

A large fishing vessel is shown at sea, centered in the frame. The vessel has a dark hull and a white superstructure with multiple masts and rigging. The water is calm, and the sky is filled with soft, grey clouds. The overall tone is muted and professional.

Regional MCS Evaluation

Report for the Pacific Islands Forum Fisheries Agency

FAWT GROUP PTY LTD

Disclaimer and Report Information

This is an independent assessment errors and inaccuracies are the responsibility of the Consultant, the view expressed are those of the Consultant and neither commit nor necessarily reflect those of FFA or the governments of FFA Member countries. The content of this report may not be reproduced, or part thereof, without explicit reference to the source:

McEachan F. (2016) *Evaluation of the Regional FFA MCS Framework*, FAWT Group PTY LTD of the ACT, Australia.

Acknowledgements

The author wishes to acknowledge the numerous MCS Officers and Managers of FFA, SPC, PNAO and the FFA Membership who were consulted and provided invaluable contributions during the course of the Evaluation. It was a privilege to experience an unwavering commitment to FFA's vision: *Our people will enjoy the highest levels of social and economic benefits through the sustainable use of our offshore fisheries resources.*

A specific acknowledgment to Noan Pakop (FFA Director of Fisheries Operations) and Vivian Fernandes (FFA Compliance Policy Adviser) for their generous assistance and facilitation of the Evaluation. To Mark Young (Senior Officer, Pew Charitable Trust) for contributions relating to the *Eyes on the Sea Project*. And finally to Dr Pramod Ganapathiraju and two anonymous persons for their peer review.

Funding support for this project was provided by WWF – New Zealand and the Government of New Zealand.

Executive Summary

Purpose The Regional MCS Evaluation reports the strengths, weaknesses, opportunities and threats to Monitoring, Control and Surveillance (MCS) in FFA Pacific Tuna Fisheries for a renewed commitment and ability to address Illegal, Unreported and Unregulated (IUU) risks.

IUU & MCS The Evaluation assumed that the MCS Framework has a program logic where MCS activities are inputs for achieving the objective of preventing, deterring and eliminating IUU fishing. The *Regional MCS Strategy (2010-2015)* underscores risk assessment methodology to delineate this relationship, IUU is the risk to the fisheries management framework and MCS are the controls to manage this risk (refer to Table 1). Applying risk assessment methodology requires an understanding of risk source(s), events which gives rise to the risk and the impact of the risk. It implies that existing controls are kept under continual review with treatment plans applied for high and very high risks.

TABLE 1: IUU, MCS AND RISK ASSESSMENT

Risk	Controls (MCS Framework)	Existing Risk	High Risk Treatment	Forecasted Risk
Illegal Illegal Unreported	MCS activities focused on preventing and deterring non-compliance by industry	Assign risk level	Additional or Revised MCS	Assess and accept treatment and risk level
Unregulated Unreported Unregulated	MCS activities focused on addressing legal gaps and the administration of the MCS Framework	Assign risk level	Additional or Revised MCS	Assess and accept treatment and risk level

Methodology The Evaluation considered the Regional MCS Framework as that set out in the *Regional MCS Strategy (2010-2015)*, the *FFA Strategic Plan (2020)*, *FFA Annual Work Plan and Budget*, Member Service Legal Agreements (SLA), recent MCSWG outcomes and FFC decisions.

The strengths, weaknesses, opportunities and threats of the MCS Framework were identified from a literature review, reports and papers to FFC and MCSWG, input from the Secretariat and four in-country consultations. The Evaluation also assessed implementation of the *Regional MCS Strategy (2010-2015)* to identify specific areas for improvement and strengths to capitalize upon.

In accordance with the FFA ISMS, Attachments B and C of the Evaluation Report contains classified information. **The Evaluation Report should be handled as non-public domain with Attachments B and C attached.**

Threats *Elements of the external operating environment that could hinder the MCS Framework in the pursuit of its objectives.*

A 2016 estimate of Pacific IUU identified that unreported or misreporting data either by the catching or post-harvest sector contributes 76% by volume of IUU in the Pacific. This form of IUU originates from both industry and the regulation of reporting requirements by FFA and Member's national fisheries authorities. The time lags in receiving and analysing data, associated with paper based forms make it difficult for misreported data to be enforced and treated as "illegal". In March 2016 there was wide media recognition of this threat, exposing this vulnerability of the MCS Framework.

Unauthorized vessels fishing in Member's EEZs is an ever present risk that is increasing as adjoining waters are overfished and countries external to FFA increase their response to IUU, displacing IUU into the Pacific. Recently Vietnamese incursions targeting high value low volume demersal species such as clams and sea cucumbers have been reported by Western Pacific FFA Members creating a sub-regional IUU threat, necessitating a coordinated response from these countries.

Predictive climate change modelling indicates a dispersion of fish stocks away from the equatorial EEZ waters emphasizing the immediate need for reliable catch and effort data as future high seas catch and effort allocations will most likely draw heavily on historical records, the majority of present catch is taken in Zone.

Weaknesses *Characteristics of the MCS Framework that impede or require enhancement in order to successfully prevent, deter or eliminate IUU.*

The majority of transactions and reports required of industry are dependent on paper based forms and are often held in databases that have non-standardised formats for information exchange and analysis. The associated time delays and input errors prevent transparency and analysis of data to detect IUU. Subsequently unreported and misreported data goes unnoticed and without sanction. Stock assessments and authorisations relating to fishing access, transshipments and port access are ill-informed compromising revenues and access arrangements. Some Members are issuing catch certificates declaring non-IUU with a high degree of uncertainty.

Digitization has threats related to data security, complex data sharing rules, varying data security standards and varying IT platforms in use. Many national and regional legal instruments have been slow to recognise electronic data transactions and meet associated evidentiary standards.

There is a high level of operational MCS baseline information which requires strategic alignment for the MCS Framework to self-evaluate its impact on the objective of preventing, deterring, and eliminating IUU. Insinuations are occurring that some Members are 'free-riding' and 'licencing fishing activities without sufficient resources to regulate'. Those Members subjected to an EU *IUU Regulation* audit - with the threat of lost market access – have a commonality, each have been required to increase their ability to self-evaluate through establishment of catch traceability systems (CDS) with dedicated teams to detect, investigate and sanction non-compliance.

Opportunities *Elements of the external operating environment that could be exploited by the regional MCS Framework to its advantage.*

Harnessing technology for e-business transformation of licensing procedures, reporting of data by industry and monitoring of fishing activities would demonstrate due diligence of State responsibilities and meet expectations of the FFA Membership, businesses, consumers and the broader community that FFA catch is from non-IUU fishing. Premium high value markets increasingly require such standards. While a few Members have such systems in place, the FFA Membership collectively does not.

Harnessing technologies requires strengthened partnerships between the internal partners of SPC, PNAO, FFA Members and Industry, and external partners including World Bank, FAO, NGOs and private vendors. Strengthened partnerships relate to software development and sharing of information and assets. It requires transparency and assurance that sensitive information is not disclosed inappropriately and interests of supporting commercial and NGO vendors are aligned to those of FFA. Rapid and agile software development requires collaboration of partners developing and operating off agreed development platforms.

Strengths *Characteristics of the MCS Framework successful in the prevention, deterrence and elimination of IUU.*

The MCS Framework is extremely strong compared to other coastal State coalitions on the world stage. There is a high degree of sharing and pooling of information and assets, minimum standards have been maintained for licensing foreign fishing vessels and training of officers and observers to perform their duties in a uniform and consistent manner.

Significantly the MCS Framework is at such a state that unauthorized fishing by tuna vessels is now infrequent and it has influenced much of the WCPFC MCS framework primarily based on the ground of compatibility with FFAs existing standards, avoiding scenarios which unduly place the regulatory burden on Small Island Developing States.

The Vessel Registers of Members, PNA and FFA, the Regional Surveillance Picture (RSP), Niue Treaty Subsidiary Agreement (NTSA), coupled with the surveillance providers of Australia, NZ, USA and France provide a firm foundation for harnessing opportunities, addressing weakness and responding to threats in a multijurisdictional fishery.

The full extent and benefit of NTSA will be realised when (i) industry data feeds are close to real time, (ii) the data coordination and information systems required of the NTSA Administrator (FFA Secretariat) are in place; and (iii) Parties have a mechanism to cooperate with Signatories and non-signatories. Operationalization will facilitate the necessary cross vesting of officers and information sharing for catch certification and response to non-compliance in a multijurisdictional fishery. As a binding treaty the NTSA will negate an apparent overreliance on non-ratified bilateral and multilateral MOUs in the region which are susceptible to unauthorised data access and exercise of regulatory powers.

MCS Strategy *Contains critical success factors of what was needed and sustained over time in order to accomplish the objective and mission of the Regional MCS Framework*

FFC adopted the *Regional MCS Strategy (2010-2015)* in 2010. Its implementation has been reported annually to MCSWG and FFC. There has been no revision to the Strategy since 2010. It contains nine Strategic Objectives each with specified outputs and validation sources, they are indicative of what FFC considered in 2010 to be critical success factors for an effective MCS Framework. Progress has been achieved against all nine Objectives:

- Strong progress with MCS for improved fisheries management outcomes and influence on WCPFC.
- Moderate progress with the systematic analysis of information to understand IUU risks and drivers of non-compliance, and cost efficient and effective MCS programs.
- Gradual progress with the use of voluntary compliance tools and market based measures (catch certification).

Outcome The MCS framework, as part of the regional fisheries management regime is sound, particularly when compared to arrangements that exist beyond FFA's direct sphere of influence: non-FFA Member flagged vessels operating beyond Member's EEZs. There has been significant progress implementing the *Regional MCS Strategy (2010-2015)*, however IUU fishing is far from eradicated and changes to the design of the MCS Framework are required to ensure progress is maintained.

Digitisation and transitioning to e-business has the potential to eliminate "Unreported" fishing from FFA fisheries, it requires a collective FFA mandate for industry to report information electronically in close to real time. The mandate would be similar to the 1997 FFA VMS requirement.

Recommendation 1: Mandate Operators of FFA vessels to e-report catch logsheet data prior to exiting an FFA EEZ, transshipment, or landing. Effective 1 October 2017.

MRAG (2016) estimated that approximately 306,440 tonnes of catch is inaccurately declared, either a country external to FFA is claiming FFA catch, or the catch is undeclared and laundered through a processing or market State that has insufficient controls to prevent IUU from entering the commodity chain. The MCS Frameworks has no standard for catch certification at point of landing or transshipment.

Recommendation 2: Mandate Operators of FFA vessels to keep catch of a fishing trip separate from other catch until certified by a person authorised by the relevant Coastal State that the catch and effort data is accurate and caught in accordance with Coastal State laws. Effective 1 October 2017.

Recommendations 1 and 2 apply to the high risk multijurisdictional vessels; vessels appearing on the FFA Record of Fishing Vessels. Members may opt-in vessels from their domestic fleet. A one year target date for implementation provides time for industry

consultation and for the legal and technical requirements to be put in place, much of which is already underway.

Recommendations 1 and 2 should be placed in conjunction with a program logic that details, MCS inputs (including costs), outputs, outcomes, objectives, monitoring, evaluation, and assumptions. Progress of implementation should be communicated monthly within the membership and quarterly with industry.

A regional program logic that integrates quantifiable national performance targets would assist national and regional operational planning, MCSWG and FFC outcomes, budget allocations, and future evaluations.

Recommendation 3: Apply a risk based performance monitoring program that has quantitative metrics to monitor and evaluate the impact of MCS activities on their objective to prevent, deter and eliminate IUU.

Table of Contents

Executive Summary	i
Acronyms and abbreviations	1
Chapter 1: Background and Context.....	4
a) MCS Defined	4
b) IUU Defined.....	4
c) Scope of the Regional MCS Framework	6
Area of Competence	6
Species of Competence	7
Members and Secretariat	7
MCS Framework	8
Chapter 2: Methodology and Assumptions.....	11
a) Evaluation Methodology	11
b) Evaluation Assumptions	13
MCS, IUU and Risk	13
Systems and Documents.....	14
Chapter 3: MCS Design and Implementation	16
a) MCS Design.....	16
SWOT Analysis	16
b) MCS Implementation.....	19
MCS Frameworks based on risk assessment	19
Management of Information	20
Improved Fisheries Management Outcomes	21
Understanding Drivers and Level of Compliance	21
Capacity and Capability to Respond to IUU Risk	22
Use of Voluntary Compliance Tools.....	23
Influence on WCPFC	24
Market Based Measures.....	24
Cost Effective and Efficient Measures	25
Chapter 4: Conclusion.....	26
a) Overview.....	26
b) Future MCS Framework.....	26

Bibliography	29
Attachment A: MCS Working Group Terms of Reference	34
Attachment B: SWOT Background	37
Attachment C: MCS Strategy (2010-2015) Observations	38
Attachment D: Country Report Template	39

List of Figures

Figure 1: FFA Member Countries.....	6
Figure 2: MCS SWOT.....	17
Figure 3: MCS SWOT Interactions.....	18
Figure 4: Implementation of the MCS Strategy (2010-2015).....	19
Figure 5: Evolution of Information Management Systems.....	20
Figure 6: Global Tuna Management Overview.....	Error! Bookmark not defined.
Figure 7: Pacific Patrol Boat Comparison - Current to Replacement.....	Error! Bookmark not defined.
Figure 8: Estimated IUU risk category by volume and value in Pacific Islands tuna fisheries.....	Error! Bookmark not defined.
Figure 9: DWFN Trip Logsheets Received compared to VMS trips (in zone).....	Error! Bookmark not defined.
Figure 10: FFA Flagged Trip Logsheets Received compared to VMS Trips.....	Error! Bookmark not defined.
Figure 11: Enforcement Pyramid.....	Error! Bookmark not defined.
Figure 12: FFA Data Sharing Matrix.....	Error! Bookmark not defined.
Figure 13: WCPFC Area of Competence.....	Error! Bookmark not defined.
Figure 14: Compliance Indexed Vessels (April 2016).....	Error! Bookmark not defined.
Figure 15: CDS Framework.....	Error! Bookmark not defined.
Figure 16: Keypunched forms for the year.....	Error! Bookmark not defined.

List of Tables

Table 1: IUU, MCS and risk assessment.....	i
Table 2: MCS Progress Scoring.....	12
Table 3: Disaggregate IUU to identify risk source.....	14
Table 4: IUU, MCS and risk assessment.....	14
Table 5: MCS Program Logic.....	28
Table 6: Criteria to Assign a Vessel Compliance Index.....	Error! Bookmark not defined.
Table 7: Status of the NTSA.....	Error! Bookmark not defined.
Table 8: The EU Pacific House of Cards.....	Error! Bookmark not defined.
Table 9: Aerial Surveillance Capabilities and Costs.....	Error! Bookmark not defined.

List of Boxes

Box 1: Regional MCS Planning Framework.....	9
Box 2: Comparing the RSP, EOS, and GFW.....	Error! Bookmark not defined.
Box 3: RFSC Analysis Process.....	Error! Bookmark not defined.

Acronyms and abbreviations

AIS	Automatic identification system
ALB	Albacore tuna
ALC	Automatic Location Communicator
API	Application Program Interface
BET	Bigeye tuna
BIL	Billfish
CCM	Members and Cooperating Non-Members of the WCPFC
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CDS	Catch Documentation System
CI	Vessel Compliance Index
CMM	Conservation and Management Measure
DWFM	Distant Water Fishing Nation
EEZ	Exclusive Economic Zone
EM	Electronic Monitoring
EPO	Eastern Pacific Ocean
EOS	Eyes on the Sea
FAO	UN Food and Agriculture Organisation
FAD	Fish Aggregation Device
FFA	Forum Fisheries Agency
FFC	Forum Fisheries Committee
FFA RFV	FFA Regional Register of Fishing Vessels
FFC	Forum Fisheries Committee
FSMA	Federated States of Micronesia Arrangement
FIMS	PNA Fisheries Information Management System
GFW	Global Fish Watch
HMTCs	FFA Harmonised Minimum Terms and Conditions for Foreign Fishing Vessels

HS	High Seas
HSP	High Seas Pocket
IATTC	Inter-American Tropical Tuna Commission
INTERPOL	International Criminal Police Organisation
IOTC	Indian Ocean Tuna Commission
IMS	Information Management System (Members web based portal to the FFA RIMF)
IPOA-IUU	International Plan of Action to Prevent, Deter and Eliminate IUU fishing
IUU	Illegal, Unreported and Unregulated fishing
ISMS	FFA Policy Information Security Management System
ISSF	International Seafood Sustainability Foundation
KRA	Key Result Area
LL	Longline
MARPOL	International Convention for the Prevention of Pollution from Ships
MCS	Monitoring, Control and Surveillance
MCSWG	MCS Working Group (FFC subcommittee)
MSC	Marine Stewardship Council
MSG	Melanesian Spearhead Group
NFD	Non-fishing days
NPFC	North Pacific Fisheries Commission
NPOA-IUU	National Plan of Action to prevent, deter, and eliminate IUU fishing
NTSA	Niue Treaty Subsidiary Agreement
OTH	Other Species
PIRFO	Pacific Islands Regional Fisheries Observer Training Standards
PLG	Polynesian Leaders Group
PNA	Parties to the Nauru Agreement
PSM	Port State Measures
PS	Purse Seine
PTCCC	Pacific Transnational Crime Coordination Centre

QUAD	Quadrilateral Defence Coordination Group, consists of Defence and Security Agencies from Australia, France, New Zealand, and the United States of America
RFSC	FFA Regional Fisheries Surveillance Centre
RFMO	Regional Fisheries Management Organization
RIMF	Regional Information Management Facility
ROP	WCPFC Regional Observer Program
RSP	Regional Surveillance Picture
SPRFMO	South Pacific Regional Fisheries Management Organisation
SIDS	Small Island Developing State
SKJ	Skipjack Tuna
SLL	Southern Longline Fishery
SPC	Secretariat of the Pacific Community
TLL	Tropical Longline Fishery
TVM	Te Vaka Moana Arrangement
UNFSA	United Nations Fish Stock Agreement
USMLT	US Multilateral Treaty
VDS	Vessel Days Scheme
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
YFT	Yellowfin Tuna

Chapter 1: Background and Context

a) MCS Defined

FFA's agreed terminology for MCS is set out in the *FFA MCSWG Terms of Reference* (Attachment A) and is the same definition developed by a United Nations Food and Agriculture Organisation (FAO) MCS Conference of Experts in 1981 (Flewwelling *et al*, 2003):

- Monitoring, the continuous requirement for the measurement of fishing effort characteristics and resource yields (and catches);
- Control, the regulatory conditions under which the exploitation of the resource may be conducted; and
- Surveillance, the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.

Bergh and Davies (2002) make an important observation when seeking to define MCS, that there are limitless ways in which MCS can be tailored and take form, more important than an agreed definition of MCS is its objective and the desired result.

FAO elaborated on the 1981 definition in 1993 to promote the concept that MCS covers more than just fisheries enforcement and should be viewed as an integral and key component for the implementation of fisheries management plans. Encompassing not only traditional enforcement activities but also the development and establishment of data collection systems, enactment of legislative instruments and the implementation of management plan through participatory techniques and strategies.

- Monitoring includes the collection, measurement and analysis of fishing activity including, but not limited to: catch, species composition, fishing effort, bycatch, discards, area of operations, etc. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate or incomplete, managers will be handicapped in developing and implementing management measures.
- Control involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub-regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are implemented. For maximum effect, framework legislation should clearly state the management measures being implemented and define the requirements and prohibitions that will be enforced.
- Surveillance involves the regulation and supervision of fishing activity to ensure that national legislation and terms, conditions of access and management measures are observed. This activity is critical to ensure that resources are not over exploited, poaching is minimized and management arrangements are implemented.

b) IUU Defined

The *FAO International Plan of Action to prevent, deter, eliminate illegal, unreported, unregulated fishing* (IPOA IUU) has the most universally recognized definition of IUU:

Illegal fishing refers to fishing activities:

1. conducted by national or foreign vessels in waters under the jurisdiction of a State, without the permission of that State, or in contravention of its laws and regulations;
2. conducted by vessels flying the flag of States that are parties to a relevant regional fisheries management organization but operate in contravention of the conservation and management measures adopted by that organization and by which the States are bound, or relevant provisions of the applicable international law; or
3. in violation of national laws or international obligations, including those undertaken by cooperating States to a relevant regional fisheries management organization.

Unreported fishing refers to fishing activities:

1. which have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or
2. undertaken in the area of competence of a relevant regional fisheries management organization which have not been reported or have been misreported, in contravention of the reporting procedures of that organization.

Unregulated fishing refers to fishing activities:

1. in the area of application of a relevant regional fisheries management organization that are conducted by vessels without nationality, or by those flying the flag of a State not party to that organization, or by a fishing entity, in a manner that is not consistent with or contravenes the conservation and management measures of that organisation; or
2. in areas or for fish stocks in relation to which there are no applicable conservation management measures and where such fishing activities are conducted in a manner inconsistent with State responsibilities for the conservation of living marine resources under international law.

The impacts of IUU fishing undermine international, regional, and national efforts to effectively conserve and manage fish stocks and the impacts of fishing. Nellemann *et al*, (2014) identifies illegal fishing as a rapidly rising threat to the environment, revenues from natural resources, state security and to sustainable development. IUU fishing distorts competition with lower operating costs gaining an economic advantage over legitimate fishers.

The vessels involved in IUU fishing are usually part of a complex system, operating under dynamic networks, capable of adapting to management measures, with layers of corporations to hide beneficiary owners, with the use of bribery as a means of collusion and intimidation (Osterblom *et al*, 2011). It includes on the water and post-harvest activities for which there is a non-IUU (compliant) and a IUU (non-compliant) component, which means that unmasking legitimacy and the source of IUU is substantially more difficult than other criminal activities.

To engage in IUU fishing, a fishing vessel must: (1) access the waters where the fish are, (2) remove the fish from the water, (3) transport the catch to the destination, and (4) offload the illegally caught fish at the destination's port. Each of these steps must be completed without being detected and detained by the authorities, and obstructing any of these steps will jeopardize the entire fishing trip (Marteache *et al*, 2015).

In the tuna fisheries IUU fishing and IUU post-harvest operations by their nature are almost always transnational.

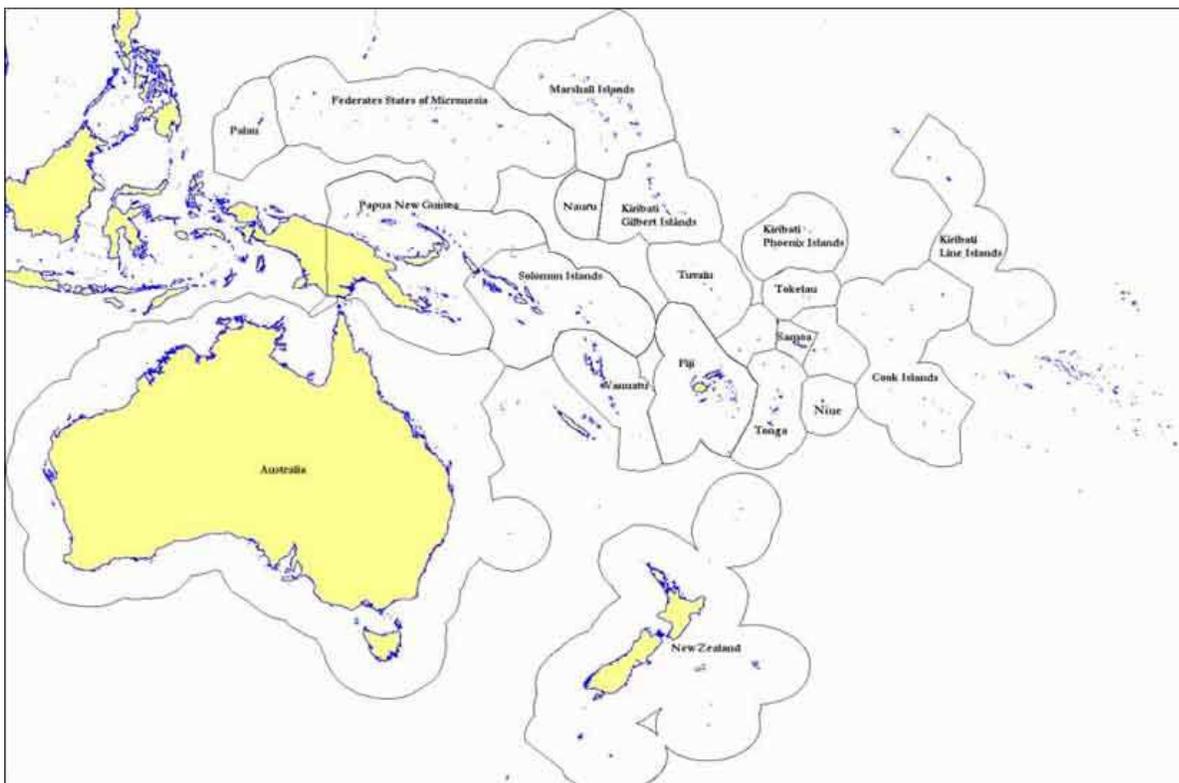
c) Scope of the Regional MCS Framework

Area of Competence

Pacific Island countries, excluding the French and US Territories are responsible for managing 20.8 million sq. nautical miles of ocean. The principal bodies being the eight Parties to the Nauru Agreement (PNA), with 14.5 million sq. nautical miles and South Pacific Island countries, excluding Australia and New Zealand, with 6.3 million sq. nautical miles (refer to Figure 1).

The Regional MCS Framework area of competence includes national, sub-regional (PNA, FFA, TVM, PLG, and MCG) and regional (WCPFC) organisations. There is a distinct difference between how the MCS Framework relates to the EEZ and High Seas (HS). While it can be said that the MCS Framework applies directly to addressing IUU within FFA’s EEZ and FFA flagged vessels on the HS, it can only influence the MCS framework for foreign vessels on the HS through extraterritorial licence conditions or the consensus based decision making of WCPFC.

Figure 1: FFA Member Countries



(Source: FAO)

The MCS Framework applies to approximately 2028 vessels fishing in the WCPO (Banks *et al*, 2016). This includes 816 vessels fishing on the HS that are not flagged to a member of FFA. There are approximately 1,213 vessels on the FFA Register. It is important to understand that these vessels are required to complete catch and effort data at sea, this data is considered an “estimate” until verified by other sources, the most accurate being at the point of unload¹. Transshipment complicates this verification process as catch from various

¹ Refer to WCPFC Scientific data rules

fishing is often mixed prior to verification occurring. The Purse Seine (PS) fleet transships around 80% of its product (McCoy, 2012) to carriers in any one of a number of designated Pacific Island ports. Longline (LL) caught product is either transshipped at sea or offloaded into a number of Pacific Island ports for subsequent air or container freight. In 2012 the proportions of catch transshipment against offloads was approximately 226,000t (78%) compared to 63,000t (22%) (McCoy, 2012).

Species of Competence

The FFA is mandated to concentrate on the management and development of the tuna fishery in the Western and Central Pacific Ocean (FFA, 2016). This fishery is now the largest tuna fishery in the world in terms of both volume and catch. Within the broader Western and Central Pacific fishery in 2014, some 2.86 million metric tonnes of tuna were caught representing about 60% of global tuna catch. Around 60% of WCPO catch comes from FFA waters, which equates to around one third (1/3) of global tuna catch by volume.

The total WCPO tuna catch during 2014 was around 2.8 million tonnes (t), of which around 71% was caught by PS, 9% by LL, 7% by Pole-and-Line vessels, and the remaining 13% by a collection of other gears. The key species caught comprise the pelagic tunas including, skipjack tuna (SKJ), yellow-fin tuna (YFT), albacore tuna (ALB) and bigeye tuna (BET), along with an assortment of bycatch species including sharks, billfish and other pelagic species (e.g. wahoo, mahi mahi, opah and rainbow runners). The 2014 catch breakdown in the WCPFC Statistical Area included:

- SKJ -1,950,000 t (69%);
- YFT- 166,000 t (6%);
- BET and ALB - 129,000 t (4%).

The WCPFC Scientific Committee recommendations to the Commission are broadly summarised by Harley *et al*, (2015):

- Stabilise stock size or catch/no increase in fishing pressure for, SKJ, YFT, Southwest Pacific swordfish, and Pacific-wide blue marlin.
- Reduce catch and/or rebuild the stock and/or reduce effort for BET, Pacific bluefin tuna, South Pacific albacore tuna, Southwest Pacific striped marlin, Western and central north Pacific striped marlin, Silky shark, and Oceanic whitetip shark.

Harley *et al*, (2015) notes that stock assessment for the key target species lag by one year “due to uncertainty in the data for the most recent year in each assessment”. Catch for many of the associated species cannot be accurately quantified due to misreported log sheet data and low longline observer coverage.

MRAG (2016) categorised IUU risks against these species into four categories: (i) unlicensed / unauthorised fishing, (ii) misreporting and (iii) non-compliance with other licence conditions (e.g. FAD fishing during the PS closure period) and post-harvest risks (e.g. illegal transshipping). MRAG (2016) noted that for the majority of these risks the level of information available from the regional MCS Framework was very limited and made recommendation to strengthen the availability of such information.

Members and Secretariat

The Pacific Islands Forum Fisheries Agency (FFA) was established in 1979 when Pacific Leaders signed the FFA Convention. At the time, the international legal framework for oceanic fisheries was undergoing dramatic change. In particular, the United Nations Convention on the Law of the Sea (UNCLOS) secured for coastal

states the sovereign right to manage the living resources within a 200-mile exclusive economic zone (EEZ). Founding Members envisioned an agency with the mandate to strengthen national capacity and regional solidarity for the sustainable management, control and development of offshore fisheries. Since then, the Membership of the FFA has increased from ten to seventeen². FFA consists of the Forum Fisheries Committee (FFC) as the governing body comprising a representative from each member country and territory; and the FFA Secretariat which is based in Honiara, Solomon Islands. A Council of Ministers meets annually to provide strategic oversight of regional fisheries matters (*FFA Strategic Plan 2014 – 2020*).

FFA Members as the owners of FFA discharge their duties in a manner consistent with the FFA Convention and Strategic Plan, this includes oversight of the FFA Secretariats' coordination and capacity supplementation activities. FFA Members renew their commitment to actively support the strategic and day-to-day operation of FFA through:

- Securing the resources necessary for the effective operation of the FFA;
- Appropriately valuing services provided by the Secretariat;
- Engaging in constructive dialogue, including securing appropriate domestic mandate, on the opportunities for collective management; and
- Supporting the operation of the FFA, generally through responding to requests and sharing of information.

The FFA is responsible for assisting its seventeen Members to coordinate development and implementation of sustainable tuna fishery management policies in their waters and adjacent high seas, and for promoting the development of their tuna fishery resources. The role of the Secretariat, determined by the needs and priorities of Members, is divided broadly into four work programs:

1. Governance and Corporate Administration, which includes FFA's Executive Management, oversight of technical activities, administration and relationship management.
2. Fisheries Management, which assists FFA Members to refine and maintain effective policy and legal frameworks for sustainable management of their tuna fishery resources.
3. Fisheries Operations, which assists FFA Members to develop and implement MCS activities in support of fisheries management and development initiatives.
4. Fisheries Development, which assists FFA Members with social, economic and development planning; market access; and investment facilitation for the fisheries sector.

MCS Framework

The Regional MCS Framework was taken to be a combination of the *Regional MCS Strategy (2010-2015)*, the *FFA Strategic Plan (2020)*, *FFA Statement of Intent*, country member's service level agreements (SLAs), FFC Decisions, and the MCS Working Group (MCSWG), refer to *Box 1: Regional MCS Planning Framework*. The main link between the regional and national regional MCS planning processes is via the SLAs and the annual MCSWG meeting.

The Regional MCS Framework is a key element of FFA's cooperative fisheries management framework, with the FFA Secretariat providing both a capacity supplementation and a coordination role. In 2015, through the

² Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Papua New Guinea, Palau, Republic of Marshall Islands, Solomon Islands, Samoa, Tonga, Tokelau, Tuvalu and Vanuatu.

Regional MCS Framework, all vessels were required to have VMS and observer coverage for PS 100% and LL 5%. Regional operations involved the National Headquarters of all member nations and included the deployment of 32 Pacific Patrol Boats, 8 QUAD ships, and 18 QUAD aircraft. The operations resulted in 339 boardings (179 in harbour), generating a total of 11 seizures, infractions or citations. Where Illegal fishing is detected, a range of remediation tools are applied ranging from either education, warning and sanctioning. In instances where activity is deemed as “Unregulated”, strengthening of procedures and legislative controls are undertaken, differences in how this is applied by each Member arises due to countries unique legal arrangements, interpretation of international laws, financial and technical resources, national interests and priorities.

BOX 1: REGIONAL MCS PLANNING FRAMEWORK

<p>Regional MCS Planning Framework</p> <p><u>The FFA Strategic Plan 2014 – 2020</u></p> <p>Mission <i>“To drive regional cooperation to create and enable the maximum long-term social and economic benefit from the sustainable use of our shared offshore fishery resources”.</i></p> <p>Vision <i>“Our people will enjoy the highest levels of social and economic benefits through the sustainable use of our offshore fisheries resources”.</i></p> <p>The MCS Outcome³ <i>Benefits to FFA Members from fisheries are reinforced by robust Monitoring, Control and Surveillance in support of fisheries management frameworks⁴.</i></p> <p>Measured by: <i>Effective zone-based management; continued reduction in IUU; progressive restriction of fishing on the High Seas; prioritizing the supply of raw materials to processors in the region; establishing high standards of employment in the fishing and processing sector; establishing regional processing hubs in partnership between countries</i></p> <p style="text-align: center;"><u>The FFA Statement of Intent (SOI)</u></p> <p>A three-year rolling plan updated annually it details Key Result Areas (KRAs) that FFA seeks to achieve, consistent with, and measures achievement of the Strategic Plan⁵.</p> <p style="text-align: center;"><u>FFA / Member Service Level Agreements (SLAs)</u></p> <p>The SLAs are a non-binding two-way instrument that sets out the expectations of each Member in respect of priorities and provides the linkage between the national and regional MCS activities and outcomes. The SLAs generally have the four MCS KRAs similar to the SOI:</p> <ul style="list-style-type: none"> • FFA Members have knowledge, skills, capacity, and capability to fulfil MCS functions; • Create and maintain conditions and frameworks for MCS compliance; • Deter IUU through application of appropriate MCS tools and mechanisms; and
--

³ Outcome 3 is of direct relevance to the Evaluation, it is one of five outcomes

⁴ FFA Strategic Plan 2016-2020

⁵ FFA Strategic Plan 2016-2020

- Improved integration of national and regional data management systems and processes. The SLAs have in built review provision which includes Secretariat providing post visit reports to Members.

MCS Working Group (MCSWG)

The FFA MCSWG meets annually, usually at the FFA Conference Centre, Honiara, Solomon Islands. MCS representatives from each FFA Members consider actions arising, work plans for the year ahead and make recommendations for the FFC to consider and endorse. The MCSWG Terms of Reference (Attachment A) details MCS activities and IUU activities to monitor and analyse. In 2016 the 19th MCSWG was held in Auckland New Zealand, to coincide with an international Global Fisheries Enforcement Workshop, facilitated by the International MCS Network⁶.

The FFA surveillance providers, the Quadrilateral Defence Services of AU, FR, NZ and US, for the last three years have held their meetings concurrent to the MCSWG, facilitating a reciprocal exchange of emerging MCS issues and trends.

Regional MCS Strategy (2010-2015)

The *Regional MCS Strategy (2010-2015)* was adopted by FFC74 in May 2010. The primary purpose of this strategy is to support compliance with fisheries management frameworks and associated measures at national, sub-regional, regional and WCPFC Commission levels to ensure the long term sustainability of oceanic fish stocks and associated economic benefits flowing from them to Pacific Island Countries.

The Regional MCS Strategy was developed based on determining national needs, and then identifying ways to meet these through a variety of means, including direct national assistance and regional and sub-regional coordination and cooperation⁷. The national needs analysis included a 2009 regional risk assessment and assessment of MCS tools that where in place.

The MCS Strategy was to be a “living document”, it lapsed at the end of 2015 and is currently under review⁸. The FFA Annual Work Plan and Budget (AWBP) activities continue to support implementation of the MCS Strategy.

⁶ <http://www.imcsnet.org/about-us/who-we-are/>

⁷ <http://www.ffa.int/mcs-strategy>

⁸ MCSWG19_INFO.6._Update on Review of RMCSS Strategy

Chapter 2: Methodology and Assumptions

a) Evaluation Methodology

The Terms of Reference (ToR) for the Evaluation was to report the range of existing technical work and the Strengths, Weaknesses, Opportunities and Threats (SWOT) to MCS in Pacific Tuna Fisheries.

The Evaluation undertook a desktop analysis, interviews, four in-country consultations and an initial planning meeting with the FFA Secretariat. The desk top analysis included FFA files, FFA policies, FFA annual reports, FFA Statement of Intent, meeting report of MCSWG, FFA and WCPFC, regional surveillance planning and post operation reports.

Interviews were held in the margins of FFC and MCSWG with MCS practitioners and officials, NGOs and representatives from the PNAO, SPC and FFA Secretariats. Meetings attended included MCSWG19 (2016), FFC98 (2016), a meeting of the NTSA parties, the second meeting of the Regional Information Management Systems Workshop. In country consultations to identify “areas of concern⁹” were held with Vanuatu, Solomon Islands, PNG, and FSM. Country selection was informed by FFA choosing a cross section of different fisheries administrations. Time and resource constraints prevented additional in-country consultations¹⁰. An FFA Officer attended each consultation with the Evaluator. The in-country consultations served as a means to validate and refine the Evaluations’ desktop assessment of the MCS Framework, and remove subjectivity inherent to SWOT analysis (Pickton *et al*, 2016). The template for undertaking each in-country consultation is provided at Attachment C.

The FFA Secretariat, facilitated by the Consultant, undertook and provided an initial SWOT analysis which was further refined during the course of the Evaluation and the in-country visits. The SWOT analysis reveals areas where the design of the MCS Framework may impede achieving its objective. This was complemented with an assessment of progress implementing critical success factors¹¹.

The choice of success factors to gauge strength and weakness was a process of identifying what FFC had collectively agreed as the MCS Framework. The critical success factors chosen were the nine Strategic Objectives of the *Regional MCS Strategy (2010-2015)* each of which has a detailed explanation of outputs to achieve each strategic objective and sources of verification¹². FFC adopted the *Regional MCS Strategy (2010-2015)* in 2010 with no revision since this time. Its implementation has been reported annually to MCSWG and FFC¹³. The Strategic Objectives of the *MCS Strategy* are indicative of what FFC considered in 2010 to be critical success factors for an effective MCS Framework. This will serve a secondary function providing input to a scheduled review of the *Regional MCS Strategy* to occur in the later part of 2016^{14,15}.

The Likert scale at *Table 2 MCS Progress Scoring* was used to assign implementation scores for each *MCS Strategy (2010-2015)* Strategic Objective. Input from Members were sought during the in-country

⁹ Terminology specified in the Evaluation’s Terms of Reference

¹⁰ While countries were not selected based on total volume of catch, for information these countries accounted for approximately 50% of the catch by volume over a 10 year period.

¹¹ Mitigating a limitation of SWOT analysis (Popescu and Scarlet 2015).

¹² Refer to Appendix A of the *Regional MCS Strategy (2010-2015)*

¹³ For 2016 refer to *MCS19_INFO.5 – Annual Work Program, Budget and SLAs*.

¹⁴ *MCSWG19_INFO6_ Update on Review of RMCSS*.

¹⁵ For the proposed 2016 review of the *MCS Strategy* caution is required to avoid a propensity to affirm existing critical success factors (Caralli (2004)).

consultations. Their results along with those from the Secretariat and the Evaluator were pooled then averaged to derive the results as shown in Chapter 4. In doing this several behaviours were applied:

- Consultations were not conducted as an audit or examination to avoid defensive opinions of the management and operational domain; and
- Participants understood their input was confidential to enable a free flow of meaningful information not attributed to any one person or country.

Other options for assessing implementation included:

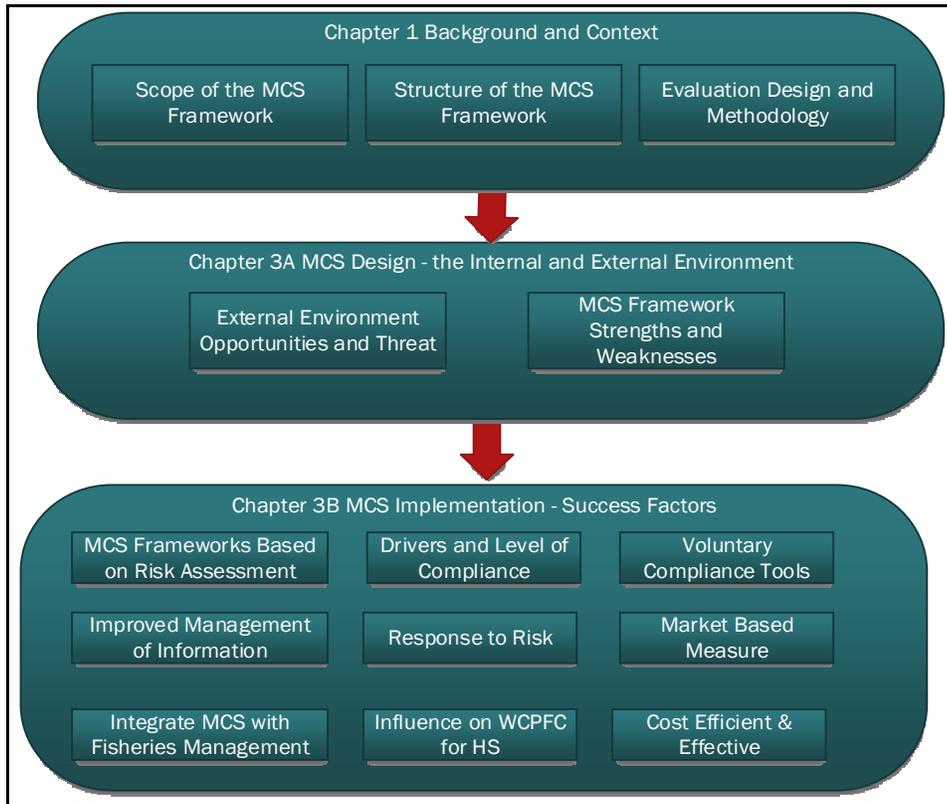
- *IPOA IUU (2012)* however it predates the MCS Strategy.
- The *MRAG (2009) Regional Risk Assessment* and the *MRAG (2009) MCS Matrix* which underpins and informed formulation of the MCS Strategy they are however supporting documents to, and not the final instrument - the Regional MCS Strategy - adopted by FFC in 2010.

The methodology and format of the report is illustrated in *Figure 2: Methodology and Format of the Report*. In accordance with the FFA ISMS Attachments B and C of the Evaluation Report contains classified information, the Report should be handled as non-public domain data with Attachments B and C attached.

TABLE 2. MCS PROGRESS SCORING

Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress
Objective not achieved	Objective not achieved	Objective partially achieved	Objective achieved	Objective achieved
No outputs achieved	Some outputs achieved	Some outputs achieved	Most outputs achieved.	All outputs achieved.
	Sources of verification absent	Sources of verification not available to the Evaluation.	Most sources of verification available	All sources of verification available

FIGURE 2: METHODOLOGY AND FORMAT OF REPORT



b) Evaluation Assumptions

MCS, IUU and Risk

The Evaluation assumed that the MCS Framework has a program logic where MCS activities are the inputs to achieve the outcome and objective of preventing, deterring and eliminating IUU.

IUU requires disaggregation to understand the sources, nature and impact of each IUU component. Disaggregation reveals an overlap between the IUU components where Unreported may be either “Illegal Unreported” or “Unregulated Unreported”, as such there are four objectives that the MCS Framework should be working to address (refer to *Table 3: Disaggregate IUU to identify source*). *Table 3* is pre-populated with high risk IUU activities, identified during the course of the Evaluation, to demonstrate that the source of IUU may arise from industry as a compliance threat or from a weakness of the MCS Framework design or implementation.

The *Regional MCS Strategy (2010-2015)* underscores risk assessment methodology to delineate the relationship between MCS and IUU; IUU is the risk to the regional fisheries management framework and MCS are the controls to manage this risk (refer to *Table 4: IUU, MCS and Risk Assessment*). The Evaluation assumed that when high IUU risks are identified, additional or revised MCS measures have or are being instigated to

treat the high risk and is kept under continual review. This can also be likened to “problem orientated policing”.

Applying risk assessment methodology relies on a clear understanding of the source(s) of the risk, the events which gives rise to the risk, and impact of the risk. The Evaluation assumed that where MCS activities are reported either nationally or regionally that it would be done so in conjunction with its impact on the objective of preventing, deterring, and eliminating IUU fishing.

TABLE 3: DISAGGREGATE IUU TO IDENTIFY RISK SOURCE

1. Illegal	2. Unreported		3. Unregulated
2a. Illegal Unreported		2b. Unreported Unregulated	
External Environment (Compliance Threat)		Internal Environment (Weakness)	
Unlicensed Fishing Hindering Observer FAD fishing during closure	Licensed vessels not reporting or misreporting: (1) catch and effort data (2) post-harvest transshipment and landing data	Paper based forms - input errors, time delays prevents data analysis. Electronic reporting and data not legally recognized or a condition of access. Landing and transshipment certification of catch not standardised.	Capacity to respond to licensed IUU activities. Absence of High Seas catch and effort limits (with the exception of BE and NBT).

TABLE 4: IUU, MCS AND RISK ASSESSMENT

Risk	Controls (MCS Framework)	Existing Risk	High Risk Treatment	Forecasted Risk
Illegal Illegal Unreported	MCS activities focused on preventing and deterring non-compliance by industry	Assign risk level	Additional or Revised MCS	Assess and accept treatment and risk level
Unregulated Unreported Unregulated	MCS activities focused on addressing legal gaps and the administration of the MCS Framework	Assign risk level	Additional or Revised MCS	Assess and accept treatment and risk level

Systems and Documents

The methodology draws heavily on the *MCS Strategy (2010-2015)*, indicative of what FFC considered to be the MCS Framework and therefore a basis for the Evaluation, however caution should be exercised interpreting results as certain aspects may no longer have relevancy given that they were identified and agreed by FFC six years ago when the *Regional MCS Strategy (2010-2015)* was endorsed. It may be that some elements of the Strategy are no longer a priority with resources re-focused and dispersed to other areas. The methodology assumed that each Strategic Objective of the MCS Strategy is weighted equally in terms of importance.

The Evaluation in reviewing the regional coordination mechanisms assumed:

- All Members would provide 2016 Country Statements to MCSWG16 however three countries did not, furthermore MCSWG papers and outcomes make limited reference to the Country Statements.
- All Members would have SLAs however it was difficult to establish which Members have SLAs and the review provision contained in the SLAs have reporting outcomes which were not available.
- That a Regional IUU Risk Register and MCS matrix¹⁶ would be maintained, although there was some effort to maintain the MCS matrix, it was not sufficient to be used as part of the Evaluation.
- That indices to gauge effectiveness of deterrence measures would be readily available in relation to responses to non-compliance, with the exception of logbook reconciliation data, this was not available.
- Indices to gauge effectiveness of preventative measures would be readily available (such as visits to FFA internet site, IMS usage, media campaigns, stakeholder engagement). With the exception of hits on the FFA Facebook page and FFA compliance indexing of vessels this was not available.

The Terms of Reference for the Evaluation had dependencies on the outcomes and progress of several interrelated technical reviews and projects. The Evaluation was limited to observation on their status, health and management. These projects included:

1. A gap analysis of the Port State Measures in the region;
2. Specific work on data sharing and enforcement cooperation to secure additional ratifications to the Niue Treaty Subsidiary Agreement (ongoing);
3. A study to quantify the nature and magnitude of IUU fishing in the Pacific tuna fishery (completed in February 2016);
4. A cost-benefit analysis (CBA) of increased aerial surveillance (completed in February 2016);
5. Two separate projects to assess the ability of integrating new data types (such as satellite imagery) into the RSP (ongoing); and
6. A comprehensive review of the Regional Monitoring Control and Surveillance Strategy, including updates to the individual national MCS risk assessments conducted in 2008/09.

The first project, gap analysis of port state measures, and the last, review of the Regional MCS Strategy, are in the initial stages of commencement. An update of the individual national MCS risk assessment is most outstanding as an absence of national and regional performance management metrics and project plans hindered the evaluation.

With the exception of the aerial surveillance CBA report and the MRAG IUU quantification report, the health of the projects was considered “off track”. This should not be attributed solely to the FFA Secretariat as the projects have dependencies on resourcing and collaborative input from Members. During the course of the Evaluation it was noted that FFA had established a Project Register and in the process of developing project plans for each of the uncompleted projects.

¹⁶ The MCS Matrix gauges effectiveness of members MCS activities, it is a module appearing in Members IMS portal as part of the RIMF.

Chapter 3: MCS Design and Implementation

a) MCS Design

Identifying strengths, weaknesses, opportunities and threats (SWOT) provides a basis for assessing the MCS Framework's strategic fit with the external environment and is dependent on the objective under Evaluation (Bartol *et al*, 2005). The *Regional MCS Strategy* (2010-2015) provides guidance with a primary purpose "to support compliance with fisheries management frameworks and associated measures at national, sub-regional, regional and WCPFC Commission level to ensure the long term sustainability of oceanic fish stocks and associated economic benefits flowing from them to Pacific Island Countries".

For the purpose of the Evaluation the external environment was considered to be those forces beyond the immediate control of the MCS Framework for example macroeconomic matters, technological change, sociocultural changes, as well as changes in the marketplace or profitability of the tuna industry:

- Opportunities, being developments and elements of the external operating environment that could be exploited by the regional MCS Framework to its advantage.
- Threats, being developments and elements of the external operating environment that could hinder the MCS Framework in the pursuit of its objectives.

The internal environment was considered as those elements which the framework is able to directly influence:

- Strengths, being characteristics of the MCS Framework that are successful in the prevention, deterrence and elimination of IUU fishing.
- Weaknesses, being characteristics of the MCS Framework that impede or require enhancement in order to successfully prevent, deter or eliminate IUU fishing.

SWOT Analysis

The identified SWOT elements of the MCS Framework's internal and external environment are set out in *Figure 3 MCS SWOT*. A detailed explanation for each element is provided at *Attachment 3 SWOT Background*. The second phase of a SWOT analysis is to identify interactions between the elements appearing in *Figure 3: MCS SWOT* (Wehrich 2008). Generally strong interactions between:

- Strengths and Opportunities indicate robust systems with potential area for growth or diversification to maximize the positive influences of the MCS Framework.
- Weaknesses and Threats indicate that immediate action is required in order to prevent negative influences from compromising or unhinging the Framework it as it stands i.e. regional solidarity.

The SWOT interactions are presented in *Figure 4 MCS SWOT Interactions*. The interactions provide a basis from which future strategies should be considered.

In summary the SWOT analysis highlights the need to address the high IUU risk of misreported or unreported data through digitisation of paper based processes for licencing, reporting, e-monitoring and certification of catch. This requires mechanisms and performance monitoring to avoid using, or being associated as a Port, Flag, Coastal or Market State that has inadequate due diligence provisions to prevent IUU from entering the commodity chain.

FIGURE 2: MCS SWOT

INTERNAL Environment

EXTERNAL Environment

POSITIVE		NEGATIVE	
STRENGTHS (through cooperation)		WEAKNESSES (of the MCS Framework)	
<p>A. Managing and Sharing Data Members committed to sharing MCS data for preventing and deterring IUU as reflected in the NTSA and FFA Information Security Policy.</p> <p>B. Air Land and Sea Coordination Mobilisation of MCS Operatives (observers, fisheries officers, investigators, technical experts) to supplement capacity monitoring and responding to priority IUU. Standards of Observers (PIRFO) and MCS Officers (Certificate IV) internationally recognised. Partnerships with the QUADS for high impact sweeps of the WCP Ocean.</p> <p>C. WCPFC MCS Implementation Positive influence for: data sharing, VMS, High Seas Boarding and Inspections, Observers programs, and compliance monitoring - resulting in high WCPFC MCS transparency.</p> <p>D. Regional Surveillance Picture Multiple datasets, including classified data, integrated to watch over the oceans with complex analytics to detect and perform real time risk and compliance indexing of vessels.</p> <p>E. Legal Frameworks MCS standards, reflected in national laws, HMTc, FFA Security Policy, NTSA, PNA implementing Agreements and NPOA-IUUs.</p>		<p>A. Complexity, Interagency Coordination and Certification Standards Interagency cooperation and collaboration for regulating a vast geographic area with a multiplicity of jurisdictions, activities and portfolios.</p> <p>B. Performance Monitoring – disparities, IUU objectives and transparency Compliance monitoring and response varies between Members. Limited use of IUU objective based performance monitoring that has quantifiable IUU reduction targets, use of risk assessments is ad hoc. Lack of transparency facilitates collusion and corruption.</p> <p>C. Asset Availability Fisheries competing for multitasked air and sea assets. The patrol fleet is small and ageing with limited endurance, supported by sporadic aerial surveillance.</p> <p>D. Digitization of Paper Based Processes Legal instruments slow to recognise electronic data, transactions and meet evidentiary standards. For some, data security policies are in development and for others security audits are yet to occur. There are various programming and development platforms which creates incompatibilities, duplications, oversights, multiple user interfaces and access points, and propriety limitations. Lack of APIs creates dependency on regional agencies for software development.</p>	
OPPORTUNITIES (to prevent, deter, and eliminate IUU)		THREATS (IUU and drivers of IUU)	
<p>A. Good Business Practice (Industry) Corporate Governance to maintain ethical, social, environmental, health and traceability standards, e.g. independent audits (e.g. ISSF) or certification (MSC), creates access to premium markets.</p> <p>B. Technology Rapid emergence of cost effective electronic monitoring and reporting tools. Agile software platforms and the Cloud enable speed and integration of large datasets for complex data analytics and collaboration in software development and MCS operations.</p> <p>C. Community Interest and Market Instruments Consumer assurance that the catch is sourced from legal, sustainable and ethical sources, creates a higher value product and increased interest from donors to establish and maintain standards.</p> <p>D. International Management Arrangements Many Flags, owners and vessels operate in two or more adjoining or overlapping RFMOs. While target species don't overlap, vessels and associated species do. Information exchange is required to increase maritime domain awareness.</p> <p>E. Pacific Maritime Security Domain Strengthen partnerships with FFA Surveillance Providers (AU, NZ, FR and US) and others including Japan, China, Chinese Taipei and Chile. The 23 Pacific Class Patrol Boats to be replaced with larger, more capable and dependable boats, supported by a dedicated aerial surveillance program. .</p>		<p>A. IUU Pacific IUU estimated at 306,440t approximately 10% of the overall catch. Catch and Post-harvest landing and transshipment misreporting 76% of overall IUU. Other IUU threats: bycatch misreporting, unlicensed Asian vessels, and counterfeit certifications, labels, and licenses.</p> <p>B. Drivers of IUU</p> <ul style="list-style-type: none"> ○ Global Overcapacity. Rapid technology creep (e.g. FAD monitoring in ports), fisheries beyond WCPO overfished, profitability margins of industry decreasing. Future prediction, wild capture fisheries unable to meet global demand. ○ Due Diligence and Bad Faith. From Distant Water Fishing and Port Nations (many of which exert significance influence on national and regional policies) and FFA Members as Coastal, Flag and Port States. ○ Cybersecurity, cybercrime and counter surveillance. <p>C. Funding Donor fatigue, coordination, and complex funding conditions.</p> <p>D. Climate Change Long terms modelling indicates a dispersion of key tuna stocks to higher latitudes and the eastern HS of the Pacific.</p>	

FIGURE 3: MCS SWOT INTERACTIONS

	Opportunities	Threats
Strengths	<p align="center"><u>Strength - Opportunity</u> (Harness strengths to maximize opportunities)</p> <p><u>Compatibility</u> The positive influence on WCPFC is in part due to FFA’s use of the HS compatibility requirement of the WCPFC Convention (Articles 8 and 10) with Coastal State arrangements as reflected in the FFA HMTCs. The HMTCs as a non-binding cooperative arrangement has no catch certification and e-reporting standards.</p> <p>The NTSA is at treaty level and is open for all FFA members to sign and ratify. It provides the necessary mechanisms for sharing information and cross vesting of officers involved in the inspection, certification and validation of catch that is landed, transshipped and exported. Standards agreed under the NTSA would serve a stronger basis for compatibility in WCPFC and other international forums. Operationalisation of the NTSA would negate an overreliance on bilateral and multilateral MOUs many of which have not been ratified into national laws, mitigating threats related to information security, inadmissibility of evidence to legal proceedings, and unauthorised exercise of officer powers.</p>	<p align="center"><u>Strength – Threat</u> (Harness strengths to minimize threats)</p> <p><u>Certification of Catch as non-IUU</u> FFA’s strength through cooperation as a coalition of Coastal States responding to DWFNs should be replicated in responding to the recent proliferation of Market State import and certification requirements (e.g. EU and US). FFA’s lack of an agreed certification standard has resulted in a disparate and uncoordinated response from the membership. Certification increases transparency reducing opportunities for corruption, ensures government revenues are received, avoids foregone future catch and effort allocations, and demonstrates FFA due diligence in giving effect to Coastal State responsibilities.</p> <p><u>Performance Monitoring</u> A lapsed MCS Strategy and a recent requirement to annually report MCS impact on IUU (the Annual Report Card) should transition reporting and performance monitoring currently focused on number of MCS activities to objective based indices which measures the impact of MCS on IUU. The SPC “raised catch¹⁷” factored into stock assessments, FIMS VDS Monitoring, MRAG (2016) IUU estimate, HMTCs, and MCSWG ToR provide guidance of objective based performance indices.</p>
Weaknesses	<p align="center"><u>Weakness – Opportunity</u> (Minimize weakness using opportunities)</p> <p><u>Response to Illegal IUU</u> An aging patrol fleet with sporadic aerial surveillance to be replaced with a new fleet, supported by a dedicated aerial surveillance program.</p> <p><u>Technology</u> The cloud and agile software platforms creates opportunities to further coordinate IT system design, development and roll-out between and within national, regional and sub-regional agencies. A strategic rethink of vendor engagement and management processes should consider:</p> <ul style="list-style-type: none"> • Specifying the system to system application programme interfaces (API) between Members and FFA/SPC, and between Members and Industry. • Agreeing to a common IT development platform for data management services and user interface provided by FFA, PNA and SPC. Where appropriate platform are opened for other vendors to provide similar services. <p>Harnessing technologies to mitigate IUU risk elevates FFA’s due diligence in giving effect to Coastal, Port and Flag State responsibilities.</p>	<p align="center"><u>Weakness – Threat</u> (Minimize weakness to avoid threats)</p> <p><u>Misreport and Unreported Catch</u> At least 10% of catch taken from FFA waters is not declared as FFA catch, either a country external to FFA is claiming the catch or it is laundered through a processing or markets State that has insufficient controls to prevent IUU from entering the commodity chain. At the same time some Members continue to authorise operators and Flags responsible for misreporting and unreported data. Associated weaknesses include:</p> <ul style="list-style-type: none"> • Paper based reporting by the longline, transshipment and landing sectors prevents Members from certifying catch as non-IUU due to time lags in receiving and inputting data for analysis to detect and respond to IUU. • Non-standardised certification of catch by those States involved in the regulation of catching, landing or transshipment activities. • Databases and user interfaces do not generate a strategic and operational understanding of what catch: has been certified as non-IUU; rejected for certification; or was not subject to certification. • Absence of national and regional taskforce(s) to detect, inspect and investigate instances where certification was denied due to non-compliance with national and regional laws.

¹⁷ Raised catch and effort data: those data derived from means other than logsheets e.g. observer data, landing data, and VMS data.

b) MCS Implementation

A summary of FFAs progress implementing the Regional MCS Strategy (2010-2015) is provided at *Figure 5: Implementation of the MCS Strategy (2010-2015)*. The remainder of this Chapter provides the rationale for assigning scores. The detailed observations for formulating the rationale are provided at *Attachment C: MCS Strategy (2010-2015) Observations*.

FIGURE 4: IMPLEMENTATION OF THE MCS STRATEGY (2010-2015)

Critical Success Factor (the nine Strategic Objectives of the MCS Strategy)	Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress
1.1 MCS Frameworks based on risk assessment					
1.2 Management of information					
1.3 Improved fisheries management outcomes					
1.4 Understand drivers and level of non-compliance					
1.5 Capacity/capability to respond to IUU risk					
1.6 Voluntary compliance tools					
2.1. Influence on WCPFC					
2.2. Market based measures					
2.3 Cost efficient and effective MCS					

MCS Frameworks based on risk assessment

Progress was assessed as “Modest”.

Strategic IUU risk assessments underpin NPOA IUUs, National MCS Strategies, and the Regional MCS Strategy. Tactical risk assessments are undertaken on a daily basis via the RSP providing real time and readily available updates on vessels movement and associated compliance history of vessels.

However, the link between tactical and strategic risk assessments, and between national and regional risk assessment processes should be strengthened. IUU risk assessments are not a standing agenda item for the MCSWG and reporting to MCSWG is focussed on MCS activities without making the link of how they impact on national and regional IUU levels. Some Members are not sharing the RSP between the Police Maritime Wing and National Fisheries Agencies and vice versa.

Subsequently the situation arises where Asian wooden hulled vessels, the blue vessels, haven been recently intercepted in several Members EEZ targeting high value low volume demersal species like clams and sea cucumbers. Each FFA Member in the Western Pacific have reported this threat in the media however it is yet to be collated in a manner which views this IUU threat as a collective subregional problem. Doing so may broaden the response from unilateral to a multilateral one exploring all available MCS tools from surveillance and enforcement to diplomatic and industry representation.

In order to become a strength there is merit in:

- Ensuring IUU risk assessments define the risk event, sources and impact, treatment plans are in place for high risks and kept under review by MCSWG and FFC, with integration of:

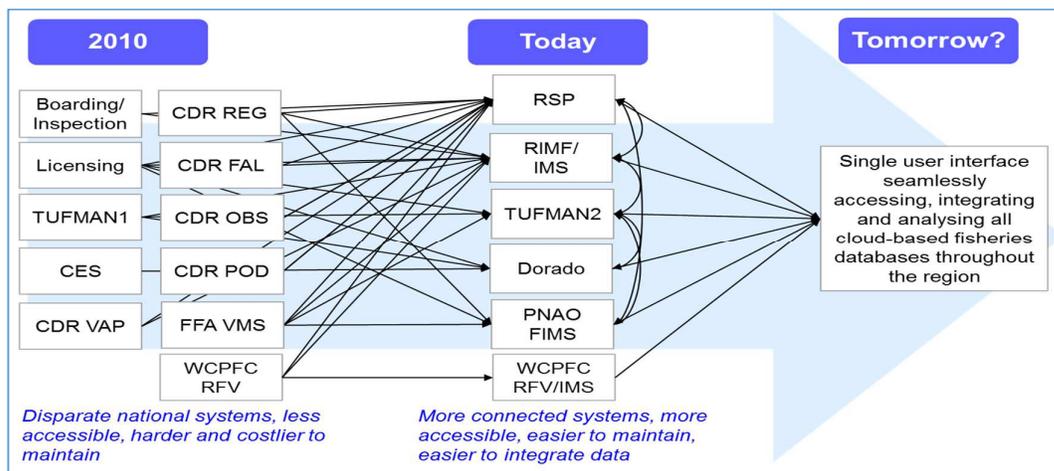
- a. National and regional risk analysis; and
- b. Tactical and strategic risks analysis.
- Making NPOA IUUs and National MCS Strategies publicly available (an IPOA IUU expectation).
- Broaden the analytics informing the compliance indexing of vessels on the RSP to include misreported and unreported catch and effort data, and infringements detected under the observer and VDS programs.
- Associating persons or companies of interest with the RSP compliance indexing of vessels.

Management of Information

Progress was assessed as “Modest”.

There has been significant progress with the rapid development of software to coordinate the management of information. Prior to the Regional MCS Strategy (2010 -2015) there was no RIMF, IMS, TUFMAN2, or PNA FIMS, refer to *Figure 6: Evolution of Information Management Systems*.

FIGURE 5: EVOLUTION OF INFORMATION MANAGEMENT SYSTEMS



(Source: FFA 2016)

This progress of information management system has been coupled with a significant increase in sharing of information between Members e.g. almost all VMS data is shared and there has been an expansion of information sources to verify fishing vessel activities (e.g. AIS and WCPFC data). Recently PNA Members, for the purpose of catch certification, agreed to share all data for Port to Port monitoring with the signing of a joint multilateral MOU. This should be treated with some caution as it may be an interim solution to a delayed operationalization of the NTSA or it may prevent the NTSA from being fully realized. There are inherent risks to Secretariats and Members entering MOUs which have not been ratified into national and regional, laws and procedures. Either way Members beyond PNA are in immediate need of a similar solution.

FFA capacity supplementation provides data capture software prior to specification of the “Member to Industry” system data exchange. This may result in software development that acquires data that is either proprietarily protected or in a non-standardised format, it also prevents Members and industry from pursuing alternative software solutions. The PNA, SPC and FFA are each using different development platforms for information management, this may affect compatible, agile and responsive software developments.

A minimum consideration for MCSWG and FFA should be a flow chart showing how MCS information (data and decisions) flows from various portals (air, sea, land patrols, observer reports, VMS, port inspections, etc.) indirectly through FFA member countries and directly to FFA Secretariat and how that data is then shared or used for generating the RSP and a regional IUU risk assessment.

In order to become a strength there is merit in having a regionally agreed IT development and data collection plan for a common understanding of the regional IT ecosystem. This should document:

- National and regional data security standards and laws.
- A schedule of security audits for the FFA, SPC and PNA information management systems.
- The system to system data exchanges and make available application programme interfaces (API) between:
 - Regional agencies of FFA, PNA, SPC, and WCPFC.
 - Regional agencies and Members.
 - Members and industry.

Improved Fisheries Management Outcomes

Progress was assessed as “Strong”.

There has been significant improvement in how MCS informs fisheries management. Nationally tuna management plans have or are integrating MCS components, sub-regionally MCSWG informs FFC and regionally TCC informs WCPFC of how MCS measures are integrated into fisheries specific conservation management measures. The WCPFC Tuna CMMs and Members who have recently updated their national tuna management plans have specific MCS components.

The extent of unreported and misreported data may have hindered adoption of measures related to catch, currently limited to BE and NBT, there have also been delays applying catch limits to other species including albacore (the *Tokelau Agreement*). This will further improve when the MCS Framework is able to reliably inform the amount of catch and effort data that is occurring.

There is merit in:

- Having an IUU estimates formerly factored into stock assessments, differentiating the amount of legal catch and the amount of IUU catch. This could be a performance metric to report how MCS measures are reducing IUU, or not.
- Linking VDS compliance with the RSP vessel compliance indexing and into a regional risk assessment.

Understanding Drivers and Level of Compliance

Progress was assessed as “Modest”.

The MRAG (2016) IUU estimate provides a significant improvement for understanding the drivers of compliance with a detailed analysis of the nature and extent of non-compliance.

There is merit in ensuring this information is systematically analysed to gain further insight into the sources and driver of IUU i.e. a risk assessment framework. For example, e-reporting and 100% observer coverage has been mandated in the PS sector to address the risk of misreporting. Similar requirements should be applied to the LL sector where e-reporting has not been mandated, nor has achievement of the mandatory 5% observer coverage been reached due to operational difficulties. At the same time some Members knowingly authorise activities where previous catch and effort data has either been unreported or misreported.

To understand where non-compliance is occurring verification of catch at point of landing requires standardisation for both the PS and LL sectors.

Capacity and Capability to Respond to IUU Risk

Progress was assessed as “Modest”.

The MCS framework has greatly increased the baseline skills and capabilities of observers, debriefers and MCS Officers and their qualifications are internationally recognised.

There are strong partnerships and pooling of resources between the surveillance providers (the QUADS) and Members patrol boats. Anticipation surrounds the replacement of the pacific patrol boats with some Members concerned about a reduction in the number of their patrol vessels. The lack of dedicated aerial surveillance, reliant on QUADS and only during operations is an ongoing concern welcoming with some anticipation Australia’s recent proposal to provide a contracted manned fixed-wing platform solution costing a maximum of AUD\$15 million per year commencing in 2017/18; operational control and planning to be through the FFA RFSC based on FFA Member priorities.

The benefit of the NTSA for sharing information and cross vesting of officers involved in VDS compliance management and validation of catch landed, transshipped or exported within the FFA Membership, would negate an overreliance on bilateral and multilateral MOUs many of which have not been ratified into national laws. This would address uncertainties related to information security, sharing, confidentiality, evidentiary standards and unauthorised exercise of officer powers. It would also provide grounds for compatibility by States external to FFA in either the WCPFC or other fora.

Dedicated national and regional taskforce(s) are required for detecting and responding to serious fisheries crime, this requires specialised fisheries intelligence analysis and investigative capabilities. Those Members that have been audited by the EU are in the process of establishing such units. There is merit in establishing partnership similar to the surveillance providers with respect to complex crime detection, management and investigation, partnering with national and regional criminal response agencies such as Interpol and PTCC.

In the first instance the reconciliation of logsheets with known fishing trips requires strengthening. VMS data indicates 15% of fishing between 2013 and 2015 is yet to be reported¹⁸. Many members are reconciling logsheets at year end when the WCPFC catch and effort reporting deadline encroaches¹⁹:

- Compliance monitoring should integrate aerial sightings, at-sea boardings, port or transshipment notifications and VMS to prove fishing and fishing trip end time.
- Compliance response should commence as soon as the rule of law timeframe for logsheet return date is overrun. The response should escalate from show cause, citation, suspension, to withdrawal of licence and the FFA Vessel Register.

For each instance of non-compliance the response should consider timeliness of remediation, recidivisms, and situational circumstances. As a multijurisdictional fishery with the same vessel operators this requires tactical cooperation and collective consideration within the FFA Membership. Members’ FFA IMS, PNA FIMS, the RSP and the MCSWG, are appropriate tools and forums for this to occur.

¹⁸ Refer to Attachment B: SWOT Background section “IUU”

¹⁹ Anon, Executive Officers of an FFA Member and a regional agency.

Use of Voluntary Compliance Tools

Progress was assessed as “Weak”.

Regional and National communication strategies should place greater value on online media, particularly regional and national fisheries websites and social media platforms. Ensuring there is clear messaging and transparency on how industry can conform and participate in the development of fisheries management requirements. Effectiveness should be kept under continual review through monitoring of metrics such as visits to particular webpages and social sites. National and regional trends should be reviewed annually through the MCSWG and FFC.

There is the option to make public the compliance index scores for each vessel appearing on the FFA vessel register, provided appropriate declassification of information occurs in accordance with the FFA ISMS. Cost recovery could be sought from parties seeking a due diligence assessment of these vessels. It also lends itself to self-regulatory and voluntary compliance, as vessels compete to have the highest attainable scores based on meeting FFA’s due diligence expectations. It would make public what FFA’s regional due diligence expectations are, currently limited to holding a license with an FFA member and being on the WCPFC Register, by virtue of the FFA Register application process.

Some members utilise licences, access arrangement, flagging and de-flagging, processes to achieve voluntary compliance by requesting proof and assurance that all potential IUU matters are resolved, including observer coverage, VMS reliability in the preceding year, submission of logsheet data, and requiring proof of mechanisms to avoid similar incidents occurring in the future. Accepting vessels onto the regional FFA Vessel Register has such a mechanism: “I declare that, to the best of my knowledge, there are no outstanding matters pending in relation to this vessel or its use” although the RFV does not check with Members or other FFA systems including the RSP as to the validity of this declaration.

Some Members do not have a strong link between their Register of Shipping Vessels and Register of Fishing Licences. Subsequently Members have flagged vessels which have unresolved IUU matters taking on the Flag State responsibility for the vessel not to fish until appropriately sanctioned. Failure to sanction has a strong likelihood that (i) the vessel and recently acquired Flag (the Member) will be IUU listed by an RFMO, (ii) the Member receives an RFMO status of “non-compliant” and (iii) a Market State or RFMO assesses the Member as non-cooperating and imposes a trade restriction.

Members consulted during the Evaluation informed of support within the fishing industry for e-reporting with a level of confidence that the technological capabilities exist to enable such a system to be in place. Electronic reporting should result in licence holders requiring less time to complete returns with fewer human errors thereby avoiding association as wilfully non-compliant and a contributor to overall IUU in the region. Enabling electronic reporting should be designed to ensure cost savings are passed onto Industry over time.

Specific areas for improvements:

- Provide industry the option to electronically report catch and effort, transshipment and landing data. The option should include (i) recommendations of suitable software and (ii) the “Industry to Government” APIs for industry and developers to provide alternative software solutions.
- Monitor and compare misreporting and unreported data from e-reporting and paper based reporting, to assess effectiveness of e-reporting as a voluntary compliance tool.
- Implement a mechanisms to increase community and industry awareness of RFV Vessels compliance ratings.

- FFA implement a systems to verify each RFV application’s declaration that all matters have been resolved with Members, other regional agencies and FFA programs prior to accepting a vessel onto the RFV.

Influence on WCPFC

Progress was assessed as “Strong”

The degree of transparency within WCPFC compared to adjoining or overlapping RFMOs (CCSBT, IOTC, IATTC, SPRFMO, CCAMLR, and NPFC) is of a high level. WCPFC MCS elements essentially mirror elements contained in the FFA MCS Framework. Most of the MCS measures have been proposed by FFA, these proposals and resultant CMMS underscore the importance of having strong FFA MCS arrangement as it provides a basis for compatible measures on the high seas, as required by the WCPFC Convention.

FFA Members consistently receive a higher compliance rating than DWFNs under the WCPFC Compliance Monitoring Scheme. A rating of outstanding progress would have been achieved with adoption of a WCPFC Catch Documentation System (CDS) that compares landed catch with declared catch by vessel, exports, transshipments, imports and domestic consumption²⁰. Potential debasers to this strength include:

- When FFA Members are assessed as non-compliant with the WCPFC compliance measure; and
- Absence of FFA e-reporting standards for catch and effort data, transshipment notifications, EEZ entry and exit notifications, port landings and traceability fields;
- Absence of FFA e-monitoring standards including when and how e-monitoring should be deployed.

Market Based Measures

Progress was assessed as “Weak”.

The MCS Framework has no regionally agreed market based system to demonstrate traceability of catch from the fishing trip to the point of export or domestic consumption. A few Members have or are implementing such a system however the absence of a regional standard means that FFA collectively cannot assure that catch either landed, processed or distributed under its area of remit was taken from a legally verifiable source.

Traceability requires catch and effort date prior to catch leaving the FFA area of remit and an assurance that it will be verified as accurate when landed either in another FFA member country or elsewhere. “A higher risk exists when catch is landed outside of the FFA Membership, although some FFA Members are concerned with the veracity of validation performed by other FFA Members”²¹. With no regionally agreed standards of landing or transshipment validation, and no regional coordination of data between Flag State, Coastal State, Port State and Observer Providers, members are certifying products as non-IUU with considerable uncertainty.

PNA recently entered an MOU for port inspections, validation and information sharing however, Members external to the PNA do not have this benefit²². The NTSA is identified as a means to address this limitation although it is yet to be operationalised and some Members are not yet signatories raising concern that they may not ratify. An absence of traceability means that premium markets

²⁰ Mass Balance Reconciliation of the input (catch landed) and output (processing and distribution) streams.

²¹ Anon, Executive Officer of an FFA Member

²² Anon, Executive Officer of an FFA Member, MOU was not reviewed.

cannot be accessed and there is an increased risk of Members being identified as a non-cooperating country by a Market State²³.

Cost Effective and Efficient Measures

Progress was assessed as “Modest”.

The benefits of pooling resources via FFA, using FFA surveillance partners (QUADS) and Member’s patrol boats, Members personnel and the FFA RSP is what “makes the MCS Framework effective, without which the cost of MCS would be too high for one country to shoulder”²⁴. However, a lack of transparent performance monitoring gave rise to criticisms within the Membership that Members are licensing activities when they do not have sufficient MCS systems in place to administer and regulate their fisheries²⁵.

There appears to be no regional monitoring of the number of fishing tasking that are made to the QUADS, FFA Secretariat, Navy or Maritime Police Wings and whether a response was activated in response to a fisheries tasking. Performance monitoring should be extended for a regional picture of fisheries taskings and understanding of the degree of interagency cooperation. This should include those periods outside of the regional operations.

The efficiency of the regional information management systems should be made available to members via activity reports to the MCSWG from PNA, SPC and FFA. Currently this is limited to anecdotal statements that user uptake and utilisation varies between members.

A regional approach or standard for deriving a baseline management fees or applying a user pay system would create transparency of cost effectiveness and efficiency. This should be done in a manner which makes the link between costs of MCS activities and returned benefits for reducing IUU. A starting point would be a collective assessment of industry compliance with the FFA HMTCs. The appropriate forum for this assessment would be the MCSWG, it would require a significant re-format of the MCSWG Country Statement template.

Some Members have recently had extensive independent in-country audits - for the purpose of the EU IUU Regulation - a common finding was that each Member under resourced personal and mechanisms to certify catch as non-IUU and respond to non-compliance. Remediation was required in order to maintain access to the EU market. This commonality indicates a high likelihood that other Members are under resourcing their fisheries agencies.

The monitoring processes of the MCS Framework do not lend itself to an ongoing self-evaluation of its effectiveness and efficiency. A comprehensive assessment of national and regional compliance with the FFA HMTCs could not be gauged by this Evaluation. Either resource intensive independent in-country audits will be required or the expected outputs of the MCSWG and FFC should be reassessed.

In order for this success factor to be a strength the accountability of Members and the FFA Director General requires greater in-depth understanding and objective basis for decision-making and oversight.

²³ For the EU this would prevent access to the EU market.

²⁴ Anon, Executive Officer of an FFA Member

²⁵ Anon, Executive Officer of an FFA Member

Chapter 4: Conclusion

a) Overview

FFA Members and the FFA Secretariat are responsible for achieving the agreed mission to ensure “*our people will enjoy the highest levels of social and economic benefits through the sustainable use of our offshore fisheries resources*”.

The Regional MCS Framework applies to a large geographic area, with a relatively consistent application of Coastal State responsibilities owing to the cooperative administration of national and regional arrangements including the PNA VDS, the FFA HMTCs and WCPFC CMMs. This may be attributed to FFA being established as a coalition of likeminded coastal states with common interests. There is a higher degree of divergence and lack of harmonization with respect to Flag State and Port State responsibilities, FFA Members to varying degrees have pursued and taken on these responsibilities. For example, some Members do not have a vessel registry and some have either no or minimal port activities.

There is also a high degree of divergence between the MCS arrangements applied to the PS fleet from those applied to the LL Fleet. For example, the PS fleet has 100% coverage whereas the LL coverage is 5% coverage. The PNA recently required the PS fleet to e-report catch and effort data.

Overall, FFA Members and sub-regional organisations have undertaken considerable work to implement the *Regional MCS Strategy (2010-2015)*. Significantly the MCS Framework is at such a state that unauthorized fishing by tuna vessels is now infrequent and it has influenced much of the WCPFC MCS framework primarily based on the ground of compatibility with FFAs existing standards. However IUU fishing is far from eradicated and changes to the design of the MCS Framework are required to ensure progress is maintained.

b) Future MCS Framework

MRAG (2016) estimated that approximately 306,440 tonnes of catch is inaccurately declared to the EEZ from which it originated, either a country external to FFA is claiming FFA catch, or the catch is undeclared and laundered through a processing or market State that has insufficient controls to prevent IUU from entering the commodity chain. Subsequently stock assessments and access negotiations are premised on unreported or misreported data with catch, port and landing revenues evaded. Members are issuing catch declarations of non-IUU with a high degree of uncertainty and future catch or effort allocations are compromised.

A few Members and sectors of the fishery have responded to this form of IUU investing and demonstrating the feasibility of technological solutions such as e-licencing, e-reporting and e-monitoring. Since March 2016 no collective FFA preventative or deterrence measures have been instigated to respond to this now widely published weakness from further exploitation. At the same time consumers, community, good business, market States and funding providers are seeking an assurance that FFA product is from non-IUU fishing. This in turn will create a higher value product as the strength of MCS Framework is passed onto the products value.

Similar to the FFA VMS mandate of industry in 1997, the elimination of “Unreported” fishing from the MCS Framework requires an FFA mandate for industry to e-report.

Recommendation 1: Mandate Operators of FFA vessels to e-report catch logsheet data prior to exiting an FFA EEZ, transshipment, or landing. Effective 1 October 2017.

All catch originating from FFA waters should be accurately declared to the waters from which it was taken, this requires certification and validation that the catch was taken in accordance with national

and international laws. The MCS framework is in place for this to occur via the NTSA which has the necessary provisions for information sharing and cross vesting of officers. All catch from a FFA Vessel's fishing trip should be certified as originating from an FFA Member's waters, until such time catch should not to be mixed with catch from another fishing trip, processed or further distributed.

Recommendation 2: Mandate Operators of FFA vessels to keep catch of a fishing trip separate from other catch until certified by a person authorised by the relevant Coastal State that the catch and effort data is accurate and caught in accordance with Coastal State laws. Effective 1 October 2017.

Recommendations 1 and 2 apply to the high risk multijurisdictional vessels i.e. vessels appearing on the FFA Record of Fishing Vessels. Members may opt-in vessels from their domestic fleet. A one-year target date for implementation provides time for industry consultation and for the legal and technical requirements to be put in place, much of which is already underway.

Recommendations 1 and 2 should be placed in conjunction with a program logic that details MCS inputs (including costs), outputs, outcomes, objectives, monitoring, evaluation and assumptions. Progress of implementation should be communicated monthly within the membership and quarterly with industry.

The future MCS Framework should give consideration to a major limitation of the Evaluation; limited transparency of how MCS inputs and outputs contribute to, and impact on the objective of eliminating IUU. The interrelationship between national and regional systems was difficult to gauge as was the relationship between the tactical on the ground implementation with strategic IUU risk levels. Reporting to MCSWG by Members and the Secretariat should be in a format to assess industry compliance with the agreed FFA HMTCs, with particular attention to those vessels appearing on FFA RFV.

A regional program logic model that integrates quantifiable national performance targets would assist national and regional, operational planning, MCSWG and FFC outcomes, budget allocations and self-evaluation.

Recommendation 3: Apply a risk based performance monitoring program that has quantitative metrics to monitor and evaluate the impact of MCS activities on their objective to prevent, deter and eliminate IUU.

It would be the expectation of future evaluations that Country Statements to the annual MCSWG, MCSWG Agenda and the MCSWG Report demonstrates industry compliance with the HMTCs and a logic framework of how MCS activities impacts on IUU. Failure to do so may bring into question the utility of the MCSWG.

To assist future evaluations and implementation of this Evaluation's three recommendations *Table 5: MCS Program Logic* is provided to guide and ensure the focus of MCS activities remains on their intended objective to prevent, deter and eliminate IUU fishing. Similar logic modelling should be applied for other high risk IUU activities as identified by FFC.

TABLE 5: MCS PROGRAM LOGIC

	Recommendation 1	Recommendation 2	Recommendation 3
Objective	Eliminate Unreported Fishing	Prevent and Deter Illegal Licenced Fishing	Regionally coordinated response to IUU
Outcome	All FFA vessels to e-report catch and effort data by [01/10/2017]. Non-FFA Register vessels (domestic vessels) to have the option of e-reporting catch and effort data.	Declare all catch originating from FFA waters by [01/10/2017].	Risk based performance monitoring with quantitative metrics to monitor and evaluate the impact of MCS activities on their objective to prevent, deter or eliminate IUU fishing, effective immediately.
Outputs	100% e-reporting of logsheet fishing trips. 100% e-reporting of transshipment notification. 100% e-reporting of port and landing notifications. 100% e-reporting of EEZ entry and exist notifications.	100% certification of catch from FFA Vessel’s fishing tips. 100% of catch not mixed with another fishing trip, processed or distributed until certified.	National and regional IUU performance metrics for all MCS activities and high IUU risks.
Inputs	<p>“Government to Industry” software application interface available for industry to provide data 6 months prior to commence date.</p> <p>National and FFA Registration to deny or withdraw vessels:</p> <ul style="list-style-type: none"> • which have not reconciled logsheet data with proceedings years fishing trips by the commencement date; and • that do not have capability to e-report. <p>National laws recognise e-reporting (100% of FFA membership).</p> <p>Prevent, withdraw or suspend vessels from national and the FFA Registers which have either not complied or are not subject to sanctioning for unreported data (100% of incidents).</p>	<p>NTSA operationalised for information sharing and officer cross vesting. Government to NTSA Information Facility data exchange mechanism available.</p> <p>Prior to certification, data match and analyse industry e-reports with VMS, Observer, AIS, boarding and inspections (100%).</p> <p>Standardise FFA port and transshipment certification. National and regional taskforce(s) to detect, investigate and sanction instances where certification denied.</p> <p>Digitisation of Observer workbook (100%).</p> <p>Mechanisms available for public awareness of uncertified catch and the risk rating of each RFV vessel.</p> <p>National laws restrict handling and distribution of non-certified product (100% of FFA membership).</p>	<p>Regional risk assessments integrate national risk assessments, annual review by MCSWG</p> <p>Information Management Systems designed and integrated to report MCS activities and IUU trends.</p> <p>MCS activities transparently budgeted, demarcating percentage of funds from (i) members (ii) Members FFA contributions (iii) foreign sources (e.g. Aid projects) and (iv) industry.</p> <p>IUU performance metrics agreed, considering MRAG (2016) IUU estimate, SPC “raised catch” and MCSWG ToR.</p> <p>FFA Communication Strategy reports preventative and deterrence measures to IUU.</p>
Assumptions	Inputs costed and resources made available.	Vessels E-Report (Recommendation 2). Inputs costed and resources made available.	Performance metrics and risk assessments report against each I,U,U, component of IUU.
Monitoring	6 monthly status report on inputs and outputs. Where outputs not achieved specify source distinguishing industry non-compliance from administration of the inputs.	Where outputs not achieved specify if source is from industry non-compliance or from administration of the inputs.	Annually via Members Statement to MCSWG, MCSWG Papers and MCSWG report to FFC.
Evaluation	Degree outputs achieved. Annually by MCSWG.	Degree outputs achieved. Annually by MCSWG	All MCS activities demonstrate their contribution to preventing, deterring and eliminating IUU.

Bibliography

AFMA (2015) *National Compliance and Enforcement Policy*, Australian Government, Australian Fisheries Management Authority. [Accessed 19 April 2016](#)

APG (2014) *Yearly Typologies Report 2014, Methods and trends of Money Laundering and Terrorism Financing*. Asia/Pacific Group on Money Laundering. APG Secretariat, Sydney, Australia. [Accessed 6 April 2016](#).

Atuna (2015) *The “Fake Tuna” that’s disrupting the market*. 9 September 2015. [Accessed 3 April 2016](#).

Agnew D.J., Pearce J., Ganapathiraju P., Peatman T., Watson R., Beddington J.R., and Pitcher T.J. (2009) *Estimating the Worldwide Extent of Illegal Fishing*. PLOS One. [Accessed 6 April 2016](#).

APG (2014) *APG Yearly Typologies Report 2014, Methods and trends of Money Laundering and Terrorism Financing*. Asia / Pacific Group on Money Laundering. [Accessed 3 April 2016](#).

Aqorau T. (1990) *Tuna Management and UNCLOS: Implementation of UNCLOS through the Forum Fisheries Agency*. Thesis submitted in partial fulfilment of the requirements for the Degree of Masters of Law, The University of British Columbia.

Aranda M., Murua H., and Bruyn P. (2012) *Managing fishing capacity in tuna regional fisheries management organisations (RFMOs): Development and state of the art*. Marine Policy Vol 36 Issue 5, September 5 Pg 985-992.

ANAO (2013) *Administration of the Domestic Fishing Compliance Program, Performance Audit*. Australian National Audit Office, [Accessed 19 April 2016](#).

AS ISO 19600 (2015) *ISO 19600:2014 Compliance management systems— Guidelines*

Banks R, Muldoon G., and Fernandes V. (2016). *Analysis of the costs and benefits of electronic tracking, monitoring and reporting systems applied in FFA countries and identification of the required legislative, regulatory and policy supporting requirements – Draft Report*. Poseidon Aquatic Resource Management Ltd, Port Douglas, QLD 4877, Australia

Barker M.J. and Schleussel G., (2005) *managing global shark fisheries: suggestions for prioritizing management strategies*. Marine Freshwater Ecosystems Vol 15 (2005), pp. 325–347

Bartol K, Tein M., Mathews G., Martin D (2005) *Management a Pacific Rim Focus, 4th Edition*, McGraw-Hill Irwin Australian Pty Ltd.

Bergin (2014) *Pacific maritime security—from quad to hexagon*. [Accessed 25 April 2016](#)

Bergh and Davies (2002) *A fishery manager’s guidebook Management Measures and Their Application*, Chapter 8 MCS. [Accessed 25 April 2016](#).

Blasiak R. (2015) *Balloon effects reshaping global fisheries*, Marine Policy Volume 57, July 2015, Pages 18-20.

Brugère, C. (2015) *Climate change vulnerability in fisheries and aquaculture: a synthesis of six regional studies*. FAO Fisheries Circular No. 1104. Rome, FAO. 88 pp. [Accessed 30 March 2016](#).

BRC and EJF (2015) *An Advisory Note for the UK Supply Chain on How to Avoid Illegal, Unreported and Unregulated (IUU) Fishery Products*. Produced by the British Retail Consortium (BRC) and the Environmental Justice Foundation (EJF) in collaboration with WWF-UK. 2015 Edition.

Caralli R.A. (2004) *The critical success factor method: Establishing a foundation for enterprise security management*. Carnegie Mellon Software Engineering Institute, Pittsburgh, PA.

Coning E and Witooi E. (2015) *Towards a new 'fisheries crime' paradigm: South Africa as an illustrative example*. Marine Policy. Vol 60 October 2015, Pg 208-215.

Cosat Leal M., Pimental T., Ricardo F., Rosa R., Calado R. (2015) *Seafood traceability: current needs, available tools, and biotechnological challenges for origin certification*. Trends in Biotechnology, Vol 22, Issue 6 June 2015, pg 331-336.

David, F. (1993). *Strategic Management*, 4th Ed. New York, NY: Macmillan Publishing Company.

Donaldson, S. I., & Lipsey, M. W. (2006). *Roles for theory in contemporary evaluation practice: Developing practical knowledge*. The handbook of evaluation: Policies, programs, and practices.

Evans, K., J. Brown, J. Bell, S. Nicol, P. Lehody, A. Sen Gupta, C. Menkes (2012) *Progressing adaptation to climate variability and change in Western and Central Pacific Ocean tuna fisheries*. WCPFC-SC8-2012/EB-WP-01. Western and Central Pacific Fisheries Commission, Scientific Committee 8th Regular Session, 7-15 August 2012, Busan, Korea

Evans (2015) *Optimising fisheries management in relation to tuna catches in the western central Pacific Ocean: A review of research priorities and opportunities*. Marine Policy Volume 59, September 2015, Pages 94–104

FAO (2001) *International Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing*. Rome, FAO. 2001. [Accessed 30 March 2016](#).

FAO (2002) *A Fishery Manager's Guidebook - Management Measures and Their Application*. FAO Fisheries Technical Paper 424. [Accessed 30 March 2016](#).

FAO (2015) *Report of the Expert Workshop to Estimate the Magnitude of Illegal, Unreported and Unregulated Fishing Globally*, Rome, 2–4 February 2015. FAO Fisheries and Aquaculture Report No. 1106. Rome. 53 pp. [Accessed 20 March 2016](#).

FFA (2012) *Report on monitoring, control and surveillance (MCS) activities addressing Illegal, Unreported and Unregulated (IUU) fishing in the Western Central Pacific Ocean (WCPO) for the Pacific Transnational Crime Assessment for 2014*. FFA Secretariat, Honiara, Solomon Islands.

FFA (2013) *Communication Strategy 2013-2015*, Endorsed by FFC87, 1 November 2013. FFA Secretariat, Honiara, Solomon Islands.

FFA (2016). *Pacific Islands Forum Fisheries Agency Statement of Intent (S018) FY2016/17-2018/19*. FFA Secretariat, Honiara, Solomon Islands.

Flewwelling P., Cullinan C., Balton D., Sautter R.P., and Reynolds J.E (2003) *Recent Trends in Monitoring, Control and Surveillance Systems for Capture Fisheries*. FAO Fisheries Technical Paper. [Accessed 2 April 2016](#).

Fröhlich T. (2013) *Organized Environmental Crime in the EU Member States*. Betreuungsgesellschaft für Umweltfragen (BfU). Accessed 12 April 2016.

- Gallic B.L. (2008) *The use of trade measure against illicit fishing: Economic and legal considerations*. Ecological Economics, [Vol 64 Issue 4, 1 Feb 2008](#).
- Gagem A., and Bergh J.V.D. (2013) *A critical review of fishing agreements with tropical developing countries*. Marine Policy Volume 28, March 2013, Pg 375-386.
- Ganapathiraju P., Nakamura.K., Pitcher T.J., Delegran L.,(2014) *Estimates of illegal and unreported fish in seafood imports to the USA*. Marine Policy Vol 48, September 2014, Pg 201-113.
- Goulding I. (2015) *Proposal for a regional support unit for sanitary competent authorities in Pacific Island countries*. Prepared by Megapesca Ltd. of Portugal. [Accessed 4 April 2016](#)
- Hambling D. (2011) *GPS Chaos: How a \$30 box can jam your life*. New Scientist. [Accessed 28 April 2016](#).
- Harley S.J. Williams P.G., Nicol S., Hampton J.V., Brouwer S (2015) *The western and central Pacific tuna fishery: 2014 overview and status of stocks*. Secretariat of the Pacific Community.
- IN (2012) *Logic model workbook*. Logic Model Network. [Accessed 28 April 2016](#)
- Johnson J., Bell J. and De Young C., (2013) *Priority adaptations to climate change for Pacific fisheries and aquaculture: reducing risks and capitalizing on opportunities*. FAO/Secretariat of the Pacific Community Workshop, 5–8 June 2012, Noumea, New Caledonia.
- Karlsen K.M., Sorensen C.F., For a F., Olsen P. (2011) *Critical criteria when implementing electronic chain traceability in a fish supply chain*, Food Control Volume 22, Issue 8, August 2011, Pages 1339–1347
- Kirby D.S., Candice V., and Hanich Q. (2014) *Assessment of eco-labelling schemes for Pacific tuna fisheries*. Marine Policy Volume 32, January 2014.
- Law K.H. Lau G. Kerrigan S., and Ekstrom J.A (2014) *REGNET: Regulatory information management, compliance and analysis*. Government Information Quarterly, Vol 31. June 2014.
- Lee H.Y. and Wang N.J. (2016) *The implementation and investigation of securing web applications upon multiple-platforms for a single sign-on functionality*. International Journal of Advanced Computer Research Vol 6(23).
- MAG (2016) *Fisheries Surveillance Aerial Patrol Study: Feasibility, Costs and Benefits*. Prepared by MAG Aviation Group for Pacific Islands Forum Fisheries Agency, June 2016.
- Mariani S., Ellis J., O'Reilly A., Bréchon A. L., Sacchi C. and Miller, D.D. (2014) *Mass media influence and the regulation of illegal practices in the seafood market*. Conservation Letters Vol 7. Issue 5.
- Marteache N., Viollaz J., and Petrossian (2015) *Factors influencing the choice of a safe haven for offloading illegally caught fish: a comparative analysis of developed and developing economies*. Crime Science an Interdisciplinary Journal. [Accessed 3 March 2015](#).
- McCoy M.A. (2007) *Regulation of transshipment by the Western and Central Pacific Fisheries Commission: Issues and considerations for FFA member countries*. FFA Report 2007/26, FFA Secretariat, Honiara, Solomon Islands
- McCoy, M. (2012). *A Survey of Tuna Transshipment in Pacific Island Countries: Opportunities for Increasing Benefits and Improving Monitoring*. FFA Report. FFA Secretariat, Honiara, Solomon Islands.

- McCoy M.A, Itano D.G., Pollard S.J. (2015) *A forward-looking study of development opportunities in FFA member countries in the tuna industry*. [Accessed 4 April 2016](#).
- Miller D.G.M., Slicer N.M., and Hanich Q. (2013) *Monitoring, control and surveillance of protected areas and specially managed areas in the marine domain*. Marine Policy. Vol 39, May 2013, Pg 64-71.
- MRAG (2009) *Safeguarding the stocks: A report on analytical projects to support the development of a Regional MCS Strategy for Pacific oceanic fisheries*. [Accessed 6 April 2016](#).
- MRAG Asia Pacific (2016). *Towards the Quantification of Illegal, Unreported and Unregulated (IUU) Fishing in the Pacific Islands Region*. MRAG – Asia Pacific. FFA Report, FFA Secretariat, Honiara, Solomon Islands.
- Nellemann, C., Henriksen, R., Raxter, P., Ash, N., Mrema, E. (2014) *The Environmental Crime Crisis – Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources*. A United Nations Environment Programme (UNEP) Rapid Response Assessment.
- OECD (2009) *Reducing the Risk of Policy Failure Challenges for Regulatory Compliance*. Organisation for Economic Co-operation and Development.
- Osterblom H., Constable A., Fukumi S., (2011) *Illegal Fishing and Organised Crime Analogy*, Trends in Ecology and Evolution. Volume 26, Issue 6, Pages 261-262.
- Palma M.A. Tsamenyi M.N., Edeson W. (2010) *Promoting Sustainable Fisheries: the international and policy framework to combat illegal, unreported and unregulated fishing*. Koninklijke Brill NV, Leiden, the Netherlands.
- Pickton, D.W. and Wright, S., (1997) *SWOT Analysis – its role in strategic and management development in SMEs*. Sheffield University, UK.
- Petrossia G.A. (2015) *Preventing illegal, unreported and unregulated (IUU) fishing: A situational approach*. Biological Conservation Vol 189, September 2015, Pages 38-30.
- Popescu F., and Scarlat C., (2015) *Limits of SWOT Analysis and their impact on decision on early warning systems*. SEA – Practical Application of Science Volume III, Issues 1 (7) / 2015.
- PNA (2015) *Tuna Market Intelligence – Issue 24*. [Accessed 16 May 2016](#).
- Purdy P. (2010) *ISO 31000:2009—Setting a New Standard for Risk Management*. Risk Analysis, Vol. 30, No. 6.
- Putt J. and Anderson K. (2007) *A national study of crime in the Australian fishing industry*. Research and Public Policy Series No.76. Australian Government, Australian Institute of Criminology. [Accessed 6 April 2014](#).
- Havice 2013, *Rights-based management in the Western and Central Pacific Ocean tuna fishery: Economic and environmental change under the Vessel Day Scheme*. Marine Policy, Volume 42, November 2013, Pages 259-267.
- Helman A.T.M., Chen C., Trapman B.K., Kraan M., Poos J.J. (2016) *Changes in fishing behaviour of two fleets under fully documented quota management: Same rules, different outcomes*. Marine Policy Volume 67, May 2016.
- Rose G. (2014) *Following the Proceeds of Environmental Crime. Forests, Fish and Filthy Lucre*. Published by Routledge, NY.

- Sarti N.L. (2006) *Development of risk assessment procedures in national fisheries compliance programs*. Fisheries Research and Development Corporation. [Accessed 6 March 2016](#)
- Stokke O.S., (2009) *Trade measures and the combat of IUU fishing: Institutional interplay and effective governance in the Northeast Atlantic*. Marine Policy Vol 33, Issue 2, March 2009, Pg 339-349.
- Sørreide, Tina. 2014. *Drivers of Corruption: A Brief Review*. World Bank Studies. Washington, DC: World Bank. Accessed 24 April 2016: [Creative Commons Attribution CC BY 3.0 IGO](#)
- Sourdin T. (2012) *Good Faith, Bad Faith? Making an Effort in Dispute Resolution*. Dictum – Victoria Law School Journal Vol2 No1 (2012)
- Sumalia U.R., Alder J., and Keith H. (2006) *Global scope and economics of illegal fishing*. Marine Policy, Volume 30, Issue 6, November 2006. Pg 696-703.
- Sumalia U.R., Lam V., Frederic Le Manach, Swartz, W., Pauly D. (2013), *Global Fisheries Subsidies*, European Parliament, Directorate-General for Internal Policies. Fisheries Economic research Unit & Sea Around Us Project, UBC Fisheries Centre. [Accessed 5 April 2016](#).
- Torres-Irineo E., Gaertner D., Chassot E., and Drefus-Leon M., (2014) *Changes in fishing power and fishing strategies driven by new technologies: The case of tropical tuna purse seiners in the eastern Atlantic Ocean*. Fisheries Research Vol 155., Pages 10-19
- United Nations. (2014). *E-Government Survey 2014, E-Government for the future we want*. New York, USA. Accessed 30 may 2016M.
- UNODC (2011) *Transnational organised crime in the fishing industry. Focus on: Trafficking in Persons Smuggling of Migrants and Illicit Drugs Trafficking*. United Nations Office on Drugs and Crime, 2011. [Accessed 1 April 2016](#).
- Watkins M. (2007) *From SWOT to TOWS*. Harvard Business Review. [Accessed 1 April 2016](#).
- Weighrich H (2008) *The TOWS Matrix, a tool for situational analysis*. University of San Francisco. [Accessed 23 April 2016](#).
- Windward (2014) *AIS Data on the High Seas: An Analysis of the Magnitude and Implications of Growing Data Manipulation at Sea*. [Accessed 10 May 2016](#).
- Yeeting A.D., Bush S.R., Vina Ram-Bidesi, Bailey M. (2016) *Implications of new economic policy instruments for tuna management in the Western and Central Pacific*. Marine Policy Vol 64, January 2016, pg 45-52.
- Young M (2015) *Catch of the day: the TPP might be good news for sustainable fisheries*. The Conversation. Accessed [5 April 2016](#).

Attachment A: MCS Working Group Terms of Reference



PACIFIC ISLANDS FORUM FISHERIES AGENCY

2011 Revised Functions and Term of Reference of the MCS Working Group Meeting

Introduction

At its Seventy-Seven Meeting of the Forum Fisheries Committee (77FFC) in Apia, Samoa, from the 23-28 May 2011, the Committee endorsed the revised 2009 functions and term of reference of the MCS working Group.

Definition

Monitoring Control and Surveillance (MCS) – **M** stands for **Monitoring** – which is the continuous requirement for the measurement of fishing effort characteristics and resource yields (and catches); whereas **C** stands for **Control** – which is the regulatory conditions under which the exploitation of the resource may be conducted; and **S**, stands for **Surveillance** - the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.

MCS is the implementation of a plan or strategy, in the case of oceans management and fisheries, it includes the implementation of operations necessary to effect an agreed policy and plan for oceans and fisheries management.

MCS is often overlooked aspect of oceans and fisheries management, but, in reality it is the key to success of any planning strategy. The absence of a strategy and methodology for implementing Monitoring Control and Surveillance operations would render a fisheries management scheme incomplete.

The predecessor of the MCS working group, the Fisheries Surveillance Officer's Meeting, reported to the Forum Fisheries Committee (FFC). The MCS Working Group will also report directly to the FFC and will be responsible for:

- Recommending appropriate in-zone and the FFA influence sphere, being predominantly the high seas pockets and high seas areas adjacent to FFA Members' waters MCS operations necessary to effect the agreed management plans for the tuna fisheries of FFA member countries, having considered the cost-benefits of alternative MCS measures;
- Reviewing, coordinating and advising on regional and national MCS activities related to:

- i. aerial and maritime surveillance;
 - ii. national and regional observer programmes;
 - iii. port state enforcement; and
 - iv. the Vessel Monitoring System (VMS) for FFA member countries and
 - v. FFA Vessel Register requirement
- Identifying opportunities for increased cooperative MCS activities among FFA member countries;
 - Identifying equipment and training requirements, both at the FFA Secretariat and at the national-level, to implement effective MCS operations;
 - In relation to the high seas areas within the FFA region, reviewing opportunities for joint MCS activity with non-FFA parties within the WCPFC Membership;
 - Assisting in fulfilling international obligations with respect to domestically registered (flag State) vessels, and in the case of foreign charter vessels, discourage illegal fishing activities both in and beyond the EEZs of FFA member countries;
 - Identifying and researching into new surveillance technology and tools for possible use in the FFA region and the FFA influence sphere, being predominantly the high seas pockets and high seas areas adjacent to FFA Members' waters; and
 - Identifying and recommending changes and improvements to the data sharing arrangement between member countries and those providing MCS capability.

Terms of reference

With the aim of assisting FFA member countries the MCS Working Group will consider:

Monitoring of fishing effort characteristics and fisheries resource yields

- numbers of registered fishing vessels by flag and type;
- numbers of licensed fishing vessels by flag and type;
- trends in numbers of registered and licensed fishing vessels over time;
- geographic distribution of the various fleets;
- incidences of breaches in area and seasonal closures;
- incidences of the use of illegal fishing methods;
- trends in by-catch levels;
- levels of under-reporting and mis-reporting;
- adequacy of catch and effort data collection media
- WCPFC authorised vessel Lists and;
- number VOI listings and actions.

Control or regulatory conditions applying to various fisheries in the region

- efficacy of current controls, such as the Harmonised Minimum Terms and Conditions for Foreign Fishing Vessel Access (MTCs), FSM and the Palau Arrangement;

- compliance of vessels with vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels;
- need to tighten or relax such measures;
- need for new control measures;
- ease or difficulty in enforcing control measures;
- efficacy of co-operative arrangements, as described in the Niue Treaty;
- efficacy of co-operative arrangements, as described in the High seas boarding and inspection procedures; and
- Review and implementation of Conservation and management measures (CMMs)

Surveillance or the degree and types of observations required for compliance

- co-operation in regional aerial and maritime surveillance;
- co-operation with national and regional observer programmes including the WCPFC Observer programme;
- co-operation in port state enforcement;
- co-operation in exchanges of IUU information for possible listing on the IUU listing at the WCPFC;
- numbers of suspected infringements of the management plan(s); and
- trends in these numbers.

Attachment B: SWOT Background

[REMOVED: NON-PUBLIC DOMAIN INFORMATION]

Attachment C: MCS Strategy (2010-2015) Observations

[REMOVED: NON-PUBLIC DOMAIN INFORMATION]

Attachment D: Country Report Template

Purpose: to identify concerns, strengths, weaknesses of the Regional MCS Framework

Consultations with, including officers and managers from fisheries agency..... Other Government portfolios present during the consultations..... The consultation occurred

Part 1. Overview of FFA Service Level Agreement:

Part 2. Strengths, Weakness, Opportunities and Threats (SWOT) analysis of the Regional MCS Framework

- Assess elements contained in the Consultant’s SWOT analysis (Figure 1)
- Opportunity to provide further comment.

Part 3. Critical Success Factors strengths and weaknesses

- Critical success factors identified by the Consultant as the 9 Strategic Objectives set out in the Regional MCS Strategy 2010-2015, endorsed by FFC in 2010.
- The assessment is premised on how somebody external to the Regional MCS Strategy would view its implementation.
- Assessment is of how the XXXX national MCS Framework relates to and is positioned in context with the Regional MCS Framework. It cannot be viewed or taken to be an assessment of the national MCS Framework.
- In accordance with the FFA Information Security Management Policy (ISMS) the assessment is classified “Red”. The scoring will be aggregated with results received, from FFA, the consultant and other Members. Aggregated score will be classified as “open” where those scores cannot be attributed to a particular country.
- Table 1 will provide a summary of findings (scores)
- Table 2 will provide a detailed assessment for assigning critical success factors

Figure 1: SWOT Analysis of the Regional MCS Framework

POSITIVE

NEGATIVE

INTERNAL Environment

EXTERNAL Environment

STRENGTHS

(through Cooperation)

A. Managing and Sharing Data

Members committed to sharing MCS data for preventing and deterring IUU reflected in the NTSA and FFA Information Security Policy

B. Air Land and Sea Coordination

Mobilisation of MCS Operatives (observers, fisheries officers, investigators, technical experts) to supplement capacity monitoring and responding to priority IUU. Standards of Observers (PIRFO) and MCS Officers (Certificate IV) internationally recognised. Partnerships with the QUADS for high impact sweeps of the WCP Ocean.

C. WCPFC MCS Implementation

Strengthened MCS arrangements of the High Seas: data sharing, VMS, High Seas Boarding and Inspections, Observers programs, and compliance monitoring. WCPFC MCS transparency highest of all RFMOs. FFA's coastal state negotiating formula replicated in other regions.

D. Regional Surveillance Picture

Multiple datasets integrated to watch over the oceans, complex analytics to detect and perform real time risk and compliance indexing of vessels. Multiple sources of baseline data including classified data.

E. Legal Frameworks

MCS standards, reflected in HMTc, FFA Security Policy, NTSA, PNA implementing Agreements, exceeds WCPFC standards. Severity of sanctions deters serious illegal unauthorised fishing.

OPPORTUNITIES

(to prevent, deter, and eliminate IUU)

A. Good Business Practice (Industry)

Duty of Care: Ethical, social, environmental, health and traceability standards. E.g. independent audits (e.g. ISSF) or certification (MSC). Ensures access to premium markets.

B. Technology

Rapid emergence of cost effective electronic monitoring, electronic reporting tools. Agile software platforms and the Cloud: speed and integration of large datasets; complex data analytics; collaboration in IT development and MCS operations.

C. Community Interest and Market Instruments

Consumer assurance that products are sourced and traced to catch that is legal, ethical, environmental, and meets sanitary standards. Creates higher value markets. Increased interest from donors to establish and maintain these standards.

D. International Management Arrangements

Many Flags, owners and vessels operate in two or more RFMOs close the loops for IUU by harmonisation of conservation measures and sharing of data with adjoining or overlapping RFMOs (SPRFMO, CCAMLR, IOTC, IATTC, CCSBT)

E. Australian Pacific Maritime Security Programme

The 23 existing Pacific Class Patrol Boats to be replaced with larger, more capable and dependable boats, increased aerial surveillance

WEAKNESSES

(of the MCS Framework)

A. Disproportionate MCS investment [within and between Members]

Limited funding to regulate geographic area and a multiplicity of jurisdictions, activities, portfolios and an increasingly complex national and beyond fisheries frameworks. Limited application of user pay.

B. Small Administrations

Turnover of specialised personnel impacts agency and national interests, limited succession planning. Response levels to non-compliances competing with administrative requirements; incidents not measured and coordinated.

C. Vulnerable

Fisheries competing for multitasked air and sea assets. Small and ageing patrol fleet with insufficient range. MCS data in proprietary software. Insufficient processes to prevent collusion and corruption.

D. Digital Development

Data sharing rules and cybersecurity inconsistently applied. Legal instruments slow to recognise electronic, data, transactions and evidentiary standards. Regional, sub-regional and national IT systems have multiple platforms for development, creates incompatibilities and multiple user interfaces. Software to software interface requirements (APIs) not available. Training reframes with each technological development. Lack of stable and reliable internet connections.

THREATS

(IUU and drivers of IUU)

A. IUU

Pacific IUU estimated 306,440t, with 90% confidence, roughly 10% of the overall catch: catch reporting violations (47%) post-harvest misreporting from transshipment and landing (29%) other license conditions (20%) unlicensed fishing (4%). IUU more prevalent in the Longline sector. Other IUU threats: incursions of Asian vessels, certifications and licenses being falsified; counterfeiting of pacific labelled product.

B. Drivers of IUU

The IUU Definition aggregating Illegal IUU and non-illegal IUU distorts strategies of response and IUU performance monitoring

Global Overcapacity rapid technology creep (e.g. FAD monitoring in ports). Fisheries beyond WCPO overfished, healthy within. Industry profitability margins decrease with higher access fees. Future prediction, wild capture fisheries unable to meet global demand.

Due Diligence - Distant Water Fishing and Port Nations, FFA Members as Coastal, Flag and Port States
Cybersecurity - cybercrime and counter surveillance

C. Funding

Donor fatigue, donor coordination, complex funding design, duration and legacy limitations.

D. Environmental impacts and threats

Climate change - dispersion to higher latitudes and the eastern High Seas of the Pacific.

Table 1: Critical Success Factor scoring degree of progress

Critical Success Factor (Regional MCS Strategy Strategic Objectives)	Weak No Progress	Weak Gradual	Sound Modest	Strength Strong	Strength Outstanding
How somebody external to the Regional MCS Strategy would view its implementation					
SO1.1. National MCS Frameworks based on best practice risk assessment					
SO1.2. Improved management of information for MCS purposes					
SO1.3. Improved fisheries management outcomes, strengthened relationships between fisheries management and MCS					
SO1.4. Improved understanding of the drivers and level of compliant and non-compliant behaviour					
SO1.5. Capacity / capability to respond to risk/information/ intelligence including human resources/institutional set-up and enforcement assets.					
SO1.6. Increased focus on voluntary compliance, innovative tools for awareness, enforcement, detection and penalty					
SO2.1. Enhanced Influence on WCPFC measures for high seas / convention area					
SO2.2. Increased MCS coverage in support of fisheries management outcomes through application of MCS tools via market based measures					
SO2.3 Cost efficient and effective MCS programmes					

Table 2: Detailed Assessment for assigning critical success factor scores.

Goal 1 Strategic Objective 1- National MCS Frameworks based on best practice risk assessment															
Outcomes	Verification Sources		Comment												
National MCS Coordination committees established and operational Understanding of MCS obligations Compliance risk levels identified MCS frameworks current and responded to change through monitoring and evaluation National and regional legislative frameworks meet / exceed international standards International Agreement obligations met through member coordination	National coordination committee meeting reports WCPFC Part II Reports Interventions and Agreements at WCPFC meetings Development of MCS Plans and Policies Primary and secondary legislation enactments International mechanisms														
Score for the Strategic Objective	<table border="1"> <tr> <td>Weak No progress</td> <td>Weak Gradual Progress</td> <td>Sound Modest Progress</td> <td>Strength Strong Progress</td> <td>Strength Outstanding Progress</td> </tr> <tr> <td style="background-color: red;"></td> <td style="background-color: yellow;"></td> <td style="background-color: orange;"></td> <td style="background-color: lightgreen;"></td> <td style="background-color: green;"></td> </tr> </table>					Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress					
Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress											
Goal 1 Strategic Objective 2 – Improved management of information for MCS purposes															
Outcomes	Verification Sources		Comment												

<p>Data needs analysis completed to determine priority data All agencies and individual associated with MCS aware of responsibilities Active data collection plans in process / implemented Data collection terminology and formats standardised Increase coverage of operational level fine scale data MCS data available, accessible and disseminated Analysed data for tactical, strategic, MCS, scientific purposes Enhanced regional/subregional coordination of MCS data and information useful for MCS purposes</p>	<p>Data needs analysis SPC / FFA interagency technical taskforce annually addressing issue National and regional database Evidence of standardization of data collection terminology and formats at national and regional level Quantifiable evidence of increased coverage and timeliness of operational level/fine scale data National and regional database operational and integrated Enhanced regional / sub-regional coordination of MCS data for MCS purposes</p>					
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p>	<p>Weak Gradual Progress</p>	<p>Sound Modest Progress</p>	<p>Strength Strong Progress</p>	<p>Strength Outstanding Progress</p>	
<p>Goal 1 Strategic Objective 3 – Improved fisheries management outcomes through strengthened relationships between fisheries management / planning and MCS processes/activities/work/units</p>						
<p>Outcomes</p>	<p>Verification Sources</p>		<p>Comment</p>			
<p>Clear statement of management measures and MCS objectives allied to the measure as well as requirements and prohibitions that will be enforced Greater opportunities for practitioners to share experiences and findings,</p>	<p>National MCS Strategic Compliance Plan with reporting through annual country and FFA reports Regional MCS Strategic Compliance Plan with reporting through annual country and FFA reports Intra member exchange programs</p>					

<p>particularly with regard to high priority issues Improved fisheries science through more timely and reliable data provision Flow and exchange of information between fisheries management and MCS.</p>	<p>FFA Secretariat country attachment Performance measured between fisheries management and MCS MCS cost benefit analysis factored into management decision making.</p>				
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p>	<p>Weak Gradual Progress</p>	<p>Sound Modest Progress</p>	<p>Strength Strong Progress</p>	<p>Strength Outstanding Progress</p>
<p>Goal 1 Objective 4 – Improved understanding of the drivers and level of compliant and non-compliant behaviour</p>					
<p>Outcomes</p>	<p>Verification Sources</p>		<p>Observation from Consultation</p>		
<p>Drivers of compliant / non-compliant behaviour assessed Range of intervention choices available to Members MCS responses delivered in a manner allowing continued assessment of indicators against benchmarks Improved links between industry and government to understand fishery and market dynamics as drivers of MCS needs and responses.</p>	<p>Risk assessment National legislative and administrative policy instruments WCPFC Part II reports Industry feedback Observer debriefing National and regional MCS tools detecting positive changes in industry / government interaction</p>				
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p>	<p>Weak Gradual Progress</p>	<p>Sound Modest Progress</p>	<p>Strength Strong Progress</p>	<p>Strength Outstanding Progress</p>

Goal 1 Strategic Objective 5 – Capacity and capability to respond to risk/information/ intelligence including human resources/institutional set-up and enforcement assets.					
Outcomes	Verification Sources		Observation from Consultation		
Existing and emerging capacity and capabilities MCS deficiencies identified MCS staffing and resourcing requirements aligned to risk identified and resourced approaches to closing those gaps instigated Sustainability of human and other resources ensured (succession planning) Regional and sub-regional approaches implement to augment national capacity where appropriate Use of existing surveillance and enforcement assets optimized Appropriate level of investment in surveillance and enforcement assets	Human Resource Audits / Training Course Outcome National and Regional Audit to identify MCS deficiencies (MRAG 2009 report provided the baseline) Involvement of FFA Members and surveillance providers in MCS Operations QUAD Meetings and Annual Budget Country Reports, Annual MCSWG Reports, NTSA meetings Dedicated budget for surveillance and enforcement Training of surveillance and enforcement officers				
Score for the Strategic Objective	Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress
Goal 1 Strategic Objective 6 – Increased focus on voluntary compliance and innovative tools for awareness, enforcement, detection and penalty					
Outcomes	Verification Sources		Observation during Consultation		
Communication and extensions strategies in place to engage industry, throughout the supply chain	Existence of communication and extension strategy to engage industry				

<p>Flag states engaged and committed to assist through encouraging compliance and responding to non-compliance Decreased reliance on regulatory / punitive actions in MCS.</p>	<p>Strategy is communicated to industry / Industry feedback Observer debriefing sessions FFA and national MCS Requirements met (e.g. the Vessel Register) Statistical data.</p>				
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p>	<p>Weak Gradual Progress</p>	<p>Sound Modest Progress</p>	<p>Strength Strong Progress</p>	<p>Strength Outstanding Progress</p>
<p>Goal 2 Strategic Objective 1 – Enhanced Influence on WCPFC measures for high seas / convention area</p>					
<p>Outcomes</p>	<p>Verification Sources</p>		<p>Observation during Consultation</p>		
<p>WCPFC decisions reflect FFA member priorities Compliance monitoring processes developed to measure implementation and efficacy of CMMs Compliance monitoring processes developed to measure implementation and efficacy of CMMs</p>	<p>Audit of extent to which WCPFC CMMs reflect FFA member priorities Commission decisions reflect FFA MCS positions Independent report if MCS programmes meet or exceed standard Independent report if MCS programmes meet or exceed standard WCPFC Compliance monitoring process in place and level of compliance</p>				
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p>	<p>Weak Gradual Progress</p>	<p>Sound Modest Progress</p>	<p>Strength Strong Progress</p>	<p>Strength Outstanding Progress</p>
<p>Goal 2 Strategic Objective 2 – Increased MCS coverage in support of fisheries management outcomes through application of MCS tools via market based measures and mechanisms</p>					

Outcomes	Verification Sources	Observation during Consultation													
<p>Additional MCS measures identified and enforced through targeting alternative opportunities (rather than at the fishing vessel level alone)</p> <p>Traceability and certification schemes developed and implemented for key species to support Member programmes and meet market requirements</p>	<p>Licensing conditions</p> <p>Observer debriefing</p> <p>National compliance checklist / Regional compliance index or equivalent</p> <p>National reports to FFA and WCPFC, MCSWG report, WCPFC reports</p>														
Score for the Strategic Objective	<table border="1"> <thead> <tr> <th data-bbox="730 662 974 753">Weak No progress</th> <th data-bbox="974 662 1209 753">Weak Gradual Progress</th> <th data-bbox="1209 662 1444 753">Sound Modest Progress</th> <th data-bbox="1444 662 1680 753">Strength Strong Progress</th> <th data-bbox="1680 662 1915 753">Strength Outstanding Progress</th> </tr> </thead> <tbody> <tr> <td data-bbox="730 753 974 818" style="background-color: red;"></td> <td data-bbox="974 753 1209 818" style="background-color: yellow;"></td> <td data-bbox="1209 753 1444 818" style="background-color: orange;"></td> <td data-bbox="1444 753 1680 818" style="background-color: lightgreen;"></td> <td data-bbox="1680 753 1915 818" style="background-color: green;"></td> </tr> </tbody> </table>					Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress					
Weak No progress	Weak Gradual Progress	Sound Modest Progress	Strength Strong Progress	Strength Outstanding Progress											
Goal 2 Strategic Objective 3 - Cost efficient and effective MCS programmes															
Outcomes	Verification Sources	Observation during Consultation													
<p>Transparency and accountability in the development and implementation of MCS measures</p> <p>Cost minimized while maintaining desired level of compliance</p> <p>Cooperative approaches / operations utilized to increase MCS coverage for given investment decisions</p>	<p>Audit of MCS programs, audit reports, national reports and FFC Report</p> <p>Quantifiable evidence that cost relative to other option is less expensive</p> <p>Simple tools for measuring cost effectiveness of MCS programmes</p>														

<p>Costs reduced using innovative and appropriate technology Increased economic benefits from fisheries that can be demonstrated as sustainably management</p>	<p>Quantifiable evidence of cooperative approaches to increase MCS coverage ascertained</p> <p>Objective evidence of link between MCS effort and increased economic benefits</p>				
<p>Score for the Strategic Objective</p>	<p>Weak No progress</p> 	<p>Weak Gradual Progress</p> 	<p>Sound Modest Progress</p> 	<p>Strength Strong Progress</p> 	<p>Strength Outstanding Progress</p> 

