in advance with catch records available for examination prior to boarding or return to port. The GIS platform has been installed to present this geographic information for Fishery Officers, allowing them to view vessel tracks, establish a collection of alerts and interrogate vessel catch effort on a single system.

227. The transition is a work in progress. A central team of compliance data and intelligence analysts has been created to focus on utilising these data to identify anomalous, and potentially unlawful fishing behaviour thorough spatial and catch mix analysis. This may include identifying potential fishing in closed areas, unlawful dumping, quota fraud, unreported protected species bycatch, or the possibility of dark vessels and unreported fishing. Furthermore, a programme of sharing this capability widely with the fishing industry has been initiated.

Canada's Strategic Threat and Risk Assessment: An Intelligence Tool to Fight Against IUU

228. Next, Mr. Yves Goulet, Director of the National Fisheries Intelligence Service, Canada, presented on his organisation and strategies of the Conservation and Protection Branch (C&P) which employs approximately 600 Fishery Officers. C&P promotes and maintains compliance with legislation, regulations, policies, and management measures implemented to achieve the conservation and sustainable use of Canada's aquatic resources, and the protection of at-risk species, fish habitats and oceans.

229. The basis for their methodology is to identify, assess and prioritize the most significant threats and risks to the conservation of fisheries. Their work in this area provides a national and regional understanding of the environmental, species, fishery, and industry profiles.

Collaborative Effort between Fishery Managers and Law Enforcement in Alaska to Combat IUU Fishing

230. Mr. Scott Gray and Mr. Steve Lewis of NOAA presented on collaboration in Alaska between the Office of Sustainable Fisheries, the enforcement branches of NOAA and the Coast Guard (legal counsellors and the fishing community).

231. The aim of the collaboration was to detect transshipment, vessels operating in MPA and MCA, and areas of illegal offloads. The group worked together on catch accounting, EM, VMS, AIS, etc. Terrestrial AIS Stations were found to be useful for transmitting virtual buoys, safety alerts, winds, currents, temperature and other information, while collecting the data from the vessel when they transmit every eight minutes, VMS, T-AIS, and S-AIS.

232. Machine Learning can help identify unobserved vessel fishing and spatially analyse ports and pseudo ports and match that information with the vessel owner.

233. HawkEye 360 is a global collection of radio frequency (RF) data from space combined with Geolocation (not derived from GPS) of RF emitters VHF to 15 GHz (Ku-band). SEAKER™ automates the detection of dark ships and open-ocean rendezvous using third-party AIS feeds.

234. Future enhancements include AIS spoofing detection. Fusing HawkEye 360's unique RF data with SEAKER output will enable users to identify and locate non-cooperative vessels operating without VMS or AIS.

National Coordination of Enforcement Agencies in Combating IUU Fishing in Malaysia

235. Mr. Muhamad Abdul Rauf Abdullah of the Department of Fisheries (DoF), Malaysia presented the department's noteworthy accomplishments in coordinating fishing enforcement agencies. Malaysia has lost 980,000 tonnes of marine products in one year due to the encroachment of foreign vessels. Malaysia's NPOA-IUU Fishing, launched in 2013, focuses on inter-agency cooperation and there are 13 enforcement agencies involved in MCS programmes in Malaysia.

236. The technical committee formed by the DoF created a Terms of Reference (TOR) to assess legal and financial implications for the implementation of IUU fishing instruments including the PSMA and to represent these interests among implementers and enforcement personnel. The technical committee also coordinates data sharing, regional and international cooperation, as well as conducts scientific research to obtain a loss picture due to IUU fishing.

237. MCS in Malaysia is broken down by activity. Monitoring and control activities are conducted by the DoF and consist of VMS and AIS, inspections of vessels, landings of vessels, analysis of landing data, and research. Control activities carried out by DoF are licensing, MPA, registration of fishers and vessels, marking systems, conservation area, and zoning systems. Surveillance is carried out by DoF in conjunction with the Royal Malaysian Navy, Malaysia Maritime Enforcement Agency (MMEA), and the Marine Police Force (MPF).

238. Mr. Muhamad Abdul Rauf Abdullah concluded by stating that Malaysia has a strong commitment to combatting IUU fishing in line with the National Agro-Food Policy 2011-2020 and Strategic Plan of Department of Fisheries Malaysia 2011-2020. Through MCS programming, coordination among agencies and cooperation with regional and international organisations they hope to achieve drastic reductions in the amount of IUU fishing. As a result, the fisheries sector can be managed successfully, and the seafood industry will be available for the next generation.

Discussion, Comments, Questions and Answers

239. Mr. Vethiah (Malaysia) inquired whether Canada was a participant in UNODC and how does Canada act in respect to organised crime? He also asked FAO if Taiwan would be incorporated into the Global Record. The response from FAO was yes when new data was made available. There were no further comments.

Session 6: New MCS Technologies and Methodologies

Introduction to the IUU Risk Assessment Frameworks - Mr. Alastair Beveridge, Master Mariner and MCS practitioner.

Turning IUU Indicators into a Measure of IUU Risk - Dr. Chris Wilcox, Marine and Atmospheric Research, Chief Scientist, CSIRO.

Global Initiative Against Transnational Organized Crime and Poseidon Aquatic Resource Management – The Global IUU Fishing Index - Mr. Gilles Hosch, Independent Fisheries Expert with the Food and Agriculture Organisation of the United Nations (FAO).

Interactive Work Session in Regional Groups.

Pre-evening Session Dinner.

240. The next session was facilitated by Mr. Alastair Beveridge, Master Mariner and MCS practitioner. It was geared towards how new technology can help combat IUU fishing and help the fishing industry achieve its ecological goals.

Introduction to the IUU Risk Assessment Frameworks

241. Mr. Alastair Beveridge presented on activities around creating a global risk assessment framework since the concept was originated at the 5th GFETW held in March 2016 in New Zealand. The difficulty of having a system like this is that the approach would be general and therefore not capture the diverse types of fisheries around the world. The arguments in favour of a global risk assessment framework are that it is a necessary tool to monitor the development of IUU. Also, it would connect global MCS expertise.

242. The participants were invited to break out into discussion groups, and a survey was circulated. The groups reported back on Friday, February 22nd with their comments.

243. The breakout session questions were as follows:

- a. An anonymous risk identification survey; is it an appropriate tool?
- b. How should we integrate existing regional Risk Assessment Frameworks? Is “FISHERY” a global concept? Should additional details be added (vessel size and/or flag States)? Is the FAO statistical area too large?

- c. Should the focus be on illegal and unreported fishing? Should unregulated fisheries be included for the sake of expansion of the fishing industry and incorporation of the disenfranchised?
- d. Are there a geographically balanced minimal number of participants required? What are the best strategies to reach out to MCS practitioners?

The anonymous opinion survey was made accessible via a link to an online platform.

Turning IUU Indicators into a Measure of IUU Risk

244. Dr. Chris Wilcox, Marine and Atmospheric Research Scientist, at CSIRO, presented on the research program underway at CSIRO, which includes analytical tools to extract information from existing data. They also utilise new low-cost surveillance data sources.

245. Since most of the events of interest are not observable, they use a risk-based lens as a starting point to research. The risk analysis CSIRO invests in is a tool for structured decision-making under uncertainty. They are working on new low-cost hardware by repurposing existing satellite data and collecting surveillance data from ships of opportunity.

246. To improve information quality gathered from the data, they created an alert system for fisheries and port managers that is risk-based, web-delivered, and free. The risk report tracks events such as vessels sharing MMSI, AIS off periods, moving in and out of high-risk areas, loitering in areas for no apparent reason, and uneconomical tracks. The report compiles indicators to give a risk score. Analytics and technology can come in to aid the process of preventing environmental crime and IUU fishing.

Global Initiative Against Transnational Organized Crime and Poseidon Aquatic Resource Management – The Global IUU Fishing Index

247. Mr. Gilles Hosch, an independent fisheries expert representing the Global Initiative Against Transnational Organized Crime and Poseidon Aquatic Resource Management, presented on the IUU Fishing Index.

248. The IUU Fishing Index exists to help those in government, RFMOs, philanthropy and civil society, to have a way to identify where to take action to combat IUU fishing. Having reliable and complete country-level data on the volume and value of IUU fishing catches will help with SDG 14, Life Below Water, a target by the UN to end IUU fishing by 2020.

249. One reason for the creation of the IUU Fishing Index is that the FAO indicator 14.6.1 being used to assess progress in eliminating IUU fishing has several weaknesses and cannot be used to determine individual country performance. The IUU Fishing Index allows for comparison between countries, regions, and ocean basins, for single indicators and indicator ‘groups’. It measures the degree to which 152 coastal States are exposed to and effectively combat IUU fishing.

250. The index includes a suite of 40 indicators. There are three types of indicators of IUU fishing: vulnerability (13), prevalence (10), and response (17) and they range across coastal (8), flag (10), port (7), and general (15) States. Countries are allocated to one of 8 regions and one or more of 7 ocean basins. All of these categories can be compared, granting the index much more flexibility of use and dynamic range than the previous resource, FAO indicator 14.6.1.

251. The methodology section of this presentation elucidated that scores for each country are provided between 1 (good) and 5 (bad) for each indicator based on thresholds for the five scoring bands. Indicators are weighted (high, medium, low). Country, region and ocean basin scores are based on the average mean. Data are from publicly available sources, country correspondents, and expert opinion. Missing data are not imputed. Five thousand five hundred twenty-eight data entries and 95 percent complete data. Scores between indicator groups are not directly comparable. Scores of 1 do not imply that a country has no vulnerability and no IUU fishing. Scores of 5 for response indicators do not imply that a country is doing nothing to combat IUU fishing.

252. The scores of the State responsibilities are as follows: the ten worst performers include China, Indonesia, Russia, and Cambodia for two out of three indicator types. Asia has four of the worst ten, Africa four, the Middle East one, and Europe, one (Russia). The Asian region and the Western Pacific basin have the worst scores.

253. Coastal State responsibility scores show us the ten worst performers are the Oceania region and Western Pacific Ocean basin, which have the highest scores for vulnerability to IUU fishing. Island States are shown to be especially vulnerable. Six of the ten worst coastal State responders are developing island States.

254. European countries dominate the lists of best coastal State performers across all types. Europe is the best performing region for indicator types aggregated.

255. Europe and North America are the best performing regions for response indicators. The Mediterranean and Black Sea is the best performing ocean basin for indicator types aggregated, but the East Pacific basin the best for responsiveness.

256. For flag State responsibilities, the mix of countries showing up in the table of ten worst performers is diverse (scores 2.87 – 4.70). Eight of the ten worst-performing countries for vulnerability indicators are developed States. China has the highest score of prevalence, as well as the second poorest flag State response. North America and Europe are the most vulnerable regions, due to their long-range fleets. Asia has the worst regional score for prevalence.

257. Six of the ten best performers are in Europe, three in Latin America, and one in Pacific, with scores from 1.05 - 1.42 for the top ten countries. South America is the best performing region and the West Atlantic is the best performing ocean basin for indicator types aggregated. The Eastern Pacific is the best performing ocean basin for response indicators.

258. For port State responsibilities, the data shows that five of the worst ten countries (scores 3.13 – 4.67) are in Asia, with China, Taiwan and Vietnam having the highest scores. Many industrial fishing nations such as Canada, China, France, Indonesia, Japan and Norway are vulnerable. 22 countries have response scores of 5. Asia has the worst score for indicator types aggregated, and for prevalence. The Middle East has the worst score for response.

259. Scores for the best ten country performers are 1.00 – 1.67. Europe and North America have the best scores for aggregated indicators, and for response scores. The East Atlantic Ocean basin has the best score for aggregated indicators, and the East Pacific has the best ocean basin response score.

260. The IUU scores for general indicators were reviewed next. General indicators are not specific to other responsibilities, for example, the Transparency International Corruption Perceptions indicator in the category of vulnerability, the 'Carded' (identified) under the EU IUU Regulation in the category of prevalence, and the mandatory vessel tracking for the commercial seagoing fleet in the category of response.

261. The poorest performing countries in general indicators are from Asia, the Middle East, Africa and Latin America with scores from 3.10 to 3.58. Vietnam is the worst overall performer, with India the most vulnerable and Singapore the worst response. Asia has the worst regional score in terms of both vulnerability and prevalence. The West and East Indian ocean basins display the highest levels of vulnerability, with the East Indian Ocean also yielding the worst score for prevalence. The ten best performers scores are between 1.43 – 1.73 on the score range. The best response is typically by large developed fishing nations, such as Australia, UK, Canada, France, Japan and New Zealand. Response scores are best for the Eastern and Western Pacific Ocean basins, reflecting the strength of regional institutions and fisheries policy.

262. From this data, which is based on publicly available sources, country correspondents, and expert opinion, we know that the SDG 14 target, to eliminate IUU fishing by 2020 will not be achieved. However, we have learned more about the landscape. The IUU Fishing Index can complement indicator 14.6.1 generated by FAO when assessing progress in achieving the SDG goal to eliminate IUU fishing. It would be useful to update the scores in the IUU Fishing Index in 2020.

263. There are many actions that States can and need to take to combat IUU fishing. There is a strong argument for action in areas/countries with high vulnerability and poor prevalence scores e.g. the Asia region and the Western Pacific Ocean basin. The Western Pacific scores poorly for prevalence but has a relatively good score for response, suggesting existing recognition of the need for action and high policy priority given to fisheries by countries and regional institutions.

264. Developing countries are often vulnerable to IUU fishing and lack resources, so require special support in combatting IUU fishing. Likewise, the Middle East has poor response scores as a result of the lower importance given to the sector. The vulnerability of island States is also highlighted when ranking scores for both coastal and port State indicators, with countries likely to have a strong dependence on the fisheries sector.

265. Nations operating distant-water fishing fleets that yield poor scores for both flag/prevalence and flag/response indicators may be considered as particularly problematic. Solving their poor performance

would go a long way to eliminate major portions of IUU fishing globally. More information can be found at <http://IUUfishingindex.net>.

Interactive Work Session in Regional Groups

266. Next, the breakout groups answered a series of discussion questions. The first question was, “if the idea for an informal global risk assessment framework was proposed, what would be the best way to encourage MCS Practitioners to participate?”

267. The Atlantic group responded: That it should have demonstrable benefits for the user. It should be simple/uncomplicated to introduce into service and to operate. It must include a communications plan covering the development process and routine operations, including operating in conjunction with existing RA’s. It should consist of a facility to introduce administration generated rules covering access and distribution/sharing of data. The Pacific group added that it should include feedback to MCS practitioners with timely responses and can be adapted to various geographical and situational situations. The Indian Ocean group cited several networks to distribute surveys to such as IOTC, SADEC, FISH-I and CCMLR, RPOA-SE Asia, SEAFDEC, SIOFA in the Western Indian Ocean. The group also mentioned that the survey as drafted is not suitable due to being too detailed.

268. The second discussion question asked was, “does your country or region have existing regional risk assessment framework mechanisms in place, and if so, how are they managed and coordinated?”

269. The Atlantic cited some bilateral arrangements such as between the coastal States and RFMO’s (NEAFC) and Blue Belt’s arrangements with local partners based on DEFRA/IFCA. The Pacific group stated that Canada, USA, WCPFC all have different risk assessment schemes. The Indian Ocean group said that currently some work on risk assessment is carried out in tuna fishing, while the EFCA will roll out risk assessment in the Indian Ocean soon.

270. Question three asked, “how would you establish areas for addressing risk assessment in coastal areas, EEZs, or ABNJs? Are FAO statistical areas a possible starting point or should the areas be smaller?”

271. The Atlantic Ocean group responded by saying, the FAO areas may not be appropriate/too large. Factors to consider include, political scenarios, context, fishing area, species (migratory/changing behaviour patterns), the position of regional economic committees, and RFMOs. A global risk assessment framework should not be restricted to EEZs alone. Different fisheries have different risks, so the risk assessment needs to reflect the fisheries being conducted. Some said, the FAO Statistical areas are too large and need to be split between coastal areas, EEZ and ABNJ, FMAs, or temperate/tropical, etc. The Indian Ocean group added, MCS practitioners are aware of compliance risks in the Indian Ocean region, and they agreed that FAO areas could be used as a point of departure.

272. The next question was, “how would you suggest the risk assessment be addressed? For example, IUU risks by fishery, by vessel size, and/or by flag-State; or other ideas?” The Atlantic group answered that it must merely be compliance/rules based. The Pacific group said that it would be a function of the response to question three. We should keep in mind IUU threats against non-fisheries. For example, salmon in the

North Pacific. This form of IUU against migrating stocks could have a significant impact economically and culturally.

273. Question five asked, “what should be the focus of a global risk assessment framework, illegal, unreported and unregulated activities; separately? Other suggestions?”

274. The Atlantic group answered that they should be assessed separately at the initial assessment, but any framework would need to incorporate the I and U and U together to reflect the likely linking of the three in any illegal activity. Removing the illegal element from the perspective of the EEZ reference above might be worth considering – thus focusing on the U and U. The Pacific group offered that they should be treated separately and then as an aggregate, citing that an office of law enforcement’s focus is illegal rather than unreported. In the Indian Ocean identification of IUU Risk can be expressed as illegal (poaching), Unreported (poaching, misreporting) and Unregulated (fishing in a high sea pocket).

275. The last question was, “the success of a global risk assessment framework depends largely on the number of MCS practitioners by FAO Statistical Area participating in the survey. A geographically balanced minimal number of participants would be required. In your area of competence, which options do you see to maximize the participation in the survey?” The Atlantic and Indian Ocean groups referred everyone to their question one answers. The Pacific group offered that they would be happy to be a part of something they understand, particularly concerning the mathematical/scientific detail.

Pre-evening Session Dinner

276. Next, workshop participants enjoyed a pre-evening session dinner followed immediately by a roundtable discussion based on the film called, ‘Chasing the *Thunder*.’ The facilitator was Ms. Michele Kuruc and the panellists were: Mr. Alastair McDonnell, INTERPOL; Ms. Mónica Corrales, Spanish General Secretary of Fisheries; Mr. Jorge Ríos, UNODC.

277. Ms. Kuruc welcomed the participants to the roundtable. She presented herself and the Members of the panel. Ms. Kuruc is Vice President of Ocean Policy for the World Wildlife Fund-US. She served as attorney for the United States Department of Justice in the Wildlife and Marine Resources Section. Subsequently, she supervised NOAA’s legal enforcement efforts for many years. Ms. Kuruc came to WWF after more than six years at the FAO. She was the first chair of the IMCS Network.

278. The first member of the panel, Mr. Alastair Mc Donnell, has over 30 years of fisheries enforcement, scientific and policy experience in the UK and EU fisheries. Before joining INTERPOL in 2014, Mr. McDonnell was responsible for IUU import controls through the UK border. Since joining INTERPOL, he has been part of the team that has proved the need for a truly global enforcement response to IUU at sea as a risk indicator of transnational organized crime in the sector. He is convinced a new frontier must be opened on land and at borders in relation to the corporate organisation of global trade in the illicit fishery products.

279. Ms. Corrales is the Deputy General Director of Legal Affairs and International Governance at the Spanish General Secretary of Fisheries. She worked, for over 20 years, in international environmental law, fishing and climate change, in the Spanish Administration and the United Nations. She is responsible, among

other matters, for the sanctioning proceedings against IUU Fisheries, one of the main priorities in the area of the Spanish Government. In this capacity, she was directly involved in the investigations of the *Thunder* case and seven other cases.

280. Mr. Rios is the Chief of the Global Programme for Combating Wildlife and Forest Crime at UNODC. Mr. Rios, who joined UNODC in 2005, has been working on the issues of drugs and crime for over 25 years. He is leading the delivery of technical assistance by UNODC to the countries affected by wildlife and forest crime, including the implementation of the Wildlife and Forest Crime Analytic Toolkit.

281. Before showing the film “Chasing the *Thunder*”, Ms. Kuruc asked Mr. McDonnell and Ms. Corrales, since both had been personally involved, to elaborate on the case. Mr. McDonnell explained that the vessel was built in Norway for an owner in the Faeroe Islands and after a legal career had been sold to IUU operators. Subsequently the vessel changed its name and flag several times. The owners committed registry fraud, multi identity fraud, document fraud necessary to sustain the operation of the vessel. 24 countries, INTERPOL and NGO’s cooperated to unravel the illegal activities of its owners. Despite fraud at all levels, the catch was turned into money; the question is how. Administrations of port States did not perceive anything illegal in the operations of the vessel. In his view the focus should be on closing the market for products from IUU vessels.

282. Ms. Kuruc asked Ms. Corrales to elaborate also on the decision of the High Court to dismiss this case. Ms. Corrales underlined the complexity of the set-up through phantom companies in many different countries and the necessity to prove the link to the beneficial owners living in Spain. Therefore, the case was handled not only by fisheries inspectors but also by specialists from all services concerned. Taking into account the scale of the illegalities, the Guardia Civil (police), decided to mount a criminal case in parallel to the administrative procedure followed by the Fishery department. The administrative procedure was successfully completed and resulted in fines up to 36 million Euros and banning the culprits from exercising activities in fisheries. However, the criminal case was dismissed by the High Court as none of the offences had been committed under Spanish jurisdiction. However, some criminal procedures related to financial profit from IUU activities are still ongoing.

283. Mr. Rios underlined that the dramatic chase offered a clear example of trans-national crime, while McDonnell suggested to go after the money trail.

284. Several questions came from the floor amongst others concerning the insurance of the vessel. When the vessel is IUU listed by RFMO’s and the owners committed registry and multi identity fraud, how could the owners insure the vessel? Mr. McDonnell replied that the police of the State in question initiated, for this reason, an investigation in the insurance company which cancelled with immediate effect the insurance for the vessels concerned. Recently, a similar action was undertaken for another IUU vessel. Mr. Copeland reminded, that NGO’s warned the insurance company in question months earlier, but the company cancelled the insurance only after the police initiated the investigation. Requested from the floor, Mr. Rios explained how financial investigations may be facilitated by a typology which not yet been established for IUU.

285. There were no plenary sessions on Wednesday, February 20th. Workshop participants went on field trips which provided educational and cultural opportunities as well as informal networking between the

MCS practitioners and stakeholders. In the evening the IMCS Secretariat convened a Network Business Meeting restricted to IMCS members. The business meeting included discussion of the replacement of the Chair, an overview of the activity report and budget, and the draft of the 2019-2021 Business Plan. In the Business Plan discussion, it was proposed to continue the main Network activities as listed in the 2016-2018 Business Plan and to add facilitation of the Tuna Compliance Network (TCN). It was also proposed for discussion to start about coordination of capacity building activities on strengthening MCS and enforcement in developing countries with the aim to combat IUU fishing. The meeting also covered the election of a Vice-Chair and Executive Committee members. There was also an exchange of views on the timing and location of the 7th Global Fisheries Enforcement Training Workshop.

SESSION 7: CAPACITY BUILDING FOR BETTER ENFORCEMENT

FAO's Capacity Building Programme in Support of Combatting IUU Fishing: Dr. Kristín von Kistowski, project manager at the Fisheries and Aquaculture Department of the UN Food and Agriculture Organization (FAO).

Capacity Building in Coastal Fisheries and Aquaculture MCS: Mr. Ian Freeman, Coastal Fisheries and Aquaculture MCS adviser, Pacific Community (SPC).

From Capacity Building to Professionalisation: The FishFORCE Experience: Professor Hennie Van As, Global Specialist on Sea Fisheries, Nelson Mandela Metropolitan University, South Africa.

Developments in the Implementation of Tools and Mechanisms to Combat IUU Fishing in Colombia: Ms. Adriana Suárez, Environmental Coordinator, FUNDAMAR, Colombia.

NOAA's Technical Assistance and Capacity Building on Port State Measures and Combating IUU Fishing: Mr. Todd Dubois, Assistant Director, Operations and International Programs, Office of Law Enforcement, NOAA.

Video presentation: Joint Indonesia-US partnership on IUU fishing

Discussion, Comments, Questions and Answers

FAO's Capacity Building Programme in Support of Combatting IUU Fishing

286. Dr. Kristín von Kistowski, representing the FAO presented the FAO program to combat IUU fishing. This program has a partnership framework between the Pew Charitable Trusts and the FAO. Its programmes focus on developing coastal countries and Small Island Developing States (SIDS) and they support the implementation of the provisions of the 2009 FAO PSMA and complementary instruments to prevent, deter and eliminate IUU fishing.

287. Their projects are funded by the EU, Norway, Korea, Sweden, and the USA. They are underway and operational. They total over USD 13 million and provide support to over thirty countries over five years. The three cornerstones of their work are policy and legislation, institutional set-up, and operations/procedures.

288. To create effective policies, the FAO works with partner countries on revising laws and devising legal and prosecution training courses. They also do TA drafting SOPs, TA MCS re-design, TA for FSP, and inspection/enforcement training courses.

Capacity Building in Coastal Fisheries and Aquaculture MCS

289. Mr. Ian Freeman, Coastal Fisheries and Aquaculture MCS adviser for Pacific Community (SPC) presented on capacity building and MCS measures based on the experience gained in the Pacific waters.

290. Community awareness and education are of utmost importance in supporting capacity for law enforcement in coastal fisheries. Coastal and small-scale fisheries employ over 90 percent of fishers and fish workers, 50 percent of whom are women. They also contribute to around 50 percent of global fish catches and 66 percent of catches for direct human consumption according to the FAO.

291. There are vast differences, when it comes to effective IUU fishing control, between offshore and coastal fisheries. With offshore fishing, most offences are committed by distant water fishing nations (DWFN), who are operating vessels that may be fishing in a national EEZ, under an access agreement or a charter arrangement with that particular country. Usually, offence is committed by a DWFN, multinational corporation, publicly listed large scale fishing company or domestic licensed vessel operated by a private company.

292. Coastal fisheries officers are often forced to fine and/or confiscate fishing equipment from friends and relatives. Crowd and spectator influence at local markets can have an impact on an officer's ability to perform their functions. They are often under-resourced in compliance assets like personnel and boats. Slow response times due to remoteness is also a substantial obstacle.

293. Fisheries in the Pacific vary enormously and may be large, well-organised frameworks usually run by a local governing body or down to a portable cooler on the side of the road, and everything in between.

294. Educating communities and fishers around the need and reasons for regulations is essential, and at the Pacific Community, they teach the VADE model for labelling the compliance process, where V =

Voluntary, A = Assisted, D = Directed, E = Enforced to categorise the type of action that should be taken and when.

295. As of November 2018, the Pacific Community has been awarding Certificate IVs in Coastal Fisheries and Aquaculture Compliance through an MCS training course for Pacific Island countries. The course is funded under the New Zealand Ministry of Foreign Affairs and Trade (MFAT). The first cohort of sixteen students have completed their competency assessments in and are already making positive contributions to coastal fisheries MCS in their respective countries.

296. The key takeaway from the presentation was that Coastal Fisheries MCS is about managing people; hence community involvement should be strongly encouraged. Partnership and collaboration across all stakeholders are critical to success, and this is accomplished by building awareness and education at the fisheries officer and community level. A greater understanding of why there are rules, such as size limits or nursery area closures, will result in improved compliance and more fish in the future.

From Capacity Building to Professionalisation: The FishFORCE Experience

297. Next, Professor Hennie Van As, Specialist in Fisheries Crime, representing Nelson Mandela University (NMU), discussed the FishFORCE program.

298. The FishFORCE programme is an academic programme at Nelson Mandela University in South Africa. It is a collaboration between NMU and the Norwegian Government.

299. One way that organised fisheries crime and the related drug, and human trafficking offences can be reduced is by increasing the professionalization of Fishery Control Officers (FCOs). The way this can be accomplished is through a host of measures, such as a professional association, institutionalised training, work autonomy, colleague control, code of ethics and high standards of professional and intellectual excellence, tertiary education, and the development of a body of enforcement knowledge through research.

300. The process of professionalization will need to take place regarding Fisheries Control Officers (FCO), which is the official name of fisheries inspectors in South Africa. Currently, FCOs are dependent upon the South African Police (SAP) to function, and they are only able to enter vessels and premises with a warrant, residential premises cannot be inspected. FCOs do not currently receive updates of case progress, or whether they are even resolved once cases are passed over to SAPS. Corruption occurs as well. A proliferation of fisheries crime units throughout the country results from weak inter-agency cooperation and integration.

301. Solutions to the issue of the disconnect between FCOs and SAPS rests in legal reform and collaboration to make FCOs more powerful. Greater oversight from bodies such as IPID and designation as EMI's would allow extended powers such as the use of force in stopping vessels, the power to institute and conduct roadblocks, and the specific ability to apply to a court for a warrant. The United Nations Convention against Transnational Organized Crime has been instrumental in changes to FCOs and their inter-regional cooperation. Ultimately, we need to see greater professionalization of FCOs to realistically expect them to take on transnational marine crime.

Developments in the Implementation of Tools and Mechanisms to Combat IUU Fishing in Colombia

302. Next, Ms. Adriana Suárez, environmental coordinator from FUNDAMAR, presented on the regional efforts they have made at her organisation to advance the application of the PSMA in CMAR countries, which include Costa Rica, Panama, Colombia, and Ecuador.

303. Since 2003, FUNDAMAR has aimed to promote education, management of natural resources, research, environmental social responsibility for the maritime, fluvial, commercial, business, port and fishing education segments. They have sponsored marine-coastal cleaning campaigns and education programs for the conservation of lionfish, parrotfish, sharks and more.

304. To implement PSMA, Colombia has created a Port Maritime Evaluation. Ms. Adriana Suárez then walked the audience through the online evaluation at <http://uvicolombia.org/sandbox/home>. The program has registered 182 industrial fishing vessels, with 15 of them being registered in the Global Record.

305. The National Roundtable on Illegal Fishing and Illicit Fishing Activities (MNPII) has been making an inter-institutional coordination effort to achieve effective and efficient actions to mitigate IUU fishing. They carry out practical exercises with police and administrators in Colombia.

306. As part of the capacity building, they have been standardizing procedures, building support and logistics capacity, and accrediting personnel as PMSA fisheries inspectors. Their accomplishments include the appropriation of tools at the central and regional level: GR - UVI – RNB – RGP (Art. 56 Law 13) in the MSC Guide. They have defined NAP actions against IUU Fishing to have the personnel and budget for the implementation of the PSMA. They manage and establish protocols for the exchange of evidence with other countries and between homologous entities.

NOAA's Technical Assistance and Capacity Building on Port State Measures and Combating IUU Fishing

307. Mr. Todd Dubois, Assistant Director at NOAA's Office of Law Enforcement (OLE) presented. He explained that OLE engages in international cooperation and assistance, with particular emphasis on providing training and strengthening efforts to combat IUU fishing and the trafficking of IUU fish products. The United States government also supports successful international implementation of the PSMA, and in response, NOAA OLE developed an international training program for providing technical assistance to its global partners.

308. The Port State Measures Inspector Training Program offered by NOAA focuses on the operational requirements of the PSMA, the ability to conduct thorough fisheries inspections of foreign-flagged fishing vessels, and methods to detect IUU-fishing activity. Complimentary curriculum on PSMA implementation for high-level officials and managers, covers broad issues such as legal requirements, governmental policy needs and inter-agency/ministry coordination and communication strategies to effectively implement the PSMA. NOAA OLE has over 17 PSMA training modules available online.

309. NOAA OLE's fishing investigations training focuses on fisheries law enforcement best practices and case package development. Another offering, the Counter-IUU Fishing Workshop, takes a holistic approach to combating IUU fishing covering higher-level topics such as: legal tools; emerging technologies, the use of fisheries intelligence, as well as how to conduct fisheries investigations and successful prosecution of IUU fishing cases.

310. In addition to these offerings, NOAA-OLE frequently host international training workshops in collaboration with or supported by UN FAO, DOS (Caribbean / Latin America) and USAID, SEAFDEC, INL, UN FAO (South East Asia). Resources from these workshops are available at <https://www.fisheries.noaa.gov>.

311. Then the workshop participants viewed a video presentation by the joint Indonesia-US Partnership on IUU Fishing followed by a discussion.

Video presentation: Joint Indonesia-US partnership on IUU fishing

Discussion, Comments, Questions and Answers

312. The discussion proceeded with a question from Ms. Marta López Gómez to Ms. Adriana Suárez: How can we make data collection more automated? For those using Global Record, how can the process of uploading information manually be shortened so that it contains the most up-to-date information as possible?

313. Response: We have vessel identification numbers, but not all vessels have it. It has not been as simple as we had expected. There are political barriers. We first need to identify all the information for each organisation and then it will export automatically. It will not go directly into Global Record; someone must upload it manually to Global Record. It is also password protected.

314. Response: There is a huge need for intelligence-lead enforcement and training of all country officers that will deal with trade. Prosecuting corporate entities is vital, sometimes they are legitimate entities, who are using mules. Mules are not the people we need to tackle, but rather we should focus on the large transnational corporate networks/entities and the broader issues.

315. Question from participant to Mr. Todd Dubois. We speak of cooperation and collaboration. Fishing agencies are developing PST and training courses, there is FFA direct training, and best practices are being developed. Do we, or have we, considered sharing your course materials with RMFOs or other panellists? This would allow us to share best practices and reduce costs. Is there an advantage of the FAO, FFA, sharing course curriculum or course notes to save everyone some money? Putting the thought out there.

316. Reply from Mr. Dubois: Yes, we are in the process of finalising the curriculum, so it is sharable. We are finalising conservation measures to RMFOs. We need to do this, we have done it in an ICCAT inspection working course, and with the EU. Your point is well taken. We have a long way to go but are working in that direction.

317. Reply: We are working with NOAA and other organisations to improve collaboration. We need to develop best practices and outline how to approach risk assessments. I participated in regional activities in the Indian Ocean. Important work is already being carried out in the region and there is no point in duplicating it. Duplication can also lead to confusion and wasted resources. We need to think of how best to support our officers, not just using activities and training that may not be useful. We must avoid duplication and strengthen MCS measures and the effectiveness of PSMA activities. This is the aim, not for donors and training programs to celebrate themselves, but to achieve the effect of taking enforcement action. We must make it easy, consistent, and effective.

318. Reply: From Professor Hennie Van As: From the University perspective, we are developing formal training programs. We have been in contact with INTERPOL, Fish-i Africa, UNODC, and the FAO, who have given us permission to use their materials, which we will convert to academic programs. Interagency cooperation is vital, and academics will gladly use something that is already available.

319. Question from Dr. Chris Wilcox: I do analysis and have heard a lot of people mention policing and capacity building. What do your organisations do to approach this area?

320. Reply from Professor Hennie Van As: We are collaborating with Marcus Burger, who works in trafficking, he developed modules on markets etc. Working with TMT, Duncan, how we can use the materials and their work to incorporate into our training program. This is important, to get to supervisory levels, the statement is always there ‘my manager should’ve been there’. Looking to increase knowledge at managerial level in the future.

321. Reply from Mr. Dubois: Current curriculum looks at advance notice of arrival, documents, fishing activity, looking at information already submitted and verifying as much information as possible. Fisheries intelligence teaches that portion. I have a good idea of how we can do an even more robust analysis. We made it to one place but can get to another with partners. Getting as much information to inspectors as possible to know which areas of risk they should be looking at and targeting specific areas.

SESSION 8: ROLE OF MCS PRACTITIONERS IN COMBATING CRIME ASSOCIATED WITH AND/OR RELATED TO FISHERIES

Law Enforcement Against the IUU Fishing, Pol. Lt. General Jaruwat Vaisaya, Royal Police Authority, Thailand.

Case Study: Successful Prosecution of “the Godfather” – the Carlos Rafael Investigation - Mr. Troy Audyatis, National Marine Fisheries Service (NMFS), Law Enforcement Division, NOAA.

What’s Changed in Working Conditions in Thai Fishing? - Mr. Jason Judd, Senior Technical Officer, International Labour Organisation (ILO/Bangkok).

IUU as a Risk Indicator for other Non-Fisheries Crimes - Mr. Deon Burger, Head of INTERPOL Global Fisheries Enforcement, Singapore.

Forensic Document Investigation for Effective Fisheries Crime Prosecution - Mr. Ganesan Vethiah, Maritime Legal Consultant.

Discussion, Comments, Questions and Answers

322. Mr. Jorge Ríos, of UNODC facilitated session eight which focussed on the role of MCS practitioners in combating crime associated with and/or related to fisheries.

Law Enforcement against IUU Fishing

323. Police Lieutenant General Jaruvat Vaisaya of the Royal Police Authority in Thailand explained some of the law enforcement advances made by Thailand that resulted in the European Commission delisting Thailand in January 2019 from a group of “warned” countries as recognition of its progress in tackling IUU fishing.

324. Since April 2015, Thailand has allocated 87 million Euros towards combatting IUU fishing and the protection of worker's rights. Thailand is now a world player in the fishing industry, receiving an IUU Green Card from the EU. The areas it has made strides in are new maritime law, a strategic policy framework, an overhauled fisheries management system, a new MCS system, labour monitoring, and more.

325. The fisheries law enforcement (LE) reform process involves closing gaps. Past LE gaps included laws that did not cover all fishery-related misconduct, penalties that were too low to have a deterrent effect, delayed litigation, officers that did not understand the law and incomplete evidence collection. With much hard work, the government in Thailand has created some solutions to these problems.

326. One solution to IUU fishing in Thailand was hosting a seminar amongst law enforcement agencies. The seminar included the following groups: Royal Thai Police, Office of the Attorney- General, Court of law, Department of Fisheries, Marine Department, Department of Labour Protection and Welfare, and the Royal Thai Navy.

327. Law enforcement set up a special operating unit to support the officers in the form of Special Arrest Teams (SAT), Undercover Vessels (Poseidon), Flying Inspection Teams (FIT), and air surveillance. Special Arrest Teams arrested 176 illegal fishing vessels from March to December 2018. Thailand is very proud of its continuing work to curb IUU fishing.

Case Study: Successful Prosecution of “the Codfather” – the Carlos Rafael Investigation

328. Mr. Troy Audyatis, of the National Marine Fisheries Service (NMFS), Law Enforcement Division at NOAA, presented on the prosecution process for those implicated in IUU fishing.

329. Carlos Rafael, “the Codfather”, was among the most influential New England fishers, owning at least 40 commercial fishing vessels with approximately 60 federal permits. He is said to have controlled as much as 85 percent of all northeast ‘groundfish’ permits as well as being a local personality. This presentation centred on his fisheries crime and, most importantly, about how five state agencies (NOAA OLE, IRS-CID, FBI, DHS, and CGIS) worked together to convict him.

330. In 2015, Rafael decided to sell his fishing business after the state cut in half the amount of federal groundfish disaster relief aid he would get. The policy applies to all Massachusetts permit holders but would affect only Rafael because he is the only one with more qualifying permits than the 10.9 permit cap. Carlos Rafael had a prior history fisheries violations, he had paid over \$190,000 in fines and served 6 months in prison for a 1987 tax evasion.

331. IRS Agents with support of the other agencies posed as organised crime members interested in purchasing Rafael’s business. They conducted five joint undercover operations from June 2015 through February 2016 with Rafael and his business associates. All agencies worked together, focusing on their areas of expertise.

332. The investigative results revealed egregious fisheries violations to include false reporting over a several-year period, federal tax evasion, public corruption, bulk cash smuggling and structuring. He had an estimated USD \$5.2 million in retail value profits earned illegally.

333. By November 2017, Rafael was sentenced to forty-six months in federal prison, followed by three years of probation and during such time he is barred from the fishing industry and had two vessels confiscated.

What has Changed in Working Conditions in Thai Fishing?

334. Mr. Jason Judd, Senior Technical Officer, International Labour Organisation (ILO/Bangkok) presented on the Ship to Shore Rights project. Mr. Judd introduced baseline research findings on fishers and seafood workers in Thailand.

335. Of 434 respondents, 36 percent could recall signing a contract, and of those who signed a contract, 71 percent said the contract was in their native language, 51 percent understood the terms, 14 percent were given a copy to keep. From the data, 29 percent of all fishing workers reported no abuse, of the seafood workers 56 percent reported no abuse, leaving the rest of respondents as reporting, 'yes' to one or more indicators of abuse.

336. By strengthening enforcement, improving the legal framework, and supporting workers, IUU fishing can be reduced, fisheries can be more prosperous, and the livelihoods of fishers can increase.

IUU as a Risk Indicator for other Non-Fisheries Crimes

337. Mr. Deon Burger, representing INTERPOL presented on Project Scale (2013), now called, Global Fisheries Enforcement. The goal of the program was to enable 194 member countries to identify, deter and disrupt transnational crimes that were associated with the fisheries sector. INTERPOL's role is to be a neutral platform, and they aim to facilitate timely and effective international police cooperation between member countries.

338. The *HUA LI 8* (CHN) Argentina 29 February 2016 is an excellent example of a vessel that showed IUU indicators and how they are linked to other organised crime. The vessel did not respond to VHF communications, PA speakers, and finally shots to the water, ahead of the bow of the vessel as pictures in the presentation demonstrated.

339. Other examples cited by Mr. Deon Burger include the *F/V THUNDER* (2015), the *F/V KUNLUN* (2015/2016), and the *FV STS-50* (2018).

340. From the map demonstrating the different whereabouts of the *F/V KUNLUN*'s beneficial owner, inspecting MCS, flag, crew, home port, ship's agent, landing port, bank accounts and captain a picture of why transnational cooperation is needed; all of the aforementioned items were scattered across five continents.

341. To detain the *F/V STS-50* it took ten countries, three IGOs, two international registry companies, and two NGO's, all coordinated by INTERPOL Global Fisheries Enforcement.

342. Mr. Burger discussed the tools that proponents of sustainable fishing should be aware of for assistance in fighting IUU fishing activity.

343. One tool that INTERPOL offers is a secure global communication network connecting 194 member countries. They use the network to distribute notices which are international requests for cooperation circulated to ALL member countries. INTERPOL can help draft and develop such a notice (for example, a purple notice on illicit activity). They also use the network for diffusions which are distributed to member countries depending on necessity.

344. Illicit Markets Analysis (IMA) Files are another tool offered by INTERPOL. An IMA is a temporary database created for criminal intelligence analysis. It is an analytical report on threats to wildlife, fisheries, forestry, illicit goods and global health matters. It is operational since the month of this workshop, and 96 member countries have accepted to have their data recorded in the file to date. IMA is for police and non-police information (including open source).

345. INTERPOL has recently published a guide for law enforcement professionals called, 'International Law Enforcement Cooperation in the Fisheries Sector' (2018). The goal is to present existing legal and enforcement tools to effectively combat fisheries crime and to give concrete examples of how INTERPOL

can assist with transnational fisheries crime investigation. This guide is a public document and is available online. It is currently available in English. French, Spanish and Arabic versions will be released in 2019.

346. Investigative Support Team (ISTs) can be engaged at the request of a member country. INTERPOL will deploy experts from the INTERPOL General Secretariat For fisheries to conduct a transnational investigation. A few examples of assistance are inspection procedures for high-risk vessels, digital forensics, language and technical support for interviewing suspects, and technical assistance and the required equipment to determine the origins of illegally trafficked wildlife, such as through DNA testing. In 2018, there were two ISTs.

347. INTERPOL offers Regional Investigative and Analytical Case Meetings (RIACMs) at the request of member countries, facilitated by once case files are set up. They bring together national law enforcement officers regarding significant cases to collaboratively pursue investigative and enforcement actions which may involve participation by any country whose jurisdiction is impacted by a case. RIACMs help to identify criminal networks and lead to opportunities for further exchange of police information and evidence under international crime cooperation procedures. RIACMs include capacity building and training with targeted operational training on technical matters.

348. For fisheries crimes investigators, INTERPOL can be useful for identification and inspection of Highest Risk Vessels, for example, through DNA evidence collection.

349. Lastly, The Fisheries Crime Working Group (FCWG) established in 2013, is an international platform for cooperation between our member countries where they can create networks, exchange on best practices, and learn more about the support provided by INTERPOL.

Forensic Document Investigation for Effective Fisheries Prosecution

350. Mr. Ganesan Vethiah, a maritime legal consultant, presented the main concepts of forensic science as it applies to effective criminal investigations. He referred interested parties to the Malaysian laws s.61 to s.91 (EA 50), the Malaysian Evidence Act of 1950 (EA 50), s.45 and s.46 (EA 50) which provide details of documents-handling and provide an expert opinion on interpretation.

351. Forensic means, 'having to do with the law'. Forensic scientists conduct Questioned Documents Examinations (QDEs), for the purpose of providing evidence for issues potentially disputed in a court of law. They use scientific processes and methods, so the evidence makes a strong case in court. A document may be broadly defined as anything that bears marks, signs or symbols which have meaning or conveys a message to someone.

352. Handwriting can be used as forensic evidence. Mr. Vethiah explained that expert analysts in handwriting need to secure requested handwriting/signature specimens from the accused over a period of three intervals/days, gathering 20 specimens each time, and by reading the said sentences to the accused.

353. The authorized fisheries officers have powers under section 46 and 47 FA 85 to search and seize fishing vessel including documents in MFW without a warrant. Only fisheries officers (s.47A) can act as

investigators besides Malaysian Maritime Enforcement Agency (MMEA) officers as a sole maritime enforcement agency. Under these laws they may appoint qualified translators to identify the contents of gathered documents. If content is relevant to the case underway, they can submit documents to the Chemistry Department so they can apply relevant procedures for forensic analysis.

354. In a case of turtle poachers, the use of information from a public domain (the poachers had found the turtles through a published article on where the migration patterns of turtles) created issues in court. Weaknesses in s.27 FA 1985, the law punishing turtle poaching said a fine cannot exceed RM5,000 irrespective of number of turtles caught. The amount was not high enough to deter the poachers, it still represented a lucrative income in a climate of low investment in fishing.

355. Arguments used to fight the defence were strong however, the forensic evidence brought the illegal activity to justice. In this case, QDEs provided a high probability of a secure conviction. The evidence identifies detailed aspects of the fisheries crime, linking the poached turtles to the accused. It also identifies the modus operandi in a particular case and provides profiling for effective covert, overt and controlled delivery enforcement operations.

356. The conclusion of this presentation was that fisheries investigators and raiding parties must give more priority to search and seize documents in all forms. It is very important for fisheries investigators to comply to all related municipal general laws while conducting forensic document investigation because failure to do so contributes to serious consequences during legal proceedings. Mr. Vethiah, encouraged the participants to pursue continuous capacity building on forensic investigations for more effective legislative responses to IUU fishing.

Discussion, Comments, Questions and Answers

357. Question to Police Lieutenant General Jaruvat Vaisaya: About involving the police in fisheries cases, as a leader in an organisation how do you systematically communicate to your officers to work collaboratively in fisheries, something most police officers did not sign up to do?

358. Reply: The Thailand government has given us special power for chief of law enforcement and law enforcement oversight that consists of fishery department prosecutor, police. We work together, we develop a plan and learn by doing. We do our best to work well with the government agency.

359. Reply from Mr. Deon Burger: We must convince the police to work with fisheries which can be a problem. Law enforcement must be aware they can take on other charges, which is something they get excited about, or something they would like to get involved with. For example, they can get perpetrators on tax evasion, which police often want to regulate. We must emphasize it is not just about fish. Continual mentorship is essential, and we must have multi-agency cooperation between a country before we can expect it to work internationally.

360. Reply from Mr. Jason Judd: Labour inspector is a cousin of fisheries inspector. In Thailand, the crisis has made room for question of what is happening to the workers. As a result, the Prime Minister got involved and applied greater pressure, which made it easier to get collaboration and get our work done.

361. Question to Mr. Judd: Why was the presentation on the ILO, rather than a global perspective on the issue?

362. Reply from Mr. Judd: Sorry we did not speak of ILO efforts around the world. UK and Thailand are the most recent countries to ratify, ILO looks at national laws first and how they fit or don't fit within the ILO mandate, both on paper and enforcement. There is abundant information 188 on the website. Projects focused on enforcement like this are relatively new, and development of fisheries (livelihoods and small-scale fisheries) are also new. Check the website for global information.

363. Question from Mr. Francisco Blaha, requesting further follow up from Mr. Judd.

364. Reply from Mr. Judd: We took templates and tools for inspections in factories and applied them to vessel inspections. There are differences in working in water and on land, so it took time to get familiar working on vessels and dealing with migrants (which may be unique in Thai fishing where 90 percent of workers are foreign). The inspectorate at the time had zero interpreters, and the government was prevented from easily hiring Cambodian or Burmese nationals to act as interpreters. Inspectors relied on document review which does not always tell you what happens on the water and does not address what is happening in the vessel. We are working with port side inspectors because the hours outlined in logbooks sometimes are incorrect. When the wind changes for inspection and fishing, we expect to bleed over in other parts of the economy. Not just fish is exported to the EU (cassava, palm oil, poultry) from Thailand and we can update procedures in industries beyond fishing.

365. Question to Mr. Burger: How do you communicate activities to the media?

366. Reply from Mr. Deon Burger: INTERPOL communications office goes to the media directly. We make sure from our perspective that member countries release their information or press release. They approach us sometimes. Police organisations generally are not particularly good at telling people what they do well or don't, but we are working on it.

Session 9: Improved compliance in RFMOs

The Role of RFMOs in Ensuring Compliance: Ms Alexa Cole, Deputy Chief, Enforcement Section, NOAA.

New Developments in Compliance Procedures at WCPFC: Dr. Lara Manarangi-Trott, Compliance Manager at the WCPFC.

Implementing WCPFC's CMM 2017 – 02 on Minimum Standards for Port State Measures for FFA Member Countries: Mr. Hugh Walton, Chief Technical Adviser - OFMP2, FFA

New Developments in Compliance Procedures at the IOTC: Mr. Gerard Domingue, Compliance Coordinator, IOTC.

Towards Improved Compliance in ICCAT: Ms. Jenny Cheatle, Head of Compliance, ICCAT.

Developments in Compliance Procedures at NPFC: Mr. Peter Flewwelling, Compliance Manger, NPFC, Japan.

Discussion, Comments, Questions, and Answers

367. The facilitator of the ninth session, which focused on improved compliance in RFMOs, was Mr. Alejandro Anganuzzi, from the Common Oceans ABNJ Tuna Project.

The Role of RFMOs in Ensuring Compliance

368. Ms. Alexa Cole, Deputy Chief of the Enforcement Section of NOAA, delivered a presentation on the role of RFMOs in ensuring compliance. She first explained how RFMOs could be better Secretariats to the fishing region they serve by collecting data and engaging in analysis with greater frequency and distribution of their findings. They can also implement compliance measures to the best of their ability with the resources available to them. They can also engage in planning activities to curb potential compliance issues.

369. She described an RFMO commission to build accountability, build capacity, and foster political will to increase compliance.

370. Challenges to these goals, however, are prevalent and include limited authority. RFMOs need to aim for consistency, fairness, and transparency. They should seek to learn the causes of non-compliance and set up measures to verify that their partners' goals are aligned with fisheries legislation.

371. RFMOs can do more: increase development of responses to non-compliance, create targeted MCS tools and encourage their broader use, improve obligations' clarity and focus for those who work at RFMOs, support active participation in Compliance Monitoring Schemes (CMS) streamlining and prioritizing, conduct CMS without sacrificing accountability, and finally, to commit to compliance.

New Developments in Compliance Procedures at WCPFC

372. The next presentation, by Dr. Lara Manarangi-Trott, Compliance Manager with WCPFC discussed the latest developments in compliance procedures at the Western and Central Pacific Fisheries Commission (WCPFC).

373. Since 2019, there has been a new CMS measure in place. Members have affirmed principles to guide the implementation of the CMS: effectiveness, efficiency, fairness, cooperation towards compliance. Further enhancements to the CMS will be considered – through a multi-year work plan (2019 – 2021+).

374. The mission of the organisation is to uphold the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific. Moreover, the WCPFC is mandated to assess flag CCM action concerning alleged violations by its vessels, not to assess compliance by individual vessels.

375. WCPFC consists of 26 Members, seven Participating Territories, and seven cooperating non-member countries and has been in existence for 15 years. The Secretariat includes nine international staff, and thirteen support staff, plus contractors. Currently, 80-85 percent of the world's tuna catches are taken from EEZs. WCPFC has accomplished much in the past 15 years: 44 conservation and management measures, six resolutions, and eight years of CMS conducted.

376. The compliance monitoring report by WCPFC is derived from member reports and responses to questionnaires, MCS programme data, as well as fishery-based data.

377. WCPFC has invested in the virtualization of compliance reporting and the tracking of alleged violations and progress of flag CCM investigations online and looks forward to sharing their experience with the other MCS practitioners here at the 6th GFETW.

Implementing WCPFC's CMM 2017 – 02 on Minimum Standards for Port State Measures for FFA Member Countries

378. Mr. Hugh Walton, Chief Technical Adviser for OFMP2 at the FFA presented on Minimum Standards for Port State Measures for FFA Member Countries.

379. The purpose of WCPFC's CMM 2017 -02 is to establish processes for port inspections undertaken on fishing vessels suspected of engaging in IUU fishing. The measure includes provision for the following: general rights and obligations, designation of ports, authorized fisheries inspectors, inspection requirements, request for port inspection, inspection procedures, coordination and communication, special requirements of SIDS and participating territories, and periodic review.

380. A draft PSM CMM was first submitted to WCPFC by FFA Members at WCPFC10 in 2013. This was initially based on the suggestion that the FAO PSM did not necessarily take account existing PSM initiatives such as the FFA Harmonised Minimum Terms and Conditions (HMTCs) or a full risk-based approach and was therefore limited to foreign vessels.

381. The FFA draft CMM was modified to take account of wider CCM inputs and tabled for the consideration of WCPFC concerns. Finally, it was adopted as CMM 2017 - 02, coming into force for CCMs in January 2019.

382. The FFA commissioned a PSM Gap Analysis in 2016 to examine the performance of FFA members' existing port state controls against the PSMA and other relevant regional measures (e.g. FFA's HMTC's

and relevant WCPFC CMMs). The study included a regional synopsis and national status reports. It suggested three options for FFA members to consider: accede to the PSMA, develop and agree upon a WCPFC PSM CMM, or strengthen PSM components of Minimum Terms and Conditions (MTCs).

383. One FFA PSM initiative is the Pacific Island Port State Measures Project (PIPSM). The project goal is reduced IUU fishing in the Pacific through cooperative monitoring, control and surveillance programmes. They aim to develop a regional and sub-regional framework for PSM, recognising international developments including FAO PSMA. They also seek to develop national strategies consistent with the regional PSM framework, to address deficiencies and build capacity. They support PICs to implement their national level PSM including regulatory and governance frameworks and roll out capacity building training programmes and provisions of mentoring across member states.

384. So far, the project is going well; four long-term specialists have been contracted to undertake key tasks. The first regional PSM workshop was held in Noumea in March 2018. Key tasks assigned to consultants to undertake the drafting of PSM frameworks, summary of national PSM status' for members, overview of market access requirements and preparation of a risk assessment framework. Joint national workshops with FAO and a Second Regional PSM workshop are scheduled for March 2019.

385. Mr. Walton, gave an overview of the FFA's Minimum Terms and Conditions (MTC). He explained that MTCs are vital for regulating access to certain waters through control over EEZs. MTC's are adopted as minimum standards of access and do not preclude any member from adopting more stringent standards. The most important quality about MTCs, however, is their ability to create a uniform regulatory environment to ensure that the Pacific Island States have a level playing field upon in negotiating access agreements.

386. Special Requirements of SIDS and Participating Territories are the following: CCMs shall give full recognition to the Special Requirements of SIDS in relation to the implementation of this CMM. CCMs shall cooperate to establish appropriate mechanisms to assist developing CCMs. These mechanisms shall include developing national and international port State measures; developing and enhancing MCS and training capacity including MCS PSM activities including access to technology and equipment; assisting SIDS CCMs with the costs involved in any proceedings for the settlement of disputes that result from actions they have taken pursuant to this CMM.

387. These mechanisms shall include developing national and international port State measures; developing and enhancing MCS and training capacity including MCS, PSM activities including access to technology and equipment; assisting SIDS CCMs with the costs involved in any proceedings for the settlement of disputes that result from actions they have taken pursuant to this CMM.

388. In implementing any obligation of this CMM, where disproportionate burden has been demonstrated by a SIDS, CCMs shall cooperate to identify mechanisms required to mitigate the burden of implementation. CCMs shall cooperate with that SIDS to obtain those mechanisms to assist that SIDS to implement that obligation. Implementing the Special Requirements under this CMM are best described as 'Work in Progress.'

389. Measures beyond MTC's are variously implemented with examples including, members with very high levels of PS transshipment inspecting 100 percent of arriving vessels and monitoring 100 percent of transshipments. Another example is, one member with very high levels of longline vessel activity inspecting 100 percent of arrivals and 50 percent of all unloadings, or one small atoll country with moderate levels of transshipment inspecting 100 percent of arriving vessels.

390. There is a common need expressed that sourcing adequate resources – both physical and human, is an ongoing challenge. Similarly, ensuring effective and updated regulatory mechanisms are in place is often time consuming for some members. Ensuring well established links between PSM related agencies is an ongoing challenge. There is a common goal to see PSM reporting systems electronically based and linked to a broader CDS system.

391. Future developments of FFA are to host Regional PSM on the consolidation the PSM framework and the development of national PSM strategies. FFA seeks to collaborate with different PSM support agencies, and to consolidate ER systems PSM related trainings.

New Developments in Compliance Procedures at the IOTC

392. Mr. Gerard Domingue of the Indian Ocean Tuna Commission gave an overview of how that organisation has improved its compliance procedures.

393. The IOTC has 32 Contracting Parties, two Cooperating Parties (non-contracted), 25 coastal States and seven DWFN. IOTC Compliance Committee (CoC) has accomplished much to advance their mission, it has assessed compliance across resolutions, and has run country-based assessments over standalone three-day meetings.

394. Some of the challenges faced by Cooperating Non-Contracting parties (CPCs) are a high number of reporting requirements and a lack of coordination at the departmental/national level. Likewise, on the IOTC's Secretariat side, the challenges are limited staff, and the need to manually analyse reports from CPCs. Maintaining objectivity in the analysis is also a challenge.

395. The IOTC plans on streamlining reporting requirements to increase the efficiency of the reports. They will also take action to reduce transcription errors through direct input of the information by CPCs into web portals. Another step they will take is setting up automatic alerts for upcoming report deadlines and missing reports and setting up a "live" compliance dashboard that shows reporting status against each resolution/reporting requirement.

396. Even with these changes underway, they aim to replace the current manual processes with a web-based centralized system by 2021. The web-based system, e-Maris, will benefit CPCs by giving them one single location for everything related to IOTC reporting. Submissions to the secretariat will be processed much faster than previously, and reports will be automated. The overall benefit is the reduced workload for both parties and the freeing up of time for the secretariat to focus on improving submissions.

Towards Improved Compliance in ICCAT

397. Ms. Jenny Cheatle, Head of Compliance at the International Commission for the Conservation of Atlantic Tunas (ICCAT) presented on compliance improvement measures at ICCAT.

398. ICCAT is based upon a 1966 convention to conserve tuna, tuna-like species, and pelagic sharks in the Atlantic convention area. ICCAT has 57 members; over 75 percent of ICCAT Contracting Parties are classified as developing countries. Currently, there are 17,000 vessels on the ICCAT Record(s), and they all adhere to the reporting requirements on tuna and shark species, which pertain to minimum size and number of catches.

399. ICCAT currently maintains 39 databases, 14 of which are related to compliance or management information. They include the ICCAT Record of Vessels, ICCAT Record of Ports, Statistical Document Validation, Statistical Document import/re-export data, Catch Documents and Catch Document information, weekly/monthly blue fin tuna catches, IUU Vessels, and Farming Activities.

400. The compliance committee's Terms of Reference (1995-2007) provided three overall objectives. The first was to provide a structured forum for discussion of all problems related to effective implementation of, and compliance with, ICCAT CMM. The second was to review compliance with ICCAT CMM from ICCAT subsidiary bodies, and from National Reports submitted by ICCAT Contracting Parties. The third objective was to identify and discuss problems related to the implementation of, and compliance with, ICCAT CMM, and to make recommendations to the commission on how to address these problems.

401. Since 2008, in part due to the E-BFT crisis and a general criticism by NGOs and the public, compliance has been reviewed on a CPC-by-CPC basis; a summary sheet for each CPC is developed.

402. In 2009, the IUU list was extended to NCPs. NCPs still reviewed under PWG, including the cooperating status.

403. Of the 36 scientific requirements, the nominal catch/landing and the catch and effort by month/area/size are two of the most notable. There are 103 management reporting requirements.

404. One of the significant challenges is to provide incentives to CPCs to comply with CMMs. Currently, most non-compliance issues are met only with a letter. Now the new laws are Rec. 16-13 which allow for identification to be followed by trade sanctions if no action is taken, Rec. 11-15 which provide for prohibition if catch data are not provided and potential disciplinary actions, contained in Rec. 16-17, but these have not been applied to date. Many 'infractions' concern late or incomplete reporting, rather than significant IUU activity so better reviewing procedures encourage CPCs to have better performance.

405. ICCAT views the future of their work as centred around online reporting, streamlining of measures and requirements, capacity building, and as incorporating a learning process from other fora.

Developments in Compliance Procedures at NPFC

406. Mr. Peter Flewwelling, Compliance Manager at NPFC, presented next on developing compliance procedures at his organisation.

407. NPFC was established in 2015, to bridge the gap between fisheries management and the protection of ecosystems in its region. It is comprised of eight members: Canada, China, Japan, Korea, Russia, Chinese Taipei, USA, and Vanuatu. It is a growing organisation; in 2018, 750 vessels were registered and although all were not active, the total reported catches were 880,000 mt.

408. The NPFC is looking to set up traditional MCS technology across the region to verify the legal 'paper controls'. New technology remains an option, and they are looking into air surveillance and drone technology, in addition to balloon technology, and VMS/AIS.

409. Currently, the NPFC convention incorporates principles of nine organisations (UNCLOS, UNFSA, FAO Compliance Agreement, CBD, FAO Guidelines for Responsible Fisheries, IPOAs, Flag State Performance, Ecosystem Approach to Fisheries and PSMA), and it has nine active CMMs including a vessel registry, an IUU vessel listing, a CMM about: Transshipment, Nationality, Chub Mackerel, Pacific Saury, HSBI Bottom Fisheries, and the vulnerable marine ecosystems (VME) in the NW and NE Pacific Ocean.

410. The private sector has promoted many positive management measures through increased industry involvement, and intra-government cooperation in MCS. In addition, the private sector has increased the use of harvest control rules, ecosystem/biodiversity conservation measures, and more extensive use of AIS.

411. Challenges faced by the NPFC include increased fishing pressures, political agendas, and the challenge to enhance commitment to stopping IUU fishing.

412. Progress in collaboration has recently taken the form of working with Global Fishing Watch. NPFC and Global Fishing Watch are conducting detailed investigations of encounters highlighted on AIS. They have learned from these investigations that in 2017 and 2018 there were about 100-120 encounters in the Northern Pacific Ocean and approximately 23-25 percent of cases involved vessels unregistered to WCPFC or NPFC. The use of AIS was being promoted due to no regional VMS, and it is noted that VMS tracks only those willing to be tracked thus providing a limited picture of total activity in the Convention Area.

413. Lastly, some new initiatives include contacts and liaison for new technologies and MCS practices with the International Seafood Sustainability Foundation (ISSF), Stop Illegal Fishing/Fish-i Africa Programme in Africa, VMEs assessments to determine SAIs for management, Encounter Protocols/Exploratory Protocols, Move on Rules, and MPAs, etc.

Discussion, comments, questions and answers

414. Inquiry from Mr. Deon Burger INTERPOL to ICCAT: Do you have any comments on Operation 'Tarantelo'?

415. Reply: Officials arrested 79 people and seized more than 170,000 pounds of bluefin tuna. Traffickers made roughly 12 million Euros annually by selling up to 5.5 million pounds of undocumented fish and tuna.

416. Reply: The story came up at compliance committee meeting last year; it is on the agenda for CDCs involved but cannot comment on an ongoing investigation.

417. Additional inquiry to ICCAT: About transfer of capacity between flag States, what are your thoughts on process of moving between flag States?

418. Response from ICCAT: In theory, there should be an increase of capacity and there should not be a problem moving between flag States if the flag state complies with ICCAT. In most times, developing countries are developing fishing capacity, and they are attempting to respect the rules, generally.

SESSION 10: Control and enforcement over transshipment

FAO Global Study on Transshipment: Dr. Adela Rey Aneiros, Policy Officer, IUU, EC, Directorate General Maritime Affairs and Fisheries.

SAIKO Business: An Ecological and Human Catastrophe: Mr. Kofi Agbogah, Executive Director, Hen Mpoano, Ghana.

Transshipment: The Weakest Link?: Mr. Gary Orr, Manager of Compliance Investigations, Ministry for Primary Industries, New Zealand.

Transshipment Reform Needed to Ensure the Legal, Verifiable Transfer of Catch: Mr. Mark Young, Project Director, Ending Illegal Fishing Project, The Pew Charitable Trusts.

Collaboration Between a Major Tuna Transshipment Port and a Key Processing State: Mr. Francisco Blaha, Fisheries Advisor.

Thailand MCS: Control of Overseas Fishing and Transshipment: Ms. Sampan Panjarat, Fisheries Biologist at the Andaman Sea Fisheries Research and Development Centre (AFRDEC) at the Department of Fisheries, Thailand.

Implementation of MCS Measures on Taiwan Distant Water Fleets: Mr. David Chang,
Overseas Fisheries Development Council of the Republic of China (OFDC), Taiwan.

419. Session ten was facilitated by Mr. Peter Flewwelling, of the NPFC and focused on the problem transshipment raises for control and enforcement and the various solutions partners have come up with to maintain control over their nation's fish stocks.

FAO Global Study on Transshipment

420. Dr. Adela Rey Aneiros, Policy Officer for IUU, EC, Directorate General Maritime Affairs and Fisheries presented on transshipment, regulations, practices, and monitoring and control. She referred to COFI 32 – 2016, COFI 33 – 2018 and the 2018 Global Stakeholder Survey on transshipment as the basis for the FAO's recommendations.

421. The FAO recognises the need to close the transshipment at-sea loophole to combat the excessive IUU fishing that plagues fishing industrialists and nations alike.

422. The nature and extent of IUU transshipment activities is still unknown, necessitating qualitative and quantitative studies for particular regions and fisheries. The results of the 2017 survey were that there is a need to develop guidance for minimum requirements for monitoring and control and to repeat the Global Stakeholder Survey every two years to seize opportunities to close loopholes. Increased international interest in transshipment would further this much-needed agenda to curb IUU fishing.

SAIKO Business: An Ecological and Human Catastrophe

423. Mr. Kofi Agbogah, executive director of Hen Mpoano, Ghana presented on the saiko fishing in Ghana. Transshipment of by-catch popularly known as saiko, is a previously illegal mode of fishing in Ghana, where trawlers stay put on the sea, catch fish meant for small-scale fishermen and sell them to canoe fishermen out at sea.

424. Until recently, many trawlers fished within the inshore exclusive zones (IEZ), competing with artisanal fishers over the dwindling small pelagic stocks. Such species are disguised as by-catches (locally termed saiko), frozen in pallets and transshipped at sea to artisanal boats. These catches are not reported.

425. In 2015, 90 percent of industrial trawl vessels licensed in Ghana were built in China, and 95 percent were captained by Chinese nationals.

426. As of September 2018, saiko is classified as legal under supervision in Ghana, according to the President of the Ghana Industrial Trawlers Association (GITA). The new provision holds the promise that the government will be able to meet conservation requirements and gain revenue from regulating the industry.

427. In recent years saiko has become a massive problem. It started as a barter system and evolved into a large-scale business. Trawlers tranship 10-15 kg slabs of catch to specialised canoes that can hold 400

times the fish than that of an artisanal fisherperson. The average annual income of all fishers has dropped by as much as 40 percent in the last 10-15 years. Saiko catches are not officially recorded or reported but are estimated at more than double the officially reported number of landings of small pelagics in the country in 2017 alone.

428. The trawlers that engage in this type of fishing are only licensed to fish demersal, but because they create frozen blocks of saiko catches which often include semi-pelagics and pelagics and large quantities of juvenile fish. Each frozen slab caught by trawlers could contain 55 percent of small pelagics. The effect is ecologically catastrophic; fish stocks could collapse by 2022 if business continues as usual (STWG, 2017) and could result in social upheavals, mass migration and ghost communities.

429. Saiko catches represent a significant loss of state revenue, with about 40 percent of the total landings (100,000 tonnes in 2017) coming from this practice.

430. Livelihood and food security for poor communities are going to be affected. More than 200 coastal villages rely on fisheries as their primary source of income and have limited alternative sources of livelihood or employment. Over the past 10 to 15 years, average annual income per artisanal canoe has dropped by as much as 40 percent.

431. While saiko fishing does supply cheap fish to Ghana's poorest the method degrades juvenile fish numbers and pushes prices and artisanal fisher's incomes down because it floods the market with cheap fish.

432. Benefits accrue to only a few operators (collectors/trawler companies with faceless beneficial owners). Fishing communities, the nation, and the ocean fisheries of the sub-region all lose in the arrangement.

433. Mr. Agbogah said he would like to see increases in hard and soft enforcement of the laws, technology to control all fishing on the Ghanaian coast better and trawl nets that will exclude juvenile fish widely dispersed among fishers. He called for pressure from the international community to summon the political will, commitment, and to the coast and to re-establish an equitable fishing industry.

Transshipment: The Weakest Link?

434. Mr. Gary Orr, Manager of Compliance Investigations, Ministry for Primary Industries, New Zealand, presented on weaknesses in MCS due to transshipment-at-sea. In the absence of checks and balances, transshipment-at-sea provides a significant opportunity for illegality such as catch misreporting, the smuggling of illicit goods, human trafficking, and labour abuse.

435. Transshipment-at-sea allows many vessels to stay at sea for months, even years at a time, thereby avoiding effective regulatory scrutiny. The misreporting or non-reporting of catch when transhipped should be regarded as theft of a valuable and often limited natural resource, rather than the softer label of misreporting.

436. There are several ways in which the risk associated with transshipment can be mitigated. These include, but are not limited to the prohibition of transshipment-at-sea for all licenced vessels fishing within

an EEZ, mandatory observer coverage where operators intend to transship, EM on both the fishing vessel and the reefer, at sea patrolling and inspection, and stronger transshipment regulation by RFMOs on the high seas.

437. The cost to the fishing industry of a prohibition on transshipment-at-sea within an EEZ must be balanced against the long-term sustainability of the fishery given the potential for the depletion of the resource.

438. Requiring vessels to enter port to tranship provides a cost-effective opportunity to inspect catch records and reconcile those against actual catch, eliminating any opportunity to misreport. The PSMA allows for this very situation whereby one party to the agreement can request another party to carry out that port inspection on their behalf.

439. PSMA is a cost-effective tool for ensuring compliance with national law and RFMO CMM as well as providing for better and more effective cooperation and information exchange among coastal States, flag States and RFMO's. There is, however, a risk of displacement where effective MCS&E regimes drive illegal behaviour into other jurisdictions. That is a compelling reason for all nations to become parties to this Agreement.

440. Observer programmes have proven to be highly effective. A particularly good example that operated within CCAMLR is one in which authorised vessels were required to carry two observers, with one from the flag state and the second from another CCAMLR member State.

441. EM measures, which include position and catch reporting supported by video recording, have become more affordable than ever, but the cost of implementing them should be weighed against the cost of not doing so.

442. At-sea patrols involving boarding and inspection on known or risk-assessed areas, where there are joint EEZ boundaries are highly beneficial to curbing IUU activity. A good example of how this can be achieved can be found in the Forum Fisheries Agency Niue Treaty Subsidiary Agreement.

443. The most powerful tool however and probably the most controversial is for all flag and coastal States to prohibit transshipment-at-sea, regardless of whether it is on the high seas or within the EEZ, other than where there are appropriate measures in place to mitigate the risk associated with this activity. The immediate benefit of such a prohibition is that analysis of fishing patterns and vessel movements will have a greater chance of detecting unauthorised transshipment. Such analysis is already succeeding in identifying anomalous fishing behaviour, providing authorities with an ability to focus their limited resources on high-risk vessels.

444. It is essential that fishing nations, acknowledge that they can be exploited by those who seek out weaknesses in their regulatory arrangements or limited MCS&E capacity. All must work harder to gain agreement across nations to employ consistent regulatory practices that work to ensure the sustainability of fish stocks and the associated economic benefits, rather than permitting fishing practices that undermine these goals. There is the need to commit to working more closely with one another and sharing resources

and information. Therefore, there is the need to look to find ways to enable working collaboratively and across national boundaries.

Transshipment Reform Needed to Ensure the Legal, Verifiable Transfer of Catch

445. Next, Mr. Mark Young, Project Director at the Ending Illegal Fishing Project at the Pew Charitable Trusts presented on how more can be done to ensure the legal and verifiable transfer of catch. He called for reformed transshipment management in the form of globally agreed upon best practice guidelines, and the cultivating of political will of RFMO members to commit to a process of transshipment management reform.

446. The Pew Charitable Trusts' best practice guidelines in reporting, monitoring, and data sharing are strategically designed to remedy IUU fishing and are outlined here:

447. Reporting best practice guidelines would require all events be reported regardless of event location, update and standardize all reporting and notifications forms and include minimum data collection requirements for both target and by-catch species, mandate pre-notifications of intent to transship upon carrier vessel entry into RFMO waters to include confirmation of compliance with any near real-time vessel monitoring system (VMS) reporting and observer carriage requirements.

448. Reporting best practice guidelines would also require submissions of both electronic pre-notifications and post declarations within 24-hours, mandated observers, and require that the Secretariat conduct annual audits of transshipment reporting using both public and non-public domain data.

449. Monitoring best practice guidelines would require 100 percent observer coverage (human and/or electronic), establish minimum standards for the collection of carrier observer information, ensure all vessels have access to a pool of trained carrier observers, require all vessels to have an operational VMS unit on board, mandate manual reporting requirements and vessel monitoring arrangements in case of VMS unit malfunction, consider mandatory AIS usage by all RFMO authorized vessels as a supplement to VMS to increase transparency of overall vessel monitoring.

450. Data Sharing best practice guidelines would require the establishment and harmonisation of transshipment data-sharing procedures and the expansion of any current RFMO data-sharing agreements to specifically include the sharing of all transshipment data.

451. Over USD 142 million USD are lost each year to IUU fishing involving transshipping in the Pacific Island region alone (Duncan Souter et al. 2016). Increased clarity, compliance with reporting, and standardised reporting would revolutionise the process of transshipment management, which currently, requires strengthening, standardisation and harmonisation.

Collaboration Between a Major Tuna Transshipment Port and a Key Processing State

452. Mr. Francisco Blaha, an independent fisheries advisor with the Marshall Islands Marine Resources Authority (MIMR.A) presented on the Marshall Islands' transshipment and processing system.

453. MIMRA is based in Majuro, the capital and largest city of the Marshall Islands. Majuro is also a large coral atoll of 64 islands in the Pacific Ocean. It forms a legislative district of the Ratak Chain of the Marshall Islands. It is sometimes mentioned as a nuclear testing site as well as being known for lagoons, anchorage, and surf.

454. MIMRA covers many critical tracking events due to the Marshall Islands being a port State. With 400 to 450 transshipments a year, Majuro is the busiest tuna transshipment port in the Pacific Ocean. When any vessel intends to come into MIMRA's jurisdiction, officials board the vessel and assess it via agents who board the vessel after receiving an automatic alert from the vessel 48-72 hours prior to arrival.

455. MIMRA faces a challenge common to all port states, that they do not know if transshipment is occurring in their waters. Their investigators prepare comprehensively before boarding vessels, so they stand better chances of discovering if something is amiss to regulate to the best of their ability.

456. The MIMRA operations facility has some useful technology. They have an FFA regional picture that appears on an extra-large monitor that provides position and compliance status of every vessel with authorizations in various databases. PNA FIMS provides us with detailed information of all the vessels in the FFA registry plus licenses

457. If all the details that are known about the vessel line up with the reported figures MIMRA authorizes port use and transshipment if requested but if not "no fish goes over the rail" until the issue is resolved. Maritime police and the MIMRA's lawyer also get involved if there are reporting discrepancies or other suspicious factors. Barring such factors, MIMRA signs the vessel's logbook and enters the vessel's data into their system, a step that triggers seven different signatures.

458. MIMRA practices active data collection. When monitors board ships they estimate the volumes and catch composition of transshipped fish and record the presence of any species of interest. They use testing hook scales to refine the logged estimates and their data.

459. Lastly, MIMRA makes sure that the vessels leave empty or with the fish they have declared and that the observer on-board is safely placed.

460. In the future, regional CDS will only have to focus on the compliance analysis because they can coordinate the process with Thailand through an agreement for exchange of landing information.

Thailand MCS: Control of Overseas Fishing and Transshipment

461. Ms. Sampan Panjarat of AFRDEC presented on the challenge of creating and operating effective monitoring and surveillance solutions.

462. The DoF can monitor fishing gear as well as vessel paths across the ocean via satellite communications systems with both ER systems and EM systems. The information gathered from these instruments is checked for consistency against catch logs, reports, inspections, and observer accounts, among other data.

463. To detect noncompliance on vessels, the DoF looks for suspicious activity in the data sources (Daily Fishing Reports /ERS), five-day observer reports, transshipment activity). Suspicious activity includes VMS signal loss in a period of compliance, low speed, stopping and steaming at high speed, mismatch of fish species or quantity of fish, or warnings by observers or relevant third parties.

464. Investigations follow vessels marked for potential IUU activity. The FMC and the **OFTCD** play a role, as does the observer account, snapshots, and polling photographs. The DoF contacts the Master of the vessel, relevant RFMOs and states. If non-compliance is not evident at this stage of the control process, then the port inspection will finalise the process.

465. Then Ms. Panjarat gave two case studies of carriers at sea under 24/7 monitoring and went on to the lessons learned.

466. The DoF discovered that the software and hardware were still in need of adaptation to the purpose of fisheries monitoring. Firstly, they were not built with flexibility for software and hardware updates. This is partly because the receiving data platform was developed by the Digital Government Development Agency and the sending data platform was developed by service providers. Secondly, the equipment and repairs are expensive due to low industry competition. If the DoF switches to alternative solutions, the change may impact the business trajectory of the existing service providers. These are challenges the DoF hopes to overcome soon and report back on at future workshops.

Implementation of MCS Measures on Taiwan Distant Water Fleets

467. David Chang, of the Overseas Fisheries Development Council (OFDC) presented on MCS and what role OFDC plays for the Fisheries Agency of Taiwan.

468. As a non-profit the OFDC manages Taiwanese distant water fisheries for the Fisheries Agency of Taiwan with government and private funding.

469. There are about 1,100 Taiwanese fishing vessels operating in three oceans and EEZs of some coastal States. The fishing gears used by Taiwanese fleets are tuna purse seine, tuna longline, squid jigging and torch light net.

470. Taiwan has various MCS measures in place which Chang presented. Vessels that are going to engage in distant water fishing must have a special license in addition to a fishing license. The lists of Taiwan's authorized fishing vessels are promulgated on the website of Fisheries Agency of Taiwan and submitted to the relevant RFMOs.

471. Distant water fishing vessels only can leave the port after the installation of an automatic location communicator (ALC), certified by the OFDC. Then, when out fishing, vessels automatically submit their positions at least every hour. In case of malfunction, manually reporting shall be made every four or six hours, and the ALC equipment must be repaired within 30 days. The electronic catch logbook must be submitted to the OFDC from the distant water fishing vessel every day. The OFDC has also developed a

cell phone application to assist vessels owners to understand the current fishing operation of their fishing vessels.

472. Tuna purse seine vessels are prohibited to conduct at-sea transshipment. Tuna longline vessels only can conduct at-sea transshipment with a regional observer onboard the carrier. Any transshipment, whether at-sea or in-port, must obtain a permit prior to the event from the Fisheries Agency. Transshipment declaration must be submitted to the Fisheries Agency within a designated period after transshipment is complete. The transshipment amount and catch amount which remains onboard must also be declared.

473. Landing of transshipped catch, whether by national flagged or foreign carrier vessels, requires a permit and landing declaration within a required timeframe.

474. Taiwanese fishing vessels can only land their catch in the designated foreign ports with established inspection mechanisms that have been approved by the Fisheries Agency.

475. Landings are subject to random inspection, considering the risk of the vessel as evaluated in the National Plan for Control and Inspection for Fisheries.

476. For domestic ports, the minimum inspection rate is set at 10 percent, and for foreign ports, it is set at 5 percent for those ports without a stationed Taiwanese fisheries officer; 10 percent is set for those ports with a stationed Taiwanese fisheries officer.

477. More than one hundred national observers are employed and dispatched on-board Taiwanese fishing vessels to achieve the minimum observer coverage set for by the RFMOs. Taiwanese National Observer program has been certified by the WCPFC as one of the regional observer programs for the Western and Central Pacific Ocean.

478. Inspection should be carried out in accordance with prescribed procedures, and inspection items should at least include vessel and equipment on-board, documentation, catch and fishing gear. For Taiwanese fishing vessels operating in the WCPO, the minimum rate of high sea boarding inspection is set as three percent.

479. Fish traders from distant water fisheries are approved and audited periodically by the Fisheries Agency. During an audit, the Fisheries Agency will review whether the fish traders have established standard operating procedures to prevent any fish or fisheries products originating from IUU activities from entering the supply chain. Fish traders are required to keep transaction records and relevant documents for at least five years, to ensure that each batch of exported catches or fisheries products could be traced at all stages from catching, transshipment, landing, transportation, processing to selling.

480. It is essential for the authority to have capacity to monitor and control any fishing vessel in real time. In this regard, Taiwan established a Fisheries Monitoring Center (FMC) in January 2017. Routine missions of the FMC include, but are not limited to, monitoring fishing vessels operating in three Oceans as well as in the EEZs of other States, contact fishermen for cases of VMS signal lost or failure to report within the required interval, and monitoring whether the catch data have been daily reported through the E-logbook system.

481. The Integrated System for Marine Fisheries (ISMF) integrates the basic information of vessels, VMS data, E-logbook data, designated port data, access licensed vessels data, transshipment or landing data, and allows the FMC staff to monitor the dynamic information of fishing activities while alerting the officers of the fishing vessels that may have the potential for infringement.

482. In conclusion, each MCS measure relates to another; MCS measures are designed and implemented as a whole. It is important that each MCS measure include checks to prevent loopholes. All MCS data must cross-check comprehensively and instantaneously to prevent, deter, and eliminate IUU fishing activities. It is crucial for the relevant countries and authorities to cooperate with one another to close the net.

Discussion, Comments, Questions and Answers

483. Inquiry to Francisco Blaha: What would it take to replicate the Thai and Marshall Island collaboration on control and enforcement over transshipment?

484. Reply: We have shown that it can be done, but there was still a great amount of resistance. We must be aware of political pressure. Geopolitics are greatly important. Also, most importantly are the people. It is hard to maintain good people with low salaries. If they are good, they would leave to a different job, so we must ensure some equality in salary between partners. We need good leadership, politics, and the right people, with the right salaries to have effective collaboration.

485. Comment to Kofi Agbogah: The case of transshipment is extreme in this sense but it is a truism that coastal States have small scale fisheries that are targeting some of the same species as the industrial scale. We should consider that maybe we have focused too much on the industrial scale when MCS should focus on both. Is there another meeting on small fisheries we should be aware of? We must consider at the IMCS the role of small fisheries in the same topics we have talked about.

Stop IUU Fishing Awards Ceremony

486. The 3rd Stop IUU Fishing Award Ceremony and Conference Dinner was then held. Ms. Michele Kuruc, Senior Vice-President of Ocean Policy of the WWF, congratulated everyone in attendance for their excellent work, saying that the ceremony was a celebration of everyone's collective progress.

487. In her speech, Ms. Kuruc highlighted the persistence and optimism combatting IUU fishing requires. The Stop IUU Fishing Award Contest is based on the criteria success, innovation feasibility and cost, potential for piloting, and educational value.

488. One of the objectives of the contest is to showcase the winning entries as inspirational examples and encourage other countries, organisations and individuals to continue to innovate in the fight against IUU fishing. There are dire consequences caused by IUU fishing: environmental degradation, food insecurity, and economic instability for some of the most vulnerable to name a few.

489. The biennial GFETW and the Stop IUU Fishing Award Contest are projects of the International MCS Network. In July 2012, the International MCS Network launched the first-ever Stop IUU Fishing Award Contest to promote the efforts of the International Community to combat IUU fishing. Losses from IUU fishing activity are estimated worldwide in a range of USD \$10-23 billion annually. IUU fishing activities undermine sustainable exploitation of living marine resources and destroy aquatic habitats. IUU fishing means short term gain for a few greedy operators which causes long term pain in the form of loss of income and employment of legitimate fishermen, distortion of markets for fishery products and a threat for subsistence of fishing communities dependent on fishing.

490. International cooperation is crucial for combatting IUU fishing and associated activities since the fishing industry is one of the most globalized industries. The International MCS Network was founded in 2001 and works to improve the efficiency and effectiveness of fisheries-related MCS activities through enhanced cooperation, coordination, information collection and exchange among national organisations, institutions and RFMOs responsible for fisheries-related monitoring, control and surveillance and compliance.

491. Nine applications were received, each of which has been evaluated by the committee of judges, a geographically balanced group of MCS experts, chaired by Ms. Kuruc. The winning entries are not evidence that IUU has been eradicated from these areas. It would be foolish to make that claim as we know that significant problems and challenges still exist in some of these very same places. Given the past difficulties with IUU in these areas, their achievements perhaps are that much more meaningful, and the recognition also takes the challenges into account. They have come far but of course much remains to be done.

492. Special recognition went to Earth Journalism Network's West Africa Fisheries Project. The project tackles IUU fishing through the promotion and support of excellent journalism on the subject. This work not only raises awareness but ensures local communities are educated and have access to information about the negative impacts IUU fishing has on marine resources, as well as the socio-economic consequences for coastal communities. Transparency and education are among the best tools for combatting IUU fishing.

493. Third place was co-awarded. One awardee was the PSMA Network between Latin American and Caribbean countries to prevent, deter and eliminate IUU fishing, by Peru on behalf of the other countries (Red contra la Pesca INDNR de ALC).

494. The other winner of third place was Spain. Its policies combatting IUU fishing and its financial support for the establishment of the Global Record. The PSMA Network between Latin American and Caribbean countries to prevent, deter and eliminate IUU fishing (Red contra la Pesca INDNR de ALC), by Peru considers the importance of exchanging information and experience between administrations for the effective implementation of the Port State Measures Agreement, the committee of judges felt it encouraging that the *net closes* around Latin America.

495. The second-place winner was Thailand's DoF for their Fish Product Traceability System. The Department of Fisheries has shown inspiring and determined leadership in difficult circumstances to bring this operation to a success. Thailand has made a very big step forward.

496. First place went to the FFA Integrated Monitoring, Control and Surveillance (MCS) Framework.

497. The FFA was established in 1979 and is a relatively young organization. Since its establishment it has worked relentlessly to improve MCS in the region as an inspiring facilitator which has repeatedly instituted initiatives to improve the performance of itself and its Members. In this short period the FFA has become a reference not only in the Pacific but also globally as a leading MCS agency in MCS. It has a consistent record as from its establishment as a catalysator for regional MCS cooperation in the Pacific between Island States and in support of the WCPFC.

498. The FFA MCS Framework scores high on all criteria in terms of success, innovation, feasibility and cost and educational value. When countries are setting up jointly MCS facilities it will pay off double in terms of better effectiveness and lower costs. Technically it is perfectly possible to set up together dedicated MCS facilities which will be cheaper for individual partners and more effective as information and knowledge concerning the fishing activities of an ever-increasing global industry. The FFA is a fascinating example for all of us and an example for other States wishing to establish joint MCS facilities.

499. To read the full speech at the ceremony dinner where Ms. Kuruc describes the projects in detail and what makes them exceptional efforts to combat IUU fishing see Appendix 6. Each entrant also wrote a short summary for the conference and IMCS websites.

500. The awards were presented the following day, Friday the 22nd of February by Ms. Kuruc, Senior Vice-President of Ocean Policy of the WWF, and Todd Dubois, Chairman of the International MCS Network.

Special Recognition

501. For the first time the judges conferred a Special Recognition which was given to the Internews' Earth Journalism Network's West African anti-IUU Fishery Project.

502. With the support of the Adessium Foundation, Internews' Earth Journalism Network (EJN) and its West Africa Fisheries Project has been providing journalists in West Africa with the understanding and resources to investigate issues of overfishing, food security and ocean governance while also highlighting the economic and social consequences illegal fishing activities impose on vulnerable coastal communities. The two-year project adopted a transdisciplinary approach and engaged a wide range of stakeholders, while focusing on building the capacity of grassroots journalists based in landing ports in Ghana and Senegal.

503. In 2017, EJN helped establish Ghana's first network of coastal-based fisheries journalists, the Journalists for Responsible Fisheries and Environment (JRFE) network, which was founded by Shirley Asiedu-Addo, Kingasley Nana Buadu and David Yarobi-Tetteh, with the support of the Ghanaian Union of Journalists. The JRFE, which now has over 30 active members across Ghana, has organized a number of activities with the support of EJN including press trips in June 2018 to mark the first IUU day and the production of regular radio shows on transshipment issues.

504. In Senegal, EJN helped re-launch a network of journalists called Groupe Environnement Recherche Press (GREP), in close collaboration with organisation's President Abdoulaye Barry and Secretary General Mandiaye Thiobane. In addition, EJN partnered with the Senegalese Ministry of Fisheries, leading IUU

experts and the Centre de Recherches Océanographiques in the context of a media workshop held in Mbour in October 2018 that increased the capacity of Senegalese journalists to understand issues facing the country. Partnerships with the Union National des Pêcheurs Artisanaux du Sénégal, the Union National des Pêcheurs artisanaux du Sénégal and the Fédérations des Femmes Transformatrices provided journalists with unprecedented access to landing sites in Mbour.

505. The project has now directly trained a total of 34 Ghanaian and Senegalese reporters in how to cover fisheries activities, as well provided online journalism training to at least 18 journalists from Ghana, Gambia, Togo, Benin, Sierra Leone, Senegal, Burkina Faso, Spain and the Netherlands on how to prepare and produce fisheries stories and investigations.

506. The group was presented with a certificate of special recognition.

507. The award winners then presented briefly about their projects.

Spain's General Secretariat of Fisheries/ Peru's Exchange Network to Eliminate IUU Fishing

508. Third place was Co-awarded to Spain's General Secretariat of Fisheries/Secretaría General de Pesca de España for Regulatory Reform and Operation Sparrow; and Peru, on behalf of all countries which participate in the Network for the exchange of information and experience among countries of Latin America and the Caribbean to prevent, deter and eliminate IUU fishing, in Spanish language: Red de Intercambio de información y experiencias entre países de América Latina y El Caribe para Prevenir, Desalentar y Eliminar la Pesca INDNR.

509. The Network (Red contra la Pesca INDNR de ALC) was established in Panama in October 2017 by the Governments of Costa Rica, Chile, Panama, and Peru, with the technical support of FAO and participation of OSPESCA. Currently, the Network consists of Chile, Columbia, Costa Rica, Ecuador, Spain, Panamá and Peru while Argentina, El Salvador, Guatemala, México, Dominican Republic and Uruguay are invited. The Network works together with FAO and OSPESCA while CPPS, OROP and Interpol are invited. The US has requested observership. Peru ensures the technical secretariat of the Network. Therefore, Peru applied for the Stop IUU Fishing Award Contest on behalf of the other countries.

510. In a relative short time, the Network integrated almost all countries on the Pacific side while important countries on the Atlantic side have been invited. Moreover, the Network cooperates with relevant international organisations (OSPESCA, FAO and INTERPOL) as well as relevant flag and Market States (Spain). Although we recognize that some other regional MCS Networks already longer exist in other regions, we felt that this PSMA Network between Latin American and Caribbean countries particularly inspiring and an example to follow in other regions.

511. Spain has established simple rules which prohibit nationals from being involved in IUU fishing activities (as beneficial owner, manager, captain, crew member or in any other way). IUU activities are defined as IUU vessels blacklisted by RFMO's. The Spanish administration has to demonstrate convincingly the link between the nationality and the operation IUU listed vessel. If the link is demonstrated, the rules provide for heavy administrative sanctions. This law has been successfully applied on the 8 IUU vessels blacklisted by CCAMLR including the *Thunder* and its beneficial owners are finally out of business. A clear

success for the International Community and CCAMLR, INTERPOL and Spain. Beneficial owners of IUU vessels in Spain are warned but they will not hesitate to move to other countries with more lenient legislation. The battle is won, but the war continues.

Thailand's Department of Fisheries

512. In second place was Thailand's Department of Fisheries for its two-part Fish Product Traceability System. The purpose is to increase the efficiency and capacity of Thailand's traceability system in relation to both domestically produced and imported fish and fish products.

513. In relation to domestically produced, the Thai flagged Catch Certification System (TF system) is initiated upon the landing of the fish at port, its onward purchasing, its processing until the Catch Certificate is issued. This system is linked with Fishing Info data analysis system which controls Thai-flagged fishing vessel prior to and during fishing as well as the landing of fish under the Port In inspection system. Thailand has the ability to effectively control all fishing activities by its domestic fishing vessels both inside and outside of Thai waters.

514. Regarding imported fish, the PSM linked Processing Statement System (PSS) has been fully implemented to effectively trace and therefore control imported fish from the point of landing through the exporting process. This system greatly increases the transparency and accountability within the fish products chain of custody.

515. Both electronic traceability systems enable Thailand's traceability system to be more effective. These are important innovations which significantly increase the capacity and capability of DoF officials to control fish and fish products throughout fish product flow. The most important aspect of these systems is the support provided through the information exchange involving all stakeholders. This significant increase in transparency has developed a competent traceability system that ensures that no IUU fish enters the international supply chain through Thailand.

Pacific Island Forum Fisheries Agency

516. In first place was Pacific Island Forum Fisheries Agency for its Integrated MCS Framework.

517. The FFA Integrated MCS Framework is an innovative model that uses a foundation of regional cooperation across 17 Pacific nations for combatting Illegal Unreported and Unregulated fishing (IUU) in the Western and Central Pacific Ocean (WCPO). It is led and implemented by the Pacific Islands Forum Fisheries Agency (FFA).

518. This Framework is effectively using regional cooperation and high-tech support from our partners in Australia, New Zealand, United States and France to prevent and deter IUU fishing within the world's largest tuna fishery. Unlike anywhere else in the world, it has successfully reduced illegal fishing to where it now only a minor issue, and our MCS efforts are now effectively focusing on and reducing unreported or misreported fishing.

519. The Framework has direct application for other developing countries, providing a model of cooperation that they can follow. It is a leading example of what developing countries, particularly coastal States, can achieve through focused and innovative collaboration and regional cooperation.

520. FFA Member countries continue to further improve the FFA MCS Framework, as reflected in the FFA Regional MCS Strategy. For example, a new activity is focused on detecting and apprehending those ‘people of interest’ involved in IUU.

521. The Regional MCS Strategy is a 5-year policy document (2018 - 2023) endorsed by all 17 FFA Member countries. Its purpose is “to guide compliance and enforcement with fisheries management frameworks and associated measures at national, sub-regional, regional levels to ensure FFA Members enjoy the highest level of social and economic benefit from the sustainable use of shared offshore fishery resources”.

522. The FFA Integrated MCS Framework has generated strong interest and is already being mirrored in other regions of the world. FFA continues to develop and strengthen working relationships and avenues for ‘south-south’ cooperation with other developing coastal States.

523. By sharing FFA’s experience in developing its Integrated MCS Framework, FFA Members hope to assist other developing coastal States to achieve similar economic, environmental and social benefits.

524. IUU fishing is a global issue. The further development of international cooperation and compatible regional MCS frameworks, through the sharing of experiences, processes and successes, will meaningfully contribute to the elimination of IUU fishing.

525. After a mid-morning break, participants took their seats once again to begin session 11 which was facilitated by Frank Meere.

SESSION 11: PANEL “GLOBAL IUU RISKS, ESTIMATIONS AND QUANTIFICATION”

Indicators of IUU Activities: Dr. Jessica Ford, Research Statistician CSIRO Marine Laboratories.

IUU Survey Outcomes: Alastair Beveridge Master Mariner and MCS practitioner.

Panel Discussion: Alastair Beveridge, Matthew Camilleri, Dr. Chris Wilcox, Mark Young.

Closure: Dr. Adisorn Promthep, Director General, Department of Fisheries, Thailand. Todd Dubois, Vice-Chair, International MCS Network.

Indicators of IUU Activities

526. Dr. Jessica Ford and Chris Wilcox, from CSIRO Marine Laboratories, presented on the IUU enforcement process in Australia.

527. Identifying illegal at-sea transshipment continues to be a fundamental hurdle in combatting IUU fishing. They explore the use of statistical clustering methods to identify cargo vessels behaving anomalously, using the Indonesian EEZ and surrounding waters as a case-study. They use AIS data to identify anchorages and ports, to record individual histories of proximity to EEZ boundaries and behaviour around or within the EEZ, and to provide both track and track summary information of individual vessels.

528. Using a combination of this information, they identify and rank vessels which appear to be acting anomalously, with a focus on identifying potential illegal at-sea transshipment. This information, combined with other sources of data, such as VMS, VIIRS and optical data would provide evidence of proximity of other vessels, and associated activity, to these potential reefers. Based on individual risk profiles for illegal activity, this method provides an alternative means for adding vessels to already existing lists.

529. A global list of such vessels and historical evidence of anomalous behaviour, would allow relevant enforcement agencies to be notified when an identified vessel was entering their EEZ, increasing local powers of protection and providing one more step toward transparency within global fisheries.

530. CSIRO also designed a survey to identify risk indicators using expert elicitation. The survey was made available on the GFETW homepage and participants were encouraged to complete, and to forward on to colleagues where appropriate.

531. The survey was designed to use the Analytical Hierarchy Process to determine the relative importance of 50 risk indicators that cross the MDA space, with a focus on indicators that will point towards potential IUU behaviour. The 50 indicators were classified into nine high level groups: Vessel Validity; Tampering; Owner and Crew; Vessel History; Rendezvous; Movement; Cargo; Fishing (Licensing); and Fishing (Geospatial).

532. 26 Respondents completed the survey - a mix of GFETW attendees and external experts. Respondents had a range of years of experience in fisheries, years in their current role, range of expertise and geographical regions. Results indicated the following ranking of high-level criteria: Owner and Crew; Vessel History; Vessel Validity; Cargo; Rendezvous; Fishing Geo Spatial; Tampering; Fishing Licensing; Movement.

533. Results also indicated the top five indicators were: Captain and crew from different country; Stopped near another vessel; Last Port of call; Home Port; Country of Beneficial Owner.

534. Results allow for a weighted risk assessment approach to addressing IUU fishing.

IUU Survey Outcomes

535. Alastair Beveridge, Master Mariner and MCS practitioner presented the results of an IUU survey completed by workshop participants. At the last 5th GFETW in Auckland, initial discussions took place between MCS practitioners concerning setting up a global IUU risk assessment exercise. The consensus in Auckland was that the development of an IUU risk framework would be valuable. Therefore, to move the concept forward, delegates at the 6th GFETW were asked to participate in a survey during the workshop with initial results being presented on the final day. The results of the survey would then be used to help identify a risk framework suitable for use by a wide range of MCS practitioners.

536. The survey was designed to gather the opinions and experiences of a wide range of MCS professionals in a confidential environment, covering a range of IUU related issues including capacity building, access to information and intelligence and other factors relating to their working environment. The survey continued with sections asking the responder to highlight countries, ports, sea areas and fishing practices which they believed represented higher risks in efforts to control IUU activity. The final sections asked responders their opinions on how effective MCS measures were in their area of operations and what could be done to improve controls. A total of 26 delegates responded to the survey, representing a good cross section of backgrounds of the delegates.

537. The analysis of results was presented as part of Session 11. Of note was the encouraging high number of responders who had good access to fishing vessel details, licensing information, VMS and AIS data. However only around 50 percent claimed having routine access to catch reports, landing information and transshipment operations and authorisations. Countries from whom information was difficult to obtain included Russia, China, Taiwan and Kiribati. Fishing regions which the responders identified as representing a high risk of IUU activity included Central and North Pacific and West Africa with tuna being the highest risk single species and long lining the highest risk gear type.

538. Regarding the effectiveness of MCS measures, 21 percent of responders considered measures in their areas to be very effective, 47 percent reasonably effective and 32 percent thought they were ineffective. Areas of improvement included better use of technology (76 percent), increased resources (70 percent), better exchange of information (76 percent), improved access to surveillance data (52 percent) and improved recording and reporting of IUU activity (52 percent). Also included were better training for MCS practitioners, increased international co-operation using Schemes of Joint Surveillance, better use of risk assessments and increased use of standard documents and catch documentation schemes.

539. The survey presentation was followed by a discussion of the potential to include similar information in the next SIOFA report by the FAO. A risk identification list including fishery, target species, incident type, and impact.

Panel Discussion

540. Following the presentation by Alastair Beveridge there was a panel discussion including Alastair Beveridge, MCS Advisor, United Kingdom; Dr. Matthew Camilleri, Head of Fishing Operations and

Technology Branch, FAO; Dr. Chris Wilcox, Principal Research Scientist, CSIRO, Australia; Mark Young, Project Director, Conservation Enforcement, The Pew Charitable Trusts.

Closure

541. Then the panel transitioned into closing remarks by Dr. Adisorn Promthep, Director General, of the Department of Fisheries, Thailand and words of appreciation for hosting and participation were made by Todd Dubois, Vice-Chair of the International MCS Network. See Appendix 11 to read the speeches.

542. Closure of the workshop was followed by a lunch.

Appendix

Appendix 1: Programme

The Sixth Global Fisheries Enforcement Training Workshop

18–22 February 2018
The Centara Grand at Central Plaza Ladprao
Bangkok, Thailand

CLOSING THE NET

through global cooperation between flag, coastal, port and market States
for effective collective enforcement of international and domestic law

Monday morning, 18th February 2019

09:30 – 10:00

Opening Session

Facilitator – Parnpun Worranut, Department of Fisheries Thailand

Todd Dubois, Vice-Chair, International MCS Network

Ms. Kundhavi Kadiresan, Assistant Director-General and FAO's Regional Representative for Asia and the Pacific

Niwat Sutteemechaikul, Vice-Minister of Agriculture and Cooperatives, Thailand

10:00-10:15

6th GFETW Group Photo

10:15-11:00

Press Conference

11:00-11:30

Keynote Address: Dr. Matthew Camilleri, FAO

'The Role of MCS in the implementation of responsible fisheries management'

First Plenary Session: 'International and Regional Cooperation: The Actors (Part 1)'

Facilitator – Dr. Chumnarn Pongsri, Senior Advisor on Fisheries Foreign Affairs, Department of Fisheries, Thailand

1. *Challenges for Processing State in Combatting IUU Fishing.*

Presenter: Dr. Adisorn Promthep, Department of Fisheries, Thailand

2. *A market State perspective: the EU role in the fight against IUU fishing—State of play after 9 years of application of the EU Regulation.*

Presenter: Roberto Cesari, European Commission

Monday Afternoon, 18th February 2019

Continuation of First Plenary Session: ‘International and Regional Cooperation: The Actors (Part II)’

3. *Eradicating IUU Fishing: the role of the State over their Nationals, Lessons learned from the Spanish Operations against IUU Fishing.*

Presenter: Ms. Monica Corrales, General Secretary of Fisheries, Spain.

4. *Strategie marocaine en matiere de suivi, controle et surveillance, quell impact sur la peche INN?.*

Presenter: Ms. Fatima Rahmani, Kingdom of Morocco.

5. *Canadian Efforts to Combat IUU Activity.*

Presenters: Brent Napier and Sean Wheeler, Fisheries & Oceans Canada.

6. *Korea’s Effort to Promote Sustainable Distant Water Fisheries.*

Presenters: Yu Seek and Ms. Kim Suyeon, Fisheries Monitoring Center, Republic of Korea.

Questions & Answers

Second Plenary Session: ‘International and Regional Cooperation: The Facilitators’

Facilitator – Yves Goulet, Director National Fisheries Intelligence Service, Fisheries & Oceans Canada.

1. *Mutual concern and commitment to combat IUU Fishing in the Region.*

Presenter: Sahono Budianto, Ministry of Marine Affairs and Fisheries, Indonesia

2. *Establishment of Sub-Regional Cooperation in Monitoring, Control and Surveillance in Fisheries in the Southeast Asian Region.*

Presenter: Dr. Worawit Wanchana, SEAFDEC, Thailand

3. *FFA Regional MCS Strategy.*

Presenter: Vivian Fernandes, Pacific Islands Forum Fisheries Agency, Solomon Islands

4. *Galapagos Case Study: Regional Cooperation Built Through Peer-to-Peer Exchange.*

Presenter: Ms. Meaghan Brosnan, WildAid, United States

5. *SWIOFish1—StaRFISH.*

Presenter: Daroomalingum Mauree, Indian Ocean Commission, Mauritius

6. *FISH-i Africa—Lessons learned in regional cooperation.*
Presenter: Per Erik Bergh, Stop Illegal Fishing, Botswana

Questions & Answers

Monday Evening, 18th February 2019

Reception, hosted by the Department of Fisheries, Thailand

Tuesday Morning, 19th February 2019

Third Plenary Session: ‘Emerging Technologies in MCS’

Facilitator – Bubba Cook, Tuna Programme Manager, World Wildlife Fund, New Zealand

1. *Conclusions from the SAFET Conference 2019 and Overview*
Presenter: Bubba Cook, Tuna Programme Manager, World Wildlife Fund, New Zealand
2. *Applications of Data Analysis and Visualization Environment (DAVE) to Predict and Interdict IUU Activity..*
Presenters: Dr. Richard W. Miller and Dr. Van Romero, New Mexico Institute of Mining and Technology, United States
3. *Use of VIIRS boat detection data in detecting illegal commercial fishing in restricted municipal waters in the Philippines.*
Presenter: Dr. Chris Elvidge, NOAA, United States
4. *Machine learning of VMS Data.*
Presenters: Bundit Kullavniyaya, Department of Fisheries Thailand and Ms. Natalie Tellwright, OceanMind, United Kingdom
5. *Effective Tools and Techniques for PSMA Implementation*
Presenter: Bradley Soule, OceanMind, United Kingdom

Questions & Answers

Fourth Plenary Session: ‘Implementation of the FAO Agreement on Post State Measures’

Facilitator – Dr. Matthew Camilliari, Head of Fishing Operations and Technology, FAO

1. *Port State Measures: an integration tool in combatting IUU Fishing, the Latin American Experience.*
Presenter: Alejandro Covarrubias, National Fisheries and Aquaculture Service, Chile.

2. *Spain's experience in the implementation of the PSMA.*
Presenter: Ms. Marta Lopez Gomez, Ministry of Agriculture, Fisheries and Food, Spain.
3. *NEAFC implementation of Port State Measures.*
Presenter: Hrannar Asgeirsson, Northeast Atlantic Fisheries Commission, United Kingdom
4. *Lessons learned from Thailand's Port State Measures Implementation for combatting IUU Fishing.*
Presenter: Thira Rodchevid, Department of Fisheries, Thailand.
5. *Implementation of the Port State Measures Agreement in Southeast Asia.*
Presenter: Ms. Dita Liliansa, Centre for International Law, National University of Singapore.

Questions & Answers

Tuesday Afternoon, 19th February 2019

Fifth Plenary Session: 'Analyzing and sharing MCS data and intelligence'

Facilitator – Mr. Gary Orr, Manager Compliance Investigations, Ministry for Primary Industries, New Zealand.

1. *Global Information Exchange to Combat IUU Fishing.*
Presenter: Dr. Matthew Camilleri, FAO.
2. *A Common Language: The importance of a global standard for exchanging fisheries data.*
Presenter: Mr. Hrannar Asgeirsson, NFEAC, United Kingdom
3. *Operational Global Cooperation in Real Time.*
Presenter: Mr. Bjarne Schultz, Directorate of Fisheries, Norway
4. *Surveillance for IUU threats in the EEZs of the UK Overseas Territories.*
Presenter: Mr. Andrew Deary, Marine Management Organisation, United Kingdom.
5. *Digital monitoring of Commercial Fishing and a Geospatial Monitoring Tool.*
Presenter: Mr. Howard Reid, Ministry of Primary Industries, New Zealand.
6. *Canada's Strategic Threat and Risk Assessment: An Intelligence Tool to Fight Against IUU.*
Presenter: Mr. Yves Goulet, Fisheries & Oceans Canada.
7. *Collaborative effort between fishery managers and law enforcement in Alaska to combat IUU fishing.*

Presenters: Mr. Scott Gray and Mr. Steve Lewis, NOAA Office of Law Enforcement,
United
States

8. *National Coordination Enforcement Agencies in Combating IUU Fishing in Malaysia.*
Presenter: Mr. Muhamad Abdul Rauf Abdullah, Department of Fisheries, Malaysia.

Questions & Answers

Sixth Plenary Session: ‘IUU Risk Assessment Frameworks’

Facilitator – Mr. Alastair Beveridge, MCS Advisor, United Kingdom

1. *Introduction to the IUU Risk Assessment Frameworks.*
Presenter: Mr. Alastair Beveridge, United Kingdom
2. *Turning IUU indicators into a measure of IUU risk.*
Presenter: Dr. Chris Wilcox, CISRO, Australia.
3. *The Global IUU Fishing Index.*
Presenter: Mr. Gilles Hosch, Global Initiative Against Transnational Organized Crime & Poseidon Aquatic Resource Management, Luxembourg

Interactive work session in regional groups

Tuesday Evening, 19th February 2019

Pre-evening session Dinner

Roundtable: ‘Chasing the Thunder, what extensive international cooperation can deliver and valuable lessons’.

Facilitator: Ms. Michele Kuruc, Senior Vice President Ocean Policy, World Wildlife Fund, United States

Panellists: Mr. Alastair McDonnell, INTERPOL; Ms. Monica Corrales, Ministry Agriculture, Fisheries and Food, Spain; Mr. Jorge Rios, UNODC

Screening of Film: ‘Chasing the Thunder’

Wednesday 20th February 2019

Field Trips—no plenary sessions

Wednesday Evening 20th February 2019

International MCS Network Business Meeting

Thursday Morning, 21st February 2019

Seventh Plenary Session: ‘Capacity building for better enforcement action’

Facilitator – Mr. Mark Young, Project Director Conservation Enforcement, The Pew Charitable Trusts

1. *FAO’s Capacity Building Programme in support of combatting IUU fishing.*
Presenter: Dr. Kristin von Kistowski, FAO
2. *Capacity building in Coastal Fisheries and Aquaculture MCS.*
Presenter: Mr. Ian Freeman, SPC, New Caledonia
3. *From capacity building to professionalization: The FishFORCE experience.*
Presenter: Professor Hennie Van As, Nelson Mandela University, South Africa
4. *Developments in the Implementation of Tools and Mechanisms to combat IUU fishing in Columbia.*
Presenter: Ms. Adriana Suarez, FUNDAMAR, Columbia
5. *NOAA’s Technical assistance and capacity building on port state measures and combatting IUU fishing.*
Presenter: Mr. Todd Dubois, NOAA, United States

Video Presentation: ‘Joint Indonesia-US Partnership on IUU Fishing’

Questions & Answers

Eighth Plenary Session: ‘Role of MCS practitioners in combatting crime associated with and/or related to fisheries’

Facilitator – Mr. Jorge Rios, Chief Global Program on Wildlife and Forest Crime, UNODC, Austria

1. *Law enforcement against IUU fishing.*
Presenter: Police Lt. General Jaruwat Vaisaya, Royal Police Authority, Thailand
2. *Case Study: Successful prosecution of “the Godfather”—the Carlos Rafael investigation.*
Presenter: Mr. Troy Audyatis, NOAA, United States.
3. *What’s changed in working conditions in Thai fishing?*
Presenter: Mr. Jason Judd, International Labour Organisation, Thailand
4. *IUU as a risk indicator for other non-fisheries crimes.*
Presenter: Mr. Deon Burger, INTERPOL

5. *Forensic Document Investigation for Effective Fisheries Prosecution—Malaysian Case Study* Presenter: Mr. Ganesan Vethiah, Maritime Legal Consultant, Malaysia

Questions & Answers

Thursday Afternoon, 21th February 2019

Ninth Plenary Session: ‘Improved compliance in RFMOs’

Facilitator – Mr. Alejandro Anganuzzi, Common Oceans ABNJ Tuna Project, FAO

1. *The role of RFMOs in ensuring compliance.*
Presenter: Ms. Alexa Cole, NOAA, United States
2. *New developments in compliance procedures at WCPFC*
Presenter: Dr. Lara Manarangi-Trott, Western and Central Pacific Fisheries Commission, Federated States of Micronesia
3. *Implementing WCPCS’s CMM 2017—02 on Minimum Standards for Port State Measures for FFA Member Countries.*
Presenter: Mr. Hugh Walton, Pacific Islands Forum Fisheries Agency, Solomon Islands
4. *New developments in compliance procedures at IOTC.*
Presenter: Mr. Gerard Domingue, Indian Ocean Tuna Commission, Seychelles
5. *Towards improved compliance in ICCAT.*
Presenter: Ms. Jenny Cheatle, International Commission for the Conservation of Atlantic Tuna, Spain
6. *Developments in Compliance Procedures at NPFC.*
Presenter: Mr. Peter Flewwelling, North Pacific Fisheries Commission, Japan

Questions & Answers

Tenth Plenary Session: ‘Control and enforcement over transshipment’

Facilitator – Mr. Peter Flewwelling, Compliance Manager, North Pacific Fisheries Commission

1. *FAO Global Study on Transshipment.*
Presenter: Dr. Adela Rey Aneiros, FAO
2. *SAIKO business: an ecological and human catastrophe.*
Presenter: Mr. Kofi Agbogah, Hen Mpoano, Ghana

3. *Transshipment: The weakest link?*
Presenter: Mr. Gary Orr, Ministry for Primary Industries, New Zealand
4. *Transshipment Reform Needed to Ensure the Legal, Verifiable Transfer of Catch.*
Presenter: Mr. Mark Young, The Pew Charitable Trusts
5. *Collaboration in between a major Tuna Transshipment Port and a key Processing State.*
Presenter: Mr. Francisco Blaha, Fisheries Advisor, New Zealand
6. *Thailand MCS: Control of Overseas Fishing and Transshipment.*
Presenter: Ms. Sampan Panjarat, Department of Fisheries, Thailand
7. *Implementation of MCS Measures on Taiwan Distant Water Fleets.*
Presenter: Mr. David Chang, Overseas Fisheries Development Council of the Republic of China (OFDC), Taiwan

Questions & Answers

6th GFETW Conference Dinner

3rd Stop IUU Fishing Award Ceremony

Friday Morning, 22nd February 2019

3rd Stop IUU Fishing Award Ceremony

Facilitator – Ms. Michele Kuruc, Senior Vice President Ocean Policy, WWF

Presentations by Winners:

1. Third place winner (To be announced)
2. Second place presentation (To be announced)
3. Third place presentation (To be announced)

Questions & Answers

Eleventh Plenary Session: ‘Global IUU risks, estimations and quantification’

Facilitator – Mr. Frank Meere, Chair Compliance Committee, Commission for the Conservation of Southern Bluefin Tuna, Australia

1. *Indicators of IUU activities.*
Presenter: Dr. Jessica Ford, CSIRO, Australia

2. *IUU Survey outcomes.*

Presenter: Mr. Alastair Beveridge, MCS Advisor, United Kingdom

Panel Discussion: *Panellists: Mr. Alastair, MCS Advisor, United Kingdom; Dr. Matthew Camilleri, Head of Fishing Operations and Technology Branch, FAO; Dr. Chris Wilcox, Principal Research Scientist, CSIRO, Australia; Mr. Mark Young, Project Director, Conservation Enforcement, The Pew Charitable Trusts*

Closing Ceremony

Host Nation Closing Address

Dr. Adisorn Promthep, Director General, Department of Fisheries, Thailand

GFETW Closing Address

Mr. Todd Dubois, Vice-Chair, International MCS Network

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Appendix 3: Evaluation by Participants

Participants in 6th GFETW were asked to complete an evaluation of the usefulness and applicability of the eleven sessions within the Workshop to their own organisations and their work. A total of 16 evaluations were filled out anonymously and returned to the International MCS Network Secretariat, representing a response rate of about 10 percent. A copy of the questionnaire appears at the end of this summary.

CONTENT: QUALITY AND STRUCTURE

Question 1 of the Evaluation Form was: “Please indicate which 3 SESSIONS contributed BEST to your country/agency/organisation’s expectations” and Question 2 “Please indicate which 3 SESSIONS you considered the least useful to your country/agency/organisation’s expectations”.

The sessions related most directly to enforcement improvement and related operational strategies were the highest rated sessions. The following sessions were considered the most useful by 40-50 percent of the respondents:

- Role of MCS practitioners in combatting crime associated with and/or related to fisheries
- Capacity building for better enforcement action
- Control and Enforcement over transshipment.

This is different from the 5th GFETW when the highest rated sessions related to technology, international cooperation, tools and data methodologies. However, this result needs to be considered within the context of the low number of respondents and the resulting small frequency count differences of the various “best” session ratings.

The most divergent differences on the 6th GFETW sessions was on the session “Implementation of the FAO Agreement on Port State Measures,” where 40 percent rated it as one of the three best sessions and 33 percent rated it as one of three least useful sessions (second highest least useful ratings). The most often mentioned “least useful session” was “IUU Risk Assessment Framework” as indicated by 55 percent of the respondents.

Question 3 of the evaluations also asked the participants to list which 3 individual presentations (out of 56) they found to be the most useful. There was very little consensus as 34 different sessions were mentioned as most useful and some did not list more than one. The only sessions with multiple mentions as “most useful” (# mentions in parentheses) included:

- Mr. Bubba Cook (WWF) - *Conclusions from the SAFET Conference 2019 and Overview* (3)
- Mr. Per Erik Bergh (Stop Illegal Fishing)-*FISH-i Africa lessons learnt in regional cooperation* (3)
- Dr Mathew Camilleri (FAO)- *Global Information Exchange to Combat IUU Fishing* (2)
- Mr. Thira Rodchevid (Thailand)-*Lessons learned on Thailand’s PSM for combating IUU fishing* (2)
- Mr. Bradley Soule (Ocean Mind) - *Effective Tools & Techniques for PSMA implementation* (2)

Considering all the workshop elements, 88 percent of the respondents indicated that the overall quality of the presentations (content and format) was adequate and 12 percent thinking that they need

improvement (Questions 4, 5 and 6). Most respondents did not make suggestions for improvement or indicated they were very happy with the structure and content.

The most common areas for **suggested improvement** were for: **1) increased time and depth in the individual presentation sessions; and 2) more substantive and engaged interaction:**

- More interactions thru longer discussions/questions/answers sessions.
- Time frame for presentation should be extended to 20 minutes. Presentations on the functions of RFMO can be limited to a few since they are available in their official websites. Emphasis should be given to case studies and problem solving for an effective and harmonised MCS+E action.
- Fewer speakers but at least 15' minutes for each presentation, everyone was speaking against the natural rhythm.... communication was more difficult to short timeframes
- Less presentations but more time for each panel and presentation.
- More time for both presentations and questions.
- Longer sessions with more than 5 presenters were challenging for the audience and for the panels.

A few suggestions were made about **ways to improve the overall program** and workshop goals:

- More case studies along with how the issue was resolved (or not) - lessons learned
- More oversight of the speakers/abstracts. Too much repetition and some not relevant
- More African representation.

Lastly, there were two **logistical suggestions:** 1) Power outlets at each row; and 2) Additional screen on stage for panellists during presentations.

Regarding **field trips (Question 8), 100 percent of respondents** confirmed that this component **accomplished the goal of increased networking.** Comments indicated satisfaction with the field trips and appropriateness of the focus on fisheries related sites with a mix of local culture. **Appreciation** was expressed to the **Department of Fisheries of Thailand Government** for their **well-organised arrangements.** **Suggestions:** 1) More advance notice about appropriate clothing; and 2) Limit transportation time to sites, whenever possible; 3) Incorporating some team exercises.

STOP IUU FISHING AWARD PROGRAM (Questions 10, 11, 12)

At the Conference, award winners were recognised from the “Stop IUU Fishing Award” program. This program intends to reward creative initiatives to combat IUU activities. All entries are evaluated according to the following criteria: Success, Innovation, Feasibility and Cost, Potential and Educational Value. The survey was used to get feedback from attendees and found:

- **88 percent agreed the criteria fit the purpose**
- **12 percent indicated the program needs to be improved** (no specific suggestions were made)

All respondent comments **described the award program** using the following words: **important, inspirational, educational, excellent and great.** More specific remarks included:

- It is innovative and recognises efforts at combating IUU from unexpected or non-traditional sources
- It should be continued and the invitation for participation should be extended much earlier to members.

- Very important event for me
- It was appropriate and felt encouraged to do better with MCS activities in home jurisdiction
- It was encouraging to see the good work that people around the world are doing in the MCS area. And nice to see them receive some acknowledgement from the International MCS Network.
- Needs to be promoted more for what it is.

CONFERENCE OUTCOMES MEASURED

Goal 1: (Question 13) Tangible ideas from workshop to implement upon return home. Respondents were asked **how many ideas** that they are **intending and committed now to implement:**

- **3+ ideas – 54 percent**
- **1-3 ideas – 44 percent**
- **None- 6 percent**

Goal 2: (Question 14) Networking -Respondents indicated **how many improved or new contacts** that they will **continue in their work back home:**

- **3+ - 88 percent**
- **1-3 – 12 percent**

Generally, respondents' comments and ratings were very positive about the 6th GFETW.

**Sixth Global Fisheries Enforcement Training Workshop
Thailand 18-22 February 2019**

Evaluation

Information gathered in this evaluation of the 6th Global Fisheries Enforcement Training Workshop will enable the International MCS Network to improve and develop future quality capacity building experiences that meet the needs of all current members and MCS practitioners in the wider MCS community. Please take a few minutes to respond to the questions (either on paper) or online/email Note all responses will be kept confidential (electronic documents will be assigned a number).

Evaluation Questions

- 1. Please indicate below 3 SESSIONS which contributed BEST to your country/agency/organisation's expectations. (Please use numbering in the Programme)**
[List of all 11 sessions]
- 2. Please indicated below 3 SESSIONS which you considered LEAST useful to your country/agency/organisation's expectations. (Please use numbering in the Programme)**
[List of all 11 sessions]
- 3. Please indicate below 3 PRESENTATIONS you LIKED most. (Please use numbering of sessions and sequence of presentations in the Programme: for example, session 5, presentation 3)**
- 4. What is your opinion on structure of the Workshop?**
- 5. Do you have any suggestions for improvement?**
- 6. What is your opinion on the content (quality/format) of presentations?**
- 7. Do you have suggestions on how to improve the content of questions?**
- 8. Field trips are intended to promote and facilitate networking between participants to the Workshop. Has this goal been achieved as far as you are concerned?**
- 9. Do you have suggestion to help us improve the field trips?**
- 10. The Stop IUU Fishing Award intends to reward creative initiatives to combat IUU activities. All entries are evaluated according to the following criteria: Success, Innovation, Feasibility and Cost, Potential and Educational Value. What is your opinion on the Award?**
- 11. Do you have any suggestions for improving the Stop IUU Fishing Award?**
- 12. How many ideas do you take from the Workshop with the clear intention to implement them back home?**
- 13. Have you established new or improved contacts that you will continue in your work once you are back home?**

Appendix 4: Group Photo



Appendix 5: 3rd Stop IUU Fishing Awards Announced (press release)

On February 21, 2019, the winners of the 2019 STOP IUU FISHING AWARDS were officially announced at the 6th Global Fisheries Enforcement Training Workshop (GFETW) being held in Bangkok, Thailand.

Ms Michele Kuruc, Senior Vice-President of Ocean Policy of the World Wildlife Fund and Mr. Todd Dubois, Chairman of the International MCS Network, presented the awards to:

- First place to the Pacific Island Forum Fisheries Agency for its **Integrated MCS Framework**, strengthening national capacity and regional solidarity of sustainable tuna fisheries.
- Second place to Thailand's Department of Fisheries for its **Fish Product Traceability System**.
- Third place co-awarded to Spain's General Secretariat of Fisheries/Secretaría General de Pesca de España for **Regulatory Reform and Operation Sparrow**; and Peru, on behalf of all countries which participate in the Network for the exchange of information and experience among countries of Latin America and the Caribbean to prevent, deter and eliminate IUU fishing, in Spanish language: **Red de Intercambio de información y experiencias entre países de América Latina y El Caribe para Prevenir, Desalentar y Eliminar la Pesca INDNR**.

Special Recognition was given to the Internews' Earth Journalism Network's **West African Anti-IUU Fishery Project**.

Nine applications were received, each of which has been evaluated by the Committee of Judges chaired by Ms Michele Kuruc, Senior Vice President of Oceans Policy for the World Wildlife Fund-US. The Committee of Judges is composed by a geographically balanced group of MCS experts.

Appendix 6: Ms Michele Kuruc's speech for the Third Stop IUU Fishing Award

Welcome to the awards ceremony for the Third Stop IUU Fishing Award.

In my humble opinion, this entire meeting is a celebration of our collective efforts to combat IUU. Our attempts to fight one of our world's most serious problems. Whatever other labels can be placed on IUU activities: theft, poaching, cheating and, the dire consequences that it causes: environmental degradation, food insecurity, economic instability for some of the most vulnerable, whatever you call IUU, it's a big responsibility to try and stop it.

What we know is that it takes commitment, persistence-this work typically doesn't move very fast, and some institutional schedules and arrangements work against rapid collection, sharing, analysis and most importantly, action, on up-to-date data, as Hugh Walton said so eloquently this afternoon, ponderously slow perseverance-bringing your best day after day, week after week, year after year, passion-MCS people love to talk about this stuff, humility-because we almost never get recognition or appreciation for some of this great work outside of our own, optimism-we have to believe in ourselves because the odds are daunting and of course, cleverness and smarts.

This contest tries to encourage all of those goals and the entrants this year really show these traits.

And not just the applicants, the judges reflected exactly this same enthusiasm and optimism. One judge was so eager that before our first call together to go over the rules and entries, he was on the phone a full 24 hours before our call was scheduled to take place and he was sending the rest of us email wanting to know where we were. And for him, it was the small hours of the morning. To all of the judges, thank you very much for your service and dedication.

This awards ceremony should be a celebration of our collective progress. Only a few will come to the stage tonight, but, as a group, we should think about those victories that I hope each of you have had the opportunity to feel at one time or another in the course of your work. Some sense of success and contribution, no matter how small or incremental, that amounts to leaving our world, our shared ocean, our today and our tomorrow, a better, healthier, more sustainable place. That sense of “we did it”. (The Final Year comment) And here we sit, coming from many points on the planet, because we are eager to learn from each other, share the MCS fellowship and to get new lines of attack on IUU underway.

Now for this year’s applications. Once again, the entries were from large and small countries. From Africa, Asia, the Pacific, Europe and the Americas. But for the most part, the entries this time nearly all embodied the principles for success that have been so often repeated: international, regional and national cooperation, coordination, sharing information, more political will, raised awareness, a recognition that no one country or organisation can successfully tackle this by itself.

This year’s winners really embody those things, much more so than a new invention or application of technology, as we often had in the entries in the past. And, when you hear about the winning entries, you’ll see that they are a maturation and realization of what the speeches have been saying for years. And, you know what, when you take the long view over the years, it’s clear we’ve made huge progress as a community and it really feels like it’s working!

When you hear what the winning entries are and where they come from, you shouldn’t in any way believe that IUU has been eradicated from these areas. While I hope one day soon, we are much closer to being able to make that claim, we are not fooling ourselves. We know significant problems and challenges still exist and in fact, in some of these very same places, IUU remains a serious threat for the present and future. Given the past difficulties with IUU in these areas, their achievements perhaps are that much more meaningful, and the recognition also takes the challenges into account. They have come far but of course much remains to be done!

And now, the winners. You’ll hear from each of them tomorrow morning on one of our final panels. They’ll tell you then about their work. Each entrant has also written a very short summary for the conference and IMCS websites. But tonight, we want to recognize and applaud the winners for their achievements.

First, we'll start with a special recognition, one that has never been conferred before. But this year the judges felt this unusual initiative was deserving. This certificate of special recognition is awarded to the Internews' Earth Journalism Network, specifically the West African Fishery Project, a group working in West Africa on IUU issues. Ms Mona Samari, co-founder and director of the project, who is here on behalf of the Network.

The inscription says: This project deserves special recognition for its innovative and unconventional approach to combating IUU fishing, by training local journalists to understand and report on IUU fishing and associated practices and building a network of information sharing. This work not only raises awareness but ensures local communities are educated and have access to information about the negative impacts IUU fishing has on marine resources, as well as the socio-economic consequences for coastal communities. Transparency and education are among the best tools for combatting IUU fishing.

Then, we also had another first, a tie between two entries for third place. I would ask that representatives of both winning teams wait to come to the stage until I finish announcing both third place winners.

- Third place is co-awarded to the Network for the exchange of information and experience among countries of Latin America and the Caribbean to prevent, deter and eliminate IUU fishing,
- Ms. Rosa Ramírez Ontaneda, Chief of Monitoring and Control at the Vice-Ministry of Fisheries of Peru on behalf of the Network (Red de Intercambio de información y experiencias entre países de América Latina y El Caribe para Prevenir, Desalentar y Eliminar la Pesca INDNR) While we honor all of the member countries for their efforts, Peru, is representing them tonight because it serves as that Network's secretariat.

This Network of Latin American and Caribbean countries was established in Panama in October 2017 by the Governments of Costa Rica, Chile, Panama, and Peru. It has since grown to also include Columbia, Ecuador, Spain, while Argentina, El Salvador, Guatemala, México, the Dominican Republic and Uruguay are included as observers. The Network cooperates with and receives technical support from FAO, OSPESCA and RFMOs such as ICCAT, and, CPPS, the south american regional cooperation organisation for the pacific, and INTERPOL have been invited. The US has requested observer status.

As I mentioned, Peru is also providing the secretariat for this Network.

Considering the importance of exchanging information and experience between administrations for the effective implementation of the Port State Measures Agreement, and combatting IUU in general, the Committee of Judges wanted to recognize and encourage this recent development in the region. In a relatively short time, this Network has joined all coastal countries on the Pacific side of South America while important countries on the Atlantic side and in the Caribbean, have been included. Moreover, the Network cooperates with relevant international organisations as well as a relevant flag and Market State, such as Spain.

Although the judges recognized that MCS Networks exist in other regions and have been operating there for some time, we felt that this Network among Latin American and Caribbean countries was particularly inspiring and an example to follow in other areas.

- The other third place award is given to "Third: General Secretariat of Fisheries of Spain/Secretaría General de Pesca de España" for Regulatory reform and Operation Sparrow.
- Monica Corrales, Deputy General-Director of Legal Affairs and International Governance And Marta López, Chief of the intelligence group to combat IUU fishing, both on behalf of the General Secretariat of Fisheries of Spain.

The Committee of Judges wanted to recognize the approach Spain has taken towards its nationals involved in IUU fishing, which includes beneficial owners. Experience has shown us that beneficial owners often consider their vessels and crew disposable, and they prioritize protecting themselves, their profits and staying above and beyond the reach of the law. Tomorrow they buy another fishing vessel, hire another crew, and circumvent many other requirements to continue their IUU activities. And, even assuming that they can be identified, legal action and imposition of liability on beneficial owners has been elusive. We saw a graphic example of these challenges the other night in the film Chasing the Thunder.

Monica and Marta have described in their presentations this week the legislation that has been developed prohibiting Spanish nationals from involvement with IUU, and Spain's attempts to apply it and how the system relies on a dual approach of criminal and administrative sanctions. Extraterritorial application of criminal law is, in most countries, reserved for the most serious crimes, and so far, not for IUU fishing.

Spain has successfully applied its law to the eight IUU vessels blacklisted by CCAMLR, including the Thunder. Its beneficial owners are finally out of business in Spain and we hope they will not simply re-locate to another more lenient jurisdiction. Thanks to cooperation among many in the International Community and, in particular, Spain, CCAMLR, and INTERPOL a battle was won but the war continues!!!

The Committee of Judges found this to be an inspiring example and one hopefully, that can be emulated by other countries in their own legislation. We know that combatting IUU fishing is a long-term fight which requires political will, an adequate set of legal rules, international cooperation, and the determination and means to prosecute successfully the offenders.

- "Second: Department of Fisheries, Thailand for its Fish Product Traceability System, The Key Tool for Combating IUU Fishing in Thailand.
- Taworn Thunjai, Director of Fishing Control and Surveillance and Thiva Rodchevid from the Fish Quarantine and Inspection Division, on behalf of the Department of Fisheries of Thailand.

Thailand's application highlighted its new traceability system which you've also heard about this week. This is strong example of the role that political will can play to drastically change an existing situation. In the US, our former President Barrack Obama, had the campaign slogan, yes, we can, a simple but perfect expression that applies here, if the will is there yes, we can.

The Committee of Judges was impressed by measures put in place by the Department of Fisheries over a short period of time and under pressure. Thailand has set a new example in South East Asia, an example hopefully to be followed by its neighbours and other countries across the globe. Given the importance of this region to fisheries, it is essential that a new culture of compliance and transparency become the norm. The global community will rely on the continuing determination of the Department of Fisheries and its leadership to work together with neighbouring countries, SEAFDEC and the RPOA South East Asia and others in order to push forward with your success to date to level the playing field for all.

In our sessions this week and during the field trip, you have seen for yourselves a glimpse of the impressive systems put in place by Thailand and the commitment from leadership, despite the pressure, to continue to move ahead.

Thailand has made a very big step forward and we applaud their work.

- And for first prize, the Pacific Islands Forum Fisheries Agency (FFA) for Integrated MCS Framework" Strengthening national capacity and regional solidarity for sustainable tuna fisheries.
- Mr. Allan Rahari, FFA's Acting Director of Fisheries Operations, accepting for the FFA.

The FFA was established in 1979; relatively young as these things go, but for an MCS organisation, 40 years means it is a grandmother to many others in this field. Happy anniversary FFA! It certainly predates by some twenty years or so, the coining of the term IUU. Extensive and long-standing cooperation among neighbours, in spite of differences, is at FFA's very heart. So many small island states where fish is such an important part of their lives, which have committed to work together over decades for the greater, collective good. Since its establishment, it has worked relentlessly to improve MCS in the region with tools to develop access for and sanction of foreign vessels in their waters and, has a long and impressive record of continuous innovation such as shared monitoring centre fitted w much technology, e-reporting, focus on observers and their safety and transshipment and so much more to improve the performance of itself and its Members. In the MCS world, the FFA has been held up over and over again as the reference point and model of how to do it, for the good of the many, and what happens when we work together, not only in the pacific but also globally as a leading agency in MCS.

The Stop IUU Fishing Award Contest is based on five criteria: 1) success, 2) innovation 3) feasibility and cost, 4) potential for piloting, and 5) educational value. The FFA Monitoring, Control and Surveillance Framework scored high on all of the judging criteria and rightly so. The FFA is a fascinating model for all of us and an example for other States wishing to establish or already

starting to work on joint MCS facilities. We look to you to continue this important work and show us the way.

Now, I have my first glass of wine waiting for me, so please join me again in congratulating all of our winners, and to all the colleagues here, those who work with us at home and those who you rely on a little or a lot and who contribute to this fight against IUU. We look forward to hearing details about the winner's work in our panel tomorrow morning. Thank you and enjoy your dinner.

Appendix 7: Opening Remarks of Ms Kundhavi Kadiresan

Food and Agriculture Organization
Of
The United Nations

Opening Remarks
The 6th Global Fisheries Enforcement Training Workshop
Room: Rangsit 2-3, Centara Grand LadPrao Hotel
18th February 2019

STATEMENT By: Ms Kundhavi Kadiresan Assistant Director-General and Regional Representative Regional Office for Asia and the Pacific.

Excellency,
Ladies and gentlemen,

On behalf of the Food and Agriculture Organization of the United Nations, it is indeed my pleasure to join with you this morning at this important workshop. And a very warm welcome to Bangkok.

As we all know – and particularly those of us from this region where many of you are joining us from around the world – fisheries provide a vital source of food, employment, recreation, trade and economic well-being for billions of people. And going forward that will certainly continue to be the case.

When we look at the statistics of consumption – they are truly staggering. Globally, between 1961 and 2016, the average annual increase in food fish consumption has been twice as high as the world's population growth and has even exceeded that of meat from all terrestrial animals combined. Astonishing figures.

Moreover, fish provided about 3.2 billion people with almost 20 percent of their average per capita intake of animal protein. With respect to livelihoods, in 2016, it was estimated that more than 40 million people were directly engaged in capture fisheries with many more working along the supply chain.

It is therefore necessary to have national and international fisheries policies and management measures, which ensure that fisheries practices are conducted in a sustainable manner, reflecting the principles of the Code of Conduct for Responsible Fisheries and related instruments, and that will lead to an improved and sustainable economic, social and environmental contribution of the fisheries sector.

One of the main challenges in the face of fisheries management is illegal, unreported and unregulated (IUU) fishing. IUU fishing occurs in both small-scale and larger industrial fisheries, it occurs in both areas within and beyond national jurisdiction and concerns all aspects and stages of the capture and utilisation of fish.

Fisheries resources are poached in a ruthless manner, often leading to the collapse of local fisheries, with small-scale fisheries in developing countries proving particularly vulnerable. Meantime, products derived from IUU fishing can find their way into overseas trade markets thus throttling local food supply. IUU fishing therefore threatens livelihoods, exacerbates poverty, and exacerbates food insecurity.

That's why FAO advocated so hard for the ratification of the 2009 FAO Agreement on Port State Measures to prevent, deter and eliminate illegal, unreported and unregulated fishing (PSMA) and complementary instruments to combat IUU fishing.

Friends and colleagues

The entry into force of the PSMA on IUU was a major breakthrough. But we now need to really focus on implementing it and ensuring it has teeth and that those who defy IUU will feel its bite.

So, in that sense, what we know as MCS – comprehensive and effective monitoring, control and surveillance of fishing activities – from operations at sea, through the point of landing, to final destination plays an important role in ensuring the proper management of fisheries resources and is therefore key in any effort to combat IUU fishing.

In addition to its role as an IUU deterrent, or as a tool for enforcement authorities, MCS measures also provide information that can feed back into the management decision making process. However, for these measures to be effective, they need to be built alongside a strong legal, policy and institutional framework as outlined through various international instruments for countries to fulfil their responsibilities as flag, port, coastal and market States.

In this context, FAO is implementing a capacity development umbrella programme to support the implementation of the Port State Measures Agreement and its complementary instruments to combat IUU fishing.

So far, 19 developing coastal States and SIDS have been assisted in improving their capacity for the effective implementation of the PMSA and the complementary MCS operations.

This year, FAO will be providing technical assistance to a further 12 countries. This, together with global initiatives such as the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels, a single access point for information on vessels used for fishing and fishing-related activities, aim to facilitate the work of MCS practitioners.

And that's how we come full circle to today's initiative and this Global Fisheries Enforcement Training Workshop. The information and approaches you will discuss and study here are essential to ensuring that MCS activities are not done in isolation.

So, let's work together, through the sharing of experiences, best practices and challenges, and let's close the net on IUU fishing activities worldwide.

Thank you.

Appendix 8: Opening Remarks in Thai by Mr. Niwat Sutheemeechaikul

[NOTE: TRANSLATION CAVEAT - MAY NOT REFLECT 100 PERCENT ACCURACY IN FORM OR FORMAT]

Mr. Todd Dubois, (มิสเตอร์ ท็อด ดูบัว) Vice-Chair of the IMCS Network,
Ms Kundhavi Kadiresan, (มิส คุณดาวี คาคีรีชาน) Assistant Director-General and FAO Regional Representative for Asia and the Pacific,

ท่านผู้แทนจากองค์กรความร่วมมือระหว่างประเทศท่านผู้เข ้าร่วมประชุม
ฯท่านสุภาพบุรุษและสุภาพสตรีผมรู้สึกยินดี เป็ น อ ย ่าง ย ิ่ง ที่ ได ้ รั บ เกี ย ร ตี เป็
น ประชานในพิธีเปิดการประชุม

The 6th Global Fisheries Enforcement Training Workshop

แทนพลเอกฉัตรชัย สาริกัลยะ รอง นายกรัฐมนตรี รวมถึงได ้ ด้ ้อ น รั บ ผู้เข
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ท่านสุภาพบุรุษและสุภาพสตรี

วิ ต ฤ ป ระ ส ง ค ์ ข อ ง ก ำ ร จั ด ป ระ ช ม ำ ค ร ำ ง นี้ คื อ ก ำ ร เส ริ ม ส ำ ร ัง ค ัก ญ ำ พ ใน ก ำ ร บ ำ ง ค ำ น ใ ช ก ั ฐ ะ เ บี ย บ ต
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การบังคับใช้กฎหมายหรือ “MCS” 5 ด้านการตรวจสอบย้อนกลับ และ 6 ด้านการบังคับใช้กฎหมายจากความพยายามในการดำเนินมาตรการต่างๆ ของประเทศไทย ส่งผลให้สหภาพยุโรปประกาศแถลงการณ์ปลดใบเหลืองการประมง IUU ให้กับประเทศไทย เมื่อวันที่ 8 มกราคม 2562 ที่ผ่านมา แสดงให้เห็นถึงการยอมรับในความสำเร็จประเทศไทยได้ดำเนินการแก้ไขปัญหาการประมง IUU ในระยะเวลาที่ผ่านมาสำหรับประเด็นการติดตามควบคุม และเฝ้าระวังการประมงหรือ “MCS” พบว่านับตั้งแต่ปี พ.ศ. 2558 เป็นต้นมาประเทศไทยมีความก้าวหน้าเป็นอย่างมากในการก

หนดกฎระเบียบเพื่อเพิ่มประสิทธิภาพในการควบคุมและการบังคับใช้กฎหมายด้าน MCS รวมถึงมีการพัฒนาระบบ MCS แบบบูรณาการที่เข้มแข็งทำให้ประเทศไทยสามารถป้องกันยับยั้งและดำเนินคดีกับผู้กระทำผิดในคดีที่เกี่ยวข้องกับการท

การประมง IUU ด้วยการประสานงานอย่างใกล้ชิดระหว่างกรมประมงและหน่วยงานรับผิดชอบที่เกี่ยวข้อง MCS เป็นเรื่องสำคัญจ

นต้องใส่ใจทั้งเทคโนโลยีความรู้ความเชี่ยวชาญในทางวิทยาศาสตร์และกฎหมาย องค์กรที่ประสบความสำเร็จและความคิดสร้างสรรค์จะสามารถเชื่อมต่อองค์ความรู้และระบบต่างๆ เข้าด้วยกัน เพื่อให้เกิดการบริหารจัดการและควบคุมการประมงให้เกิดความยั่งยืนได้ ขอเรียนให้ทุกท่านทราบว่า ปัจจุบันประเทศไทยมีความพร้อมที่จะแลกเปลี่ยนประสบการณ์ด้านการป้องกันยับยั้งและจัดการการประมงที่ผิดกฎหมายขาดการรายงานและไร้การควบคุมเพื่อส่งเสริมการบริหารจัดการประมงอย่างยั่งยืนทั้งในระดับประเทศ ระดับภูมิภาค และระดับสากลท่านสุภาพบุรุษและสุภาพสตรีในนามของรัฐบาลไทย ผมขอขอบคุณ IMCS Network ที่ได้พิจารณาเลือกประเทศไทยเป็นสถานที่จัดการประชุม GFETW ครั้งที่ 6 และให้เกียรติกรมประมงประเทศไทยเป็นเจ้าภาพร่วมในการจัดประชุมฯ ซึ่งหวังเป็นอย่างยิ่งว่าผู้เข้าร่วมประชุมทุกท่านจะได้รับประโยชน์จากข้อมูลข่าวสารที่ได้รับระหว่างการประชุมและไขโอกาสดังกล่าวนี้ร่วมแลกเปลี่ยนความคิดเห็นและประสบการณ์

ณ เพื่อยกระดับความสำคัญของภารกิจ MCS และความร่วมมือด้านการบังคับใช้กฎระเบียบเพื่อต่อต้านการประมงผิดกฎหมายระหว่างรัฐเจ้าของธงรัฐชายฝั่ง รัฐเจ้าของท่า และรัฐตลาดที่จะนำไปสู่การจัดการประมงอย่างยั่งยืนระดับสากลที่มีประสิทธิภาพต่อไปในอนาคต

สุดท้ายนี้ในฐานะประเทศเจ้าภาพผมหวังเป็นอย่างยิ่งว่าทุกท่านจะได้ได้รับความสะดวกสบายและเต็มเปี่ยมด้วยความประทับใจตลอดระยะเวลาที่ท่านักในประเทศไทย และขออวยพรให้การประชุม GFETW ครั้งที่ 6 ประสบความสำเร็จลุล่วงเป็นไปตามวัตถุประสงค์ที่วางไว้ ทุกระการภายใต้ความร่วมมือที่ดีจากผู้เข้าร่วมประชุมทุกท่านผมขอเปิดการประชุม the Global Fisheries Enforcement Training Workshop ครั้งที่ 6 อย่างเป็นทางการ ณ บัดนี้ขอขอบคุณ

STATEMENT By Mr. Niwat Sutheemechaikul Vice Minister of Agriculture and Cooperatives During the Opening Ceremony of the 6th Global Fisheries Enforcement Training Workshop 18 February 2019, Centara Grand Ladprao, Bangkok, Thailand

Appendix 9: Opening Remarks of Mr. Niwat Sutheemechaikul

STATEMENT By: Mr. Niwat Sutheemechaikul Vice Minister of Agriculture and Cooperatives

Mr. Todd Dubois, Vice-Chair of the IMCS Network,
Ms Kundhavi Kadiresan, Assistant Director-General and FAO Regional
Representative for Asia and the Pacific,
Representatives of the international organisations,
Distinguished Participants,
Ladies and Gentlemen,

Good morning,

It is indeed my great pleasure and honor to be here today as the Chair of the Opening Ceremony of the 6th Global Fisheries Enforcement Training Workshop on behalf of General Chatchai Sarikulya, Deputy Prime Minister of Thailand, and to welcome the participants from international organisations responsible for fisheries management and the MCS practitioners from various countries around the world with the total number of more than 200 participants. I also bring the sincerest greetings from the Deputy Prime Minister and his apologies for not being here today due to an urgent mission.

Ladies and Gentlemen,

The main purpose of this workshop is to improve and enhance the capacity in enforcing fisheries legislation at national, regional and global levels, as well as to provide a platform for discussion, exchange of information and experience between MCS practitioners from all over the world. It is basically recognized that sustainable fisheries can only be achieved when fishing is pursued in compliance with the applicable rules and all fishing activities should be subject to adequate levels of monitoring, surveillance, inspection, and enforcement.

Thailand has declared the prevention, deterrence, and elimination of the illegal, unreported and unregulated or “IUU” fishing as a national agenda and has pursued the reform of the entire fisheries system with a view to promoting sustainable and responsible fisheries. Furthermore, Thailand has shown its full responsibility in conformity to international rules and regulation as the flag, coastal, port and market States which has been recognized internationally. Moreover, we have set up the IUU fishing prevention system covering 6 significant aspects as follows: 1) legal framework, 2) fisheries resources management, 3) fleet management, 4) MCS5 traceability and 6) law enforcement. To demonstrate the achievement of our efforts, the EU formally announced the lifting of a yellow card for Thailand on 8 January 2019, in recognition of the success of Thailand in tackling IUU fishing.

In term of the MCS, since 2015 Thailand has made significant progress in putting in place a comprehensive legal framework to enable control and enforcement of MCS activities effectively. To do this it has developed and implemented, from scratch, robust and well-integrated monitoring,

control, and surveillance system which allows Thailand to prevent, deter, and prosecute any perpetrators involved in IUU fishing activities through closer inter-agency coordination.

We have learnt that MCS play a crucial role on fisheries management. To effectively implement it, technology, knowledge and expertise in science and legal affairs as well as experience and creativity are needed. This will help create a linkage of explicit knowledge together with the relevant systems which finally leads to the sustainable fishing and fisheries management. Additionally, I would like to inform all of you that Thailand is pleased to share experiences in preventing, deterring and eliminating illegal, unreported and unregulated fishing with other countries, in order to promote sustainable fisheries management at the national, regional, and international levels.

Ladies and Gentlemen,

On behalf of the Government of Kingdom of Thailand, I would like to thank the IMCS Networks for considering Thailand as the destination for the 6thGFETW and honoring the Department of Fisheries of Thailand as the Co-host. I am sure that this training workshop will allow all participants to receive valuable information, as well as have an opportunity to exchange ideas and experiences, to highlight the importance of the MCS operations and to enhance cooperation in legislation enforcement for combating the IUU fishing between the flag, coastal, port, and market states, which will lead to sustainable fisheries management effectively at global level in the near future.

Lastly,

On behalf of the host country, I sincerely wish all of you will be comfortable and full of impressions throughout the duration of your stay in Thailand and wish the 6th GFETW all success with active participation from all delegation. May I now officially declare the 6th Global Fisheries Enforcement Training Workshop open. Thank you.

Appendix 10: Opening Remarks of Mr. Todd Dubois

Vice Minister Suleemechaikul, Assistant Director General Kadiresan, Distinguished guests, Ladies and Gentlemen, Friends and colleagues, I would like to welcome you all to the 6th Global Fisheries Enforcement Training Workshop! It is a privilege and my pleasure to be here in Bangkok with all of you this week.

The Global Fisheries Enforcement Training Workshop is back where it started. After a journey of 14 years through Europe, Africa, America and Oceania, the Workshop is back in SE Asia. As some of you may know, the first Workshop was held in 2005 in Kuala Lumpur, Malaysia. Since then, not only has the International MCS Network grown in membership but the workshops have also grown in participation. This week, we will build on the successes of the previous five Global Fisheries Enforcement Workshops and with your help, we hope to make this one the most successful yet.

I am confident that this Workshop will continue to contribute to the worldwide fight against IUU fishing and fishing related activities. As everyone in this room knows, combating IUU fishing is a critical issue that cannot be accomplished by any one nation or any one organisation –it will take all of us working together to find the solutions that ensure sustainability of global marine resources, stability for coastal fishing communities and food security around the world. As the theme of this workshop indicates, we must close the net together and enhance the cooperation, coordination and information sharing between flag, coastal, port and market states to prevent the perpetuation of IUU fishing activities. This workshop gives all of us the opportunity to learn from each other, to share ideas, and develop or strengthen our relationships as MCS practitioners.

The International MCS Network was founded to promote cooperation and exchange of information and ideas; coordinate capacity building and training activities; and develop activities in line with the needs of MCS practitioners around the world. The Network links MCS practitioners with other organisations such as FAO, Interpol, and the many regional entities here today who are focused on combating IUU fishing. The Network also promotes exchanges of MCS equipment and expertise among countries, the organisation of these biannual Global enforcement workshops and sponsorship of the Stop IUU Fishing Award.

Collaboration is critical to defeating IUU fishing and the trade in IUU fish products. IUU fishers often rely on lack of cooperation and communication between enforcement authorities at the national, regional and international levels. The IMCS Network, and this workshop, seeks to help eliminate those gaps in coordination and communication. The strength of the IMCS Network and the GFETW is the informal nature of the organisation and the focus on bringing MCS practitioners –inspectors, investigators and prosecutors –together to share experiences and ideas. On behalf of the International MCS Network, I would like to thank all of the sponsors that made this workshop possible -the Thai Ministry of Agriculture and Cooperation -Department of Fisheries, Fisheries and Oceans Canada, the Norwegian Directorate of Fisheries, the U.S., National Oceanic and Atmospheric Administration, the Food and Agriculture Organisation of the United Nations, and the Pew Charitable Trusts. I would also like to thank the MCS Network Secretariat staff who worked tirelessly to make this workshop possible.

I would like to particularly thank the Government of Thailand for being such gracious hosts for the 6th GFETW and for all the work the Department of Fisheries staff has done to give us the opportunity to come together in this beautiful country!

Most of all, thank all of you for being here. As I look around this room, I see representatives from all of the continents (well, at least all the inhabited ones) of the world, see representatives of governments, inter-governmental organisations and non-governmental organisations. I see years and in many cases decades of experience in combating IUU fishing and I want to thank all of you for being here. Over the next five days, I know we will all learn a great deal, make new friends and renew old friendships, and develop professional relationships that will help all of us to better combat IUU fishing together! And I'm sure we will also have some fun along the way. Thank you and welcome to everyone!

Appendix 11: Closing Remarks by: Dr Adisorn Promthep and Vice-Chair Mr. Todd Dubois

CLOSING REMARKS

By Dr Adisorn Promthep,
Director General, Department of Fisheries, Thailand.
The 6th Global Fisheries Enforcement Training Workshop,
Bangkok, Thailand,
18-22 February 2019

Distinguished Participants, Ladies and Gentlemen, Good Morning!

The Sixth Global Fisheries Enforcement Training Workshop has finally come to an end today. I would like to pay my deep respect to all the participants for your positive participation in this conference. I am sure that all of you have received a lot of valuable information through the five-day conference, particularly the information on the best practice against IUU fishing, the new tools that can respond to some of the most current challenges, as well as the initiatives that foster international cooperation for effective MCS. Furthermore, this workshop also provides us with a very useful platform to exchange ideas, experiences and lessons learned, as well as provides an opportunity to expand the network among MCS practitioners which will lead to enhancing cooperation in legislation enforcement for combating the IUU fishing at global level in the near future. Therefore, based on my observation, it can be concluded that the purpose of the conference has been completely accomplished.

Vice-Chair Mr. Todd Dubois

Ladies and Gentlemen,

I would like to thank the IMCS Network once again for considering Thailand as the destination for this excellent event. On behalf of the Department of Fisheries of Thailand, as the Host Country and the Co-organizer, I would also like to express our sincere appreciation to all the participants for taking time out of your busy duties to attend this five-day conference. Our gratitude also goes to the organizer team who worked hard to make this conference a great success.

Lastly,

Please allow me to extend our wishes to all the participants for a safe journey back to your homes. I wish you success in all your future endeavours.

Good luck and goodbye!