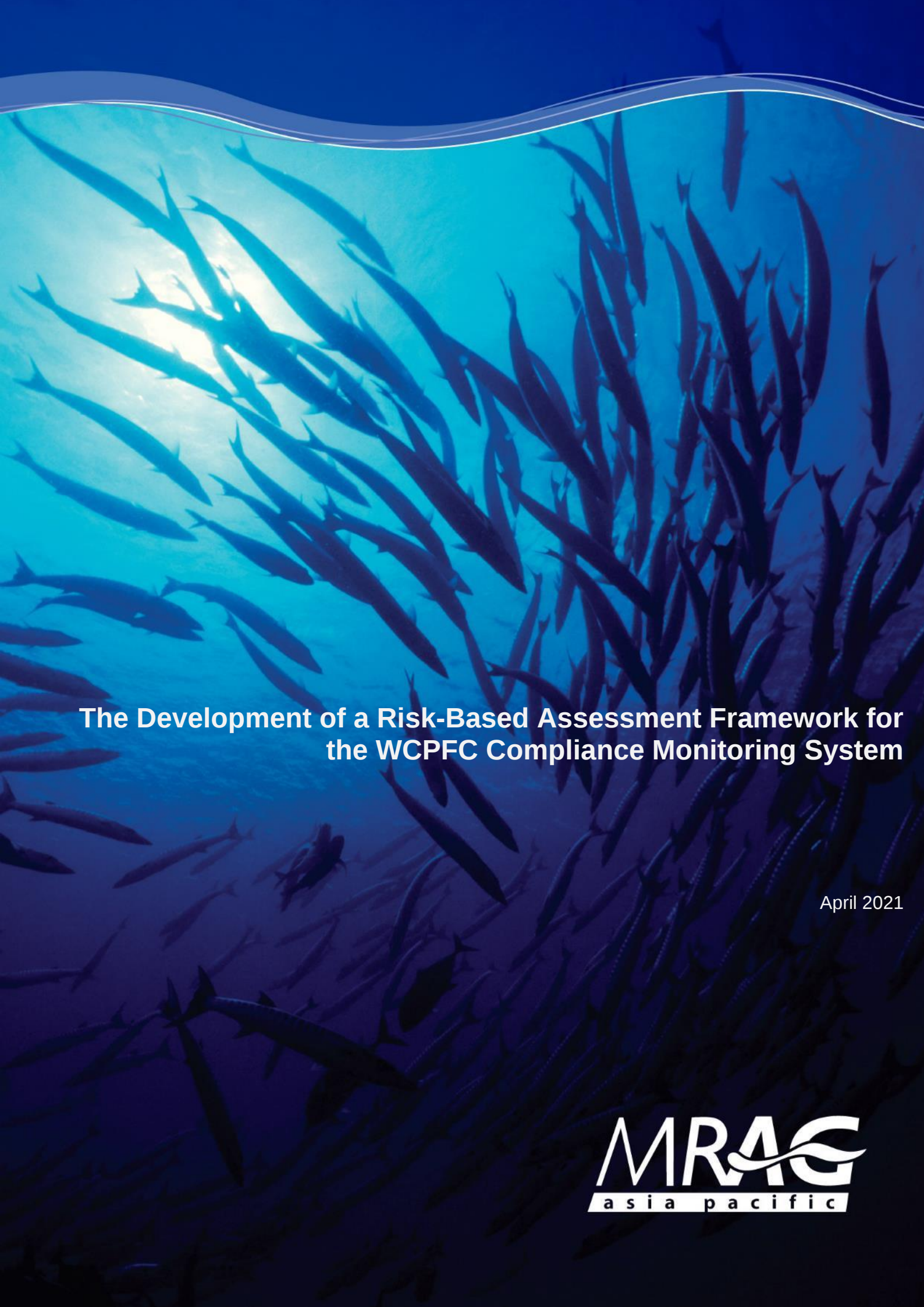




# **The Development of a Risk-Based Assessment Framework for the WCPFC Compliance Monitoring System**

April 2021

**MRAC**  
asia pacific

#### About MRAG Asia Pacific

MRAG Asia Pacific is an independent fisheries and aquatic resource consulting company dedicated to the sustainable use of natural resources through sound, integrated management practices and policies. We are part of the global MRAG group with sister companies in Europe, North America and the Asia Pacific.

2/29 Woodstock Rd  
Toowong Qld 4066  
Australia

PO Box 732  
Toowong Qld 4066  
Australia

P: +61 7 3371 1500  
F: +61 7 3100 8035  
E: [info@mragasiapacific.com.au](mailto:info@mragasiapacific.com.au)

#### ACKNOWLEDGEMENTS

Thanks go to the FFA Secretariat for the opportunity to contribute to the development of a risk-based assessment framework for WCPFC's Compliance Monitoring Scheme. The team is grateful to all those who volunteered their time to discuss their experience with the CMS and to suggest how a RBAF might be applied to improve the efficiency of current processes. The team is grateful for the input from Ms Rhea Moss-Christian who is overseeing the work on audit points and Ms Heather Ward who is leading discussions concerning the RBAF in the Commission. Particular thanks are extended to Ms 'Ana Taholo from the FFA Secretariat for her responsiveness, expert guidance and assistance.



## Contents

|          |                                                                                                                                   |           |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>                                                                                                         | <b>2</b>  |
| <b>2</b> | <b>BACKGROUND AND CONTEXT .....</b>                                                                                               | <b>3</b>  |
| 2.1      | FEEDBACK FROM FFA MEMBERS .....                                                                                                   | 3         |
| 2.2      | WHAT DO OTHER RFMOs/ENTITIES DO?.....                                                                                             | 4         |
| <b>3</b> | <b>RBAF – KEY DESIGN CONSIDERATIONS .....</b>                                                                                     | <b>6</b>  |
| 3.1      | OVERALL .....                                                                                                                     | 6         |
| 3.1.1    | <i>What is the ‘risk’ being assessed?.....</i>                                                                                    | <i>6</i>  |
| 3.1.2    | <i>The ‘level’ at which risks are assessed/obligations prioritised.....</i>                                                       | <i>7</i>  |
| 3.2      | LIKELIHOOD.....                                                                                                                   | 7         |
| 3.2.1    | <i>What data should be used? .....</i>                                                                                            | <i>7</i>  |
| 3.2.2    | <i>How far back should you look? .....</i>                                                                                        | <i>9</i>  |
| 3.2.3    | <i>Should more recent assessments receive a higher weighting?.....</i>                                                            | <i>9</i>  |
| 3.2.4    | <i>How to account for the fact that different CMMs are assessed each year, and different CCMs are assessed against each?.....</i> | <i>10</i> |
| 3.2.5    | <i>Should uncertainty in compliance assessments be taken into account? .....</i>                                                  | <i>10</i> |
| 3.2.6    | <i>How to score new obligations? .....</i>                                                                                        | <i>10</i> |
| 3.3      | CONSEQUENCE .....                                                                                                                 | 11        |
| 3.3.1    | <i>Consequence of what?.....</i>                                                                                                  | <i>11</i> |
| 3.3.2    | <i>Should the different types of obligations be treated differently? .....</i>                                                    | <i>12</i> |
| 3.4      | FINAL RISK RATINGS .....                                                                                                          | 12        |
| 3.4.1    | <i>How should the outcomes of the CMS be used? .....</i>                                                                          | <i>12</i> |
| 3.5      | PROCESS ISSUES .....                                                                                                              | 13        |
| 3.5.1    | <i>Who should do the risk assessment? .....</i>                                                                                   | <i>13</i> |
| 3.5.2    | <i>How often should it be done? .....</i>                                                                                         | <i>13</i> |
| 3.5.3    | <i>Overall roles and responsibilities .....</i>                                                                                   | <i>13</i> |
| <b>4</b> | <b>PROPOSED RBAF .....</b>                                                                                                        | <b>14</b> |
| <b>5</b> | <b>PRELIMINARY RISK SCORING AND ANALYSIS.....</b>                                                                                 | <b>14</b> |
|          | APPENDIX A: PROPOSED RISK-BASED ASSESSMENT FRAMEWORK FOR THE WCPFC COMPLIANCE MONITORING SYSTEM (CMS)17                           |           |
|          | APPENDIX B: DRAFT RISK ASSESSMENT OF EXISTING OBLIGATIONS .....                                                                   | 21        |

## 1 Introduction

1. WCPFC's Compliance Monitoring Scheme (CMS) was adopted by the Commission in 2010 (CMM 2010-03), following a proposal tabled by Australia in 2010 (WCPFC-TCC6-2010/21). The objective of the CMS, described in 2019-06, paragraph 1, is to:
  - a. *ensure that Members, Cooperating Non-Members and Participating Territories (CCMs) implement and comply with obligations arising under the Convention and conservation and management measures (CMMs) adopted by the Commission; and*
  - b. *assess flag CCM action in relation to alleged violations by its vessels, not to assess compliance by individual vessels.*
2. The CMS is designed to:
  - a. assess CCMs' compliance with their WCPFC obligations;
  - b. identify areas in which technical assistance or capacity building may be needed to assist CCMs to attain compliance;
  - c. identify aspects of CMMs which may require refinement or amendment for effective implementation;
  - d. respond to non-compliance by CCMs through remedial and/or preventative options that include a range of possible responses that take account of the reason for and degree, the severity, consequences and frequency of non-compliance, as may be necessary and appropriate to promote compliance with CMMs and other Commission obligations; and
  - e. monitor and resolve outstanding instances of non-compliance by CCMs with their WCPFC obligations (CMM 2019-06, 02).
3. While the CMS has been subject to considerable evolution and review over time (e.g. CMM 2011-06, 2012-02, 2013-02, 2014-07, 2015-07, 2017-07, 2018-07 and now, 2019-06), concerns remain that it continues to be resource intensive, focuses disproportionately on some fisheries at the expense of others and lacks clarity in application given ambiguous language underpinning some obligations.
4. To further improve the overall operation of the CMS, in 2018 the Commission committed to a multi-year workplan of tasks to better target assessments, streamline processes and strengthen transparency (2018-07, para 45). This was carried forward to CMM 2019-06 (para. 46). Key tasks in the workplan include:
  - i. *the development of audit points to clarify the Commission obligations assessed under the CMS, as well as the development of a checklist to be used by the proponents of any proposal to include a list of potential audit points for the consideration of the Commission;*
  - ii. *explore investment in technology solutions to facilitate improvements to the compliance case file system;*
  - iii. *the development of a risk-based assessment framework to inform compliance assessments and ensure obligations are meeting the objectives of the Commission;*
  - iv. *the development of corrective actions to encourage and incentivise CCMs' compliance with the Commission's obligations, where non-compliance is identified;*
  - v. *the development of the guidelines for participation of observers in closed meetings of the Commission and its subsidiary bodies which consider the Compliance Monitoring Report*

These streams of work are complementary.

5. At WCPFC17 FFA advised that, during 2021, they would contribute to the future work agreed for the CMS particularly in relation to the development of audit points and the risk-based assessment framework (RBAF)<sup>1</sup>.
6. This paper sets out a proposed RBAF for the consideration of the Forum Fisheries Committee (FFC). The proposed RBAF has been informed by discussions with FFA members and other stakeholders, as well as the outcomes of a 2-day workshop convened by FFA, 13-14 April 2021, to discuss a range of CMS-related issues.
7. Following this introduction, the paper is structured in four main parts:
  - a. Section 2 provides background and context on the current operation of the CMS from FFA members, as well as briefly reviewing the use of similar approaches by other RFMOs/entities;
  - b. Section 3 sets out the main design considerations in developing the proposed RBAF, as well as the relevant outcomes of the FFA CMS workshop;
  - c. Section 4 sets out the proposed RBAF and scoring guidelines;
  - d. Section 5 provides preliminary risk scores for all obligations currently considered for inclusion in the CMS, with a high-level analysis of outcomes.

## 2 Background and context

### 2.1 Feedback from FFA members

8. The outcomes of consultations with representatives from FFA members, including views expressed during the CMS Workshop, provides important context for the structure and goals of a RBAF for the CMS. Feedback received included:
  - a. **Reduce resourcing/reporting burden** – the CMS remains highly resource intensive (particularly for smaller administrations), with significant staff time devoted to reporting against CMS obligations each year. It was noted that a key objective for the refinement of the CMS should be to streamline the resourcing/reporting burden by targeting assessments at higher risk obligations;
  - b. **Disproportionate focus on purse seine** – the CMS has focused disproportionately on the purse seine fishery to date given it is relatively well-monitored and has data to support compliance assessments. By contrast, the longline fishery (and particularly the high seas longline fishery) has received comparatively little focus. It was noted that this was not necessarily reflective of the relative risk of each sector to meeting the overall objectives of the Commission;
  - c. **Expectations for the RBAF should be modest, at least initially** – there was a shared view that it is not reasonable to expect that assessments of likelihood and consequence can be formulaically plugged into an RBAF to produce an outcome to suit the interests of all CCMs. Rather it is likely that the RBAF, at least in the initial period, will serve as a tool to have discussions around which obligations should be assessed in a much more structured way, with some level of negotiation still

---

<sup>1</sup> WCPFC17 Summary Report (paragraphs 375 and 378).

required. The members noted that the RBAF will likely evolve over time, and that introducing the concept of risk-based prioritisation would be an important advance;

- d. **Keep it simple** – it was recommended that the design of the RBAF be as simple as practical, at least in the early stages, to aid understanding and encourage support and engagement;
- e. **The CMS/RBAF can't solve everything** – a generally shared view was that the RBAF 'can't solve everything'. It was highlighted that the CMS can only assess compliance with existing obligations and it can't assess risks associated with obligations that don't exist (e.g. stronger monitoring arrangements in the LL sector). These latter risks represent some of the greatest threats to meeting the overall sustainable use objectives of the WCPF Convention. Accordingly, the development of the RBAF and overall strengthening of the CMS should be part of a wider suite of Commission reforms to address high risk areas;
- f. **The RBAF must be dynamic** – because risks vary over time (e.g. with changes in fishing behaviour, variations in stock status, etc), as well as through the introduction of new obligations it was important that the RBAF remain adaptable and dynamic. The RBAF must be capable of responding effectively to changes in risk ratings and obligations over time;
- g. **The RBAF needs to integrate with other reforms** – the RBAF was one of a number of reforms designed to improve the effectiveness and efficiency of the CMS. It was agreed that the development of a RBAF to support the prioritisation of obligations would have relatively limited impact without the development of effective audit points and other measures to strengthen the effectiveness of the CMS. To that end, it was considered important that the development of the RBAF integrates effectively with other reform processes;
- h. **FFA's RBAF proposal must be practical across the full Commission membership** – while the development of a proposed RBAF is being led by FFA, and should certainly suit the interests of FFA members, there was general recognition that, to be adopted by the wider Commission, a RBAF proposal must be fair and practical across the full Commission membership. To that end, the RBAF should aim to meet the principles set out in section 2 of CMM 2019-06 – i.e. (i) effectiveness, (ii) efficiency, (iii) fairness, and (iv) cooperation towards compliance;
- i. **The RBAF should strengthen the Commission's commitment to Article 30 of the Convention** – an RBAF provides an opportunity for the Commission to demonstrate its commitment to Article 30 of the Convention, and CMM 2013-07, by further support the active participation of SIDS and PTs in the work of the Commission, particularly in respect of the CMS. This can be achieved by establishing a process to focus limited CCM and Commission resources on the assessment of priority obligations.

## 2.2 What do other RFMOs/entities do?

- 9. The use of risk-based approaches to structure compliance programs is widespread internationally, although few entities/RFMOs appear to use them in the way intended for the WCPFC CMS RBAF (i.e. to prioritise compliance obligations to be assessed each year).

10. At the national/regional level, entities including Australian Fisheries Management Authority (AFMA), the European Fisheries Control Agency (EFCA), the Queensland Department of Agriculture and Fisheries and the Western Australian Department of Primary Industries and Regional Development have all applied International Organisation for Standardization (ISO) 31000<sup>2</sup> risk management guidelines to their respective fisheries compliance strategies. However, these applications tend to be focused on prioritising which offence types will receive compliance attention, rather than on selecting obligations for systemic review.
11. Among multilateral fisheries bodies, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) have implemented procedures to monitor compliance with achieving obligations for Contracting Parties (Members and Cooperating Non-members).
12. CCAMLR's Compliance Evaluation Procedure (CEP) annually reviews compliance with obligations recorded in CCAMLR's Conservation Measures (CMs) and its Scheme of International Scientific Observation. There is no risk assessment associated with the selection of the CMs subject to this Procedure and all the obligations are assessed.
13. CCSBT's Policy Guidelines support implementation of a Compliance Plan. The agreed policy guidelines, overseen by the Compliance Committee, are i) minimum performance requirements to meet CCSBT obligations, ii) a corrective actions policy, iii) MCS information collection and sharing, and iv) principles for action and steps to be taken in relation to extraordinary circumstances.
14. The role of the Compliance Committee is to investigate alleged serious non-compliance, recommend corrective actions or remedies, recommend revisions to CCSBT obligations to rectify compliance risks, and conduct an annual compliance risk assessment. No formal risk assessment has been completed to date. Instead, CCSBT currently has a process whereby an agreed '*ad hoc*' set of compliance risks has been recorded in a Compliance Action Plan (CAP). The Commission has agreed to annually:
  - a. review the list of current compliance risks, and
  - b. consider CCSBT's progress with regard to mitigation and better quantification of the current list of compliance risks.
15. In 2012, these arrangements were supplemented with provision for a Quality Assurance Review (QAR) of Member and CNM systems and processes that support implementation of specified CCSBT measures. Unlike the WCPFC CMS process, we understand the CCSBT QAR process is undertaken by an independent reviewer. The Measures selected for review in QARs conducted to date are those associated with Compliance with National Allocations and the CCSBT's Catch Documentation Scheme (CDS). The development of a compliance risk assessment procedure for application to the CCSBT process may get consideration in the near future<sup>3</sup>.

---

<sup>2</sup> <https://www.iso.org/iso-31000-risk-management.html>. Key elements of ISO 31000:2018, including definitions of terms, has been extracted and is presented in the Appendix. Terms used in this document are consistent with ISO 31000:2018.

<sup>3</sup> Bob Kennedy, Executive Secretary, CCSBT, *pers comm*. March 2021.

### 3 RBAF – key design considerations

#### 3.1 Overall

16. Broadly, any risk-based approach should be consistent with internationally-recognised standards for risk management, in particular ISO 31000: 2018. Under ISO 31000, risk is typically expressed as a function of likelihood and consequence, where:
  - a. Likelihood is “the chance of something happening”; and
  - b. Consequence is defined as “the outcome of an event affecting objectives”.
17. Typically, risk assessment/prioritisation exercises of the type envisaged by the RBAF are undertaken using likelihood and consequence scoring tables, with the product of these scores set out in a risk matrix. Under this process, the likelihood of an event occurring, and consequences if it does, are scored either qualitatively or quantitatively according to different categories of escalating probability (in the case of likelihood) and impact on the achievement of objectives (in the case of consequence). Broadly, things that have lower likelihood and lower consequence will have lower inherent risk, and vice versa.
18. In the context of the CMS, the purpose of a RBAF is to guide the prioritisation of obligations arising under the Convention and CMMs adopted by the Commission for periodic assessment. An illustration of the relationship between likelihood and consequence to generate a risk matrix to prioritise obligations for inclusion in the annual CMS is presented in Figure 1.

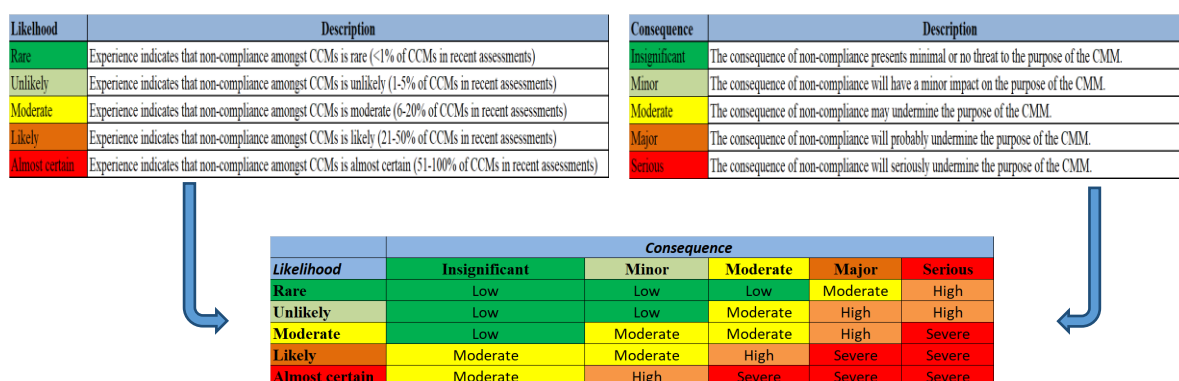


Figure 1: Conceptual diagram of likelihood and consequence scores leading to a risk matrix.

19. While the structuring of risk assessment tables is conceptually straightforward, considerable thought is required to ensure the outcomes offer practical insights into risk. Key design questions associated with likelihood, consequence and final risk tables are set out below.

#### 3.1.1 What is the ‘risk’ being assessed?

20. A fundamental task for any risk assessment is to clearly define the risk being assessed. In the context of the CMS, the risk to be assessed is **the risk of non-compliance to achieving the objectives of the WCPFC**.
21. FFA members were clear at the CMS workshop that risk should be assessed at the level of Commission as a whole, rather than assessing risk associated with each individual CCM.

### 3.1.2 The 'level' at which risks are assessed/obligations prioritised

22. A key question for the design of the RBAF is the 'level' at which risk is assessed. Broadly, there appear to be two options – (i) assess risk at the level of the CMM, or (ii) assess risk at the level of individual obligations within CMMs.
23. Under the first approach, the likelihood and consequences of non-compliance would be assessed for CMMs *as a whole*. The outcome would be a list of CMMs that were high, medium and low risk. Each obligation within CMMs chosen for inclusion in the CMS would then be assessed. This approach has the advantage of simplicity and perhaps makes annual risk assessments less intensive but loses granularity around differential risks associated with individual obligations within CMMs.
24. Under the second approach, the likelihood and consequence of *each specific obligation within each CMM* would be assessed. The outcome would be a table of high, medium and low risk *obligations* across all CMMs. This approach is comparatively more resource intensive (at least in the first year when scoring is done for the first time), but has the advantage of granularity – it recognises that non-compliance with some individual obligations within a single CMM could pose greater risk than others.
25. Some combination of the two approaches may also be possible. Since 2014, the Commission has assessed each CMM based on an agreed set of obligations identified from those CMMs selected for assessment (WCPFC11 Summary Report, paragraph 430).
26. Ultimately, the choice of 'level' should be the one that best meets the objectives of the CMS – i.e. that which most effectively encourages CCMs to comply with obligations under the WCPFC framework and also assess CCM control over their flagged vessels at a systemic level.
27. The issue of the 'level' at which risk is assessed was discussed at the CMS workshop. Although members noted the potential simplicity associated with assessing risk at the CMM level, the consensus was to assess risk at the level of each individual obligation given better specificity and the capacity to better target assessments at higher risk obligations. This is also consistent with the audit point work which is developing objective audit points for each individual obligation in each CMM.

## 3.2 Likelihood

28. As discussed above, likelihood is a key factor influencing risk – broadly, the more likely a risk is to occur, the higher the level of overall risk. Likelihood can be scored either qualitatively or quantitatively. In the context of the WCPFC CMS, 'likelihood' can effectively be considered the likelihood of non-compliance with a particular obligation amongst the Commission membership (the higher the level of non-compliance, the higher the risk). Some of the key questions in structuring assessments of likelihood are set out below.

### 3.2.1 What data should be used?

29. Although not without its limitations, perhaps the best available quantitative information on levels of CCM compliance come from annual CMS assessments themselves. Each year since 2013, the Commission has recorded the number of CCMs with obligations identified for assessment for each Measure included in an annual CMS and, of those CCMs, the number which have been assessed as non-compliant against each obligation (Figure 2). Approximately 77

(range 61-96) obligations have been assessed on average each year resulting in the assessment of a total of approximately 763 obligations across the 8-year period, 2013-2020<sup>4</sup>.

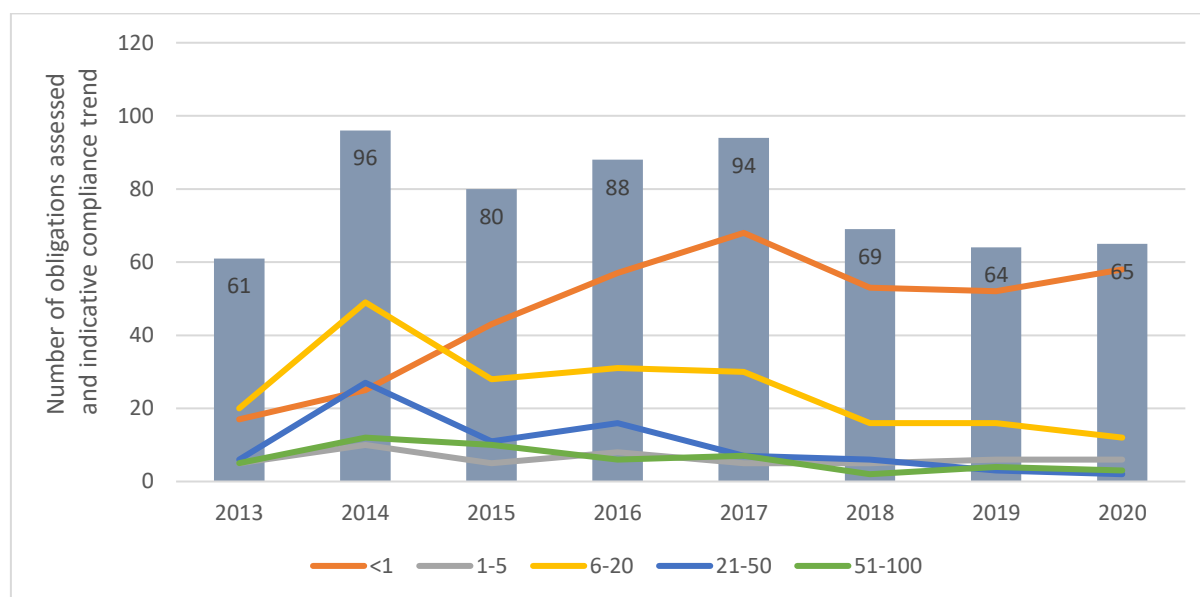


Figure 2: The apparent trend in compliance as recorded in the CMS (2013-2020). The data bars record the total number of obligations assessed each year. The trend lines reflect the number of obligations in each year broken down by the proportion of CCM non-compliance (<1%, 1-5%, 6-20%, 21-50% and 51%-100% non-compliance). Broadly, there is a trend of increasing compliance with the obligations assessed across that period (the upper trend line, 0% non-compliance). Concurrently, non-compliance decreases across all bands across that period (0%, 1-5%, 6-20%, 21-50% and 51-100%). For approximately 83% of obligations there was <20% non-compliance across the obligations assessed for those eight years.<sup>5</sup>

30. Broadly, the outcomes of these historical compliance assessments can be used to inform scoring of likelihood under the RBAF. To illustrate this concept, the project team categorised the outcomes of compliance assessments across the eight CMS cycles into five bands according to possible likelihood scores:
- Rare – <1%;
  - Unlikely - 1-5%,
  - Moderate - 6-20%,
  - Likely - 21-50% and

<sup>4</sup> A count of the actual number of obligations assessed from 2013 to 2020 is complicated by fact that many early CMMs have been retired or substantially revised, for others the compliance assessment is discontinuous, some CMMs have not been recently assessed (for example in the last 3 years) and some CMMs have never been included in a CMS assessment.

<sup>5</sup> Compliance trends across the 2013-2020 period may have been influenced by a range of factors including:

- the influence of increasing CCM preparedness and familiarity supporting more effective engagement in the CMS process across the 8 cycles of the CMS (2013-2020);
- changes to the non-compliance assessment because of improved drafting of obligations to improve clarity for all CCMs thereby limiting opportunities for conflicts associated with interpretation;
- a possible gap whereby the CMS process is concentrated on compliant components of the fishery and potential non-compliant components are still not being effectively assessed; and
- while “reports” and “deadlines” are objectively verifiable, there is less certainty around “limits” and “implementation” (both of which demonstrate a general improvement in apparent compliance over the period 2013-2020). Improving capacity to objectively verify compliance is the focus of the audit point work under CMS reforms.

- e. Almost certain - 51-100%.

Percentage scores represent the average level of non-compliance amongst CCMs for a given measure. Of the 763 obligations assessed to date, the number fitting into each band of likelihood is set out in (Table 1).

*Table 1: The number of events of non-compliance recorded across the eight CMS cycles, 2013-2020 consolidated into five bands (rare to almost certain).*

| Score          | Total obligations assessed |            |            |        |            |            |
|----------------|----------------------------|------------|------------|--------|------------|------------|
|                | Band                       | #          | Average    | Band   | #          | Average    |
| Rare           | <1                         | 373        | 59         | <1     | 373        | 59         |
| Unlikely       | 1-5                        | 62         | 54         | 1-10   | 161        | 82         |
| Moderate       | 6-20                       | 199        | 63         | 11-25  | 120        | 40         |
| Likely         | 21-50                      | 77         | 16         | 26-50  | 57         | 12         |
| Almost certain | 51-100                     | 52         | 9          | 51-100 | 52         | 9          |
|                | <b>Total</b>               | <b>763</b> | <b>201</b> |        | <b>763</b> | <b>202</b> |

31. FFA members could set the bounds of each likelihood band as they saw fit, based on previous history of non-compliance and/or judgements around what levels of non-compliance should attract concern. A slightly different structure (<0%, 1-10%, 11-25%, 26-50% and 51-100%) is also shown in Table 1 to demonstrate sensitivity to different groupings.
32. Importantly, both discussions with stakeholders and the CMS workshop identified the outcomes of previous CMS assessments as the most useful information to inform likelihood scores and did not identify other readily available alternatives.

### 3.2.2 How far back should you look?

33. Assuming previous history of compliance amongst CCMs is used as the primary indicator of 'likelihood', there is a question around how far back assessments should extend. For many obligations, the level of compliance changes over time as CCMs become more familiar with obligations and compliance processes improve, amongst other things. To that end, levels of compliance in 2013 may not be an accurate reflection of the likelihood of non-compliance in 2021. Including only the most recent year in assessments is likely to introduce an element of randomness, but the inclusion of the most recent say 3 or 4 assessments (as opposed to 3-4 years, because assessments can be irregular) may provide a reasonable average picture of current compliance.
34. This issue was discussed by FFA member at the CMS workshop, with a preference generally to use more recent data. Nevertheless, members noted that assessments for some obligations have been sporadic and inconsistent and some flexibility may be required in scoring guidelines.

### 3.2.3 Should more recent assessments receive a higher weighting?

35. If likelihood scoring is guided by the average of the most recent X assessments, the next question is whether each year should be equally weighted or whether more recent year/s should receive a higher weighting? Using a simple average is the more straightforward approach, while giving higher weighting to more recent assessments may be useful if FFA members thought more recent compliance history was a better indicator of future compliance performance.
36. Higher weighting of more recent assessments would pick up concerning upticks in non-compliance (by increasing risk ratings), while also 'rewarding' strong improvements in compliance performance across CCMs (by lowering risk ratings). If the average of the last 3 compliance assessments was used to inform likelihood scoring, an example of weighting would be to have the most recent year contribute 50% to the likelihood score and the other two years

25% each (under a simple average, each of the 3 years would effectively contribute 33.3% each).

37. FFA members discussed this issue at the CMS workshop. Broadly, they noted that if assessments for a particular obligation had been sporadic over time, greater weighting should be applied to the more recent assessment/s (although this need not be a numerical approach – greater weighting may be given to more recent assessments simply through judgement).

#### 3.2.4 How to account for the fact that different CMMs are assessed each year, and different CCMs are assessed against each?

38. A feature of the existing CMS is that (i) different CMMs are assessed annually, and (ii) different obligations apply to different CCMs. The first condition means that some obligations may not be assessed for several years, while the second condition means that some obligations are assessed across the full membership and others are assessed against a small number of CCMs.
39. The relevant question here is whether these differences should be taken into account in likelihood scoring? On the first issue, it would be difficult (and probably unnecessary) to adjust likelihood scoring to account for the fact that obligations may be assessed irregularly. If, for example, the outcomes of the most recent 3 assessments were used to inform likelihood scoring for each obligation, the most straightforward approach would be to use the most recent 3 assessments irrespective of when they were undertaken.
40. On the second issue, the fact that different numbers of CCMs are assessed for different obligations should have limited influence on likelihood scoring. Obligations with higher rates of non-compliance should be scored higher for likelihood irrespective of the number of CCMs assessed. Rather, any differences in the *effect* of non-compliance with obligations applying to differing numbers of CCMs should be picked up in consequence scoring (e.g. non-compliance with an obligation applying to a single CCM may have less impact on achieving the objectives of the Convention than non-compliance with an obligation applying to the full membership).

#### 3.2.5 Should uncertainty in compliance assessments be taken into account?

41. The existing process of compliance assessments is often based on CCM self-reporting against obligations that sometimes contain a level of ambiguity. These processes introduce some level of uncertainty in compliance assessments, which may vary by obligation.
42. The question for the design of the RBAF is whether uncertainty could, or should, be taken into account in likelihood scoring? Broadly, a precautionary approach should be taken to likelihood scoring, with higher levels of uncertainty around compliance reflected in higher likelihood scores. Nevertheless, 'second-guessing' compliance assessments is likely to be counter-productive and unlikely to engender support for the RBAF process generally. To that end, it would be appropriate to stick as close as possible to the outcomes of the CMS process (i.e. 'compliant' assessments should be treated as compliant, etc) and deal with strengthening the clarity and objectivity of compliance assessments through the development of audit points. FFA members agreed with this approach at the CMS workshop.

#### 3.2.6 How to score new obligations?

43. Assuming the outcomes of previous assessments are used to score the likelihood of non-compliance, a key question then is how to score new obligations with no assessment history? One option would be to automatically include all new obligations in the following year's CMS. Given the uncertainty associated with likelihood (and perhaps consequence?) scoring, including all new obligations would be a precautionary approach and also encourage the development of

systems amongst CCMs to ensure compliance. Experience with the CMS to date suggests that the more familiar CCMs become with compliance and reporting obligations, the higher the rates of compliance.

44. This approach, while not without resource implications, is consistent with the suggestion that consideration should be given to the automatic inclusion of a new CMM in the CMS until information relating to compliance with its obligations is sufficient to meaningfully assess compliance (for example, WCPFC13 Summary Report, para. 147).
45. Notwithstanding that, FFA members were wary of automatically including new obligations in the CMS given potential resourcing and other implications. Rather, there was a preference to allow members to choose whether new obligations were included in the upcoming year's CMS taking into consideration the resources required and other priorities. The workshop noted that it may be appropriate for the Commission to decide on the timing for the inclusion of obligations associated with a new CMM to be determined at the time the CMM is adopted.

### 3.3 Consequence

46. While likelihood focuses on the probability of an event occurring, the 'consequence' component of risk assessment focuses on the impact if it does. As with likelihood, consequence can be scored either qualitatively or quantitatively and is usually framed in the context of achieving a specified objective. In the context of the WCPFC CMS, 'consequence' could be broadly thought of as the impact of non-compliance on meeting Convention objectives. Some of the key questions in structuring assessments of consequence are set out below.

#### 3.3.1 Consequence of what?

47. Perhaps the key question in structuring assessments of consequence in the context of risk assessment is to determine 'consequence of what'. Typically, the consequence is spelled out as the impact of an event (in this case non-compliance with a specified obligation) on achieving a defined objective.

In the context of the WCPFC CMS, scoring of consequence is complicated by the fact that objectives exist at different levels. The overall objective of the WCPFC Convention is set out in Article 2, namely that:

*The objective of this Convention is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention and the Agreement.*

48. Objectives are also specified, or can be inferred, for individual CMMs.
49. Broadly then, assessments of the consequence of non-compliance in the context of an RBAF could be assessed at two levels:
  - a. The level of the Convention – i.e. what is the impact of non-compliance on meeting the sustainable use objective of the Convention?; or
  - b. the level of individual CMMs – i.e. what is the impact of non-compliance on meeting the objectives of the individual CMM?
50. Both approaches have pros and cons and it is not necessarily a straightforward exercise to choose one over the other. The main advantages of assessing consequence against the objective of the Convention is simplicity and its value as a 'common currency' – i.e. the consequence of non-compliance can be assessed against a single high-level objective which is relevant across all obligations. Assessing the implications of non-compliance against the central

objective of the Convention also forces some consideration of the impacts of each measure of the big picture objectives of the Convention (will non-compliance with this measure really undermine the objectives of the Convention?). Nevertheless, the objective of the Convention is necessarily 'high level' and efforts to assess consequence at this level may end up being somewhat subjective.

51. The advantage of assessing consequence against the objectives or purpose of individual CMMs is that impacts of non-compliance are more likely to be objectively assessed, with clearer links between each obligation and the intent of the CMM. Nevertheless, it moves away from being an 'apples vs apples' comparison because consequence would be scored against different objectives for different obligations. For example, non-compliance with a particular obligation may have serious consequences for the objective of an individual CMM, but relatively little impact on the overall objective of the Convention. Scoring consequence at the level of the CMM would rate the risk of this obligation equally with an obligation that has a serious impact on the objectives of the CMM, *and* on the overall objectives of the Convention. If the intent of the RBAF is to help prioritise amongst all obligations, assessing consequence at the level of each CMM then runs the risk of skewing the overall picture of risk against the Commission's 'big picture' objectives.
52. An alternative approach would be to consider both levels of objectives in the assessment of consequence – i.e. the impact of non-compliance on both the CMM and the overall objectives of the Convention. Although this is slightly 'messier' (again, because non-compliance with some obligations may compromise an individual CMM, but not have a substantial effect on the overall objectives of the Commission), it might be a practical way forward in the short term until more experience with the RBAF is gained.
53. This issue was discussed extensively at the CMS Workshop. Participants were of the view that assessing an obligation in respect of the objective of the Convention would be subjective and present similar challenges in achieving consensus as were experienced during the attempts in the Commission to develop a Strategic Plan. There was general agreement that, as the Convention is effectively operationalised through CMMs, the consequence of non-compliance should be assessed against the objective or inferred purpose of individual CMMs.

### 3.3.2 Should the different types of obligations be treated differently?

54. There are four categories of obligations examined under the CMS: (i) limits, (ii) deadlines, (iii) implementation and (iv) reports. A question for the design of the RBAF is whether the consequence of non-compliance for any of these should be deliberately scored higher than any others, or otherwise treated in a different way – e.g. it would be open to FFA members to say something like 'quantitative limits are essential in meeting the objectives of the Convention, therefore all quantitative limits should be assessed each year'.
55. The alternative would be to simply score each obligation independently against the agreed consequence criteria – if in fact non-compliance with quantitative limits has the potential to have a serious impact on CMM objectives, this should naturally fall out of consequence scoring. FFA were broadly supportive of this latter approach at the CMS workshop.

## 3.4 Final risk ratings

### 3.4.1 How should the outcomes of the CMS be used?

56. Having arrived at final risk ratings through assessments of likelihood and consequence, a key question for the CMS is what should this mean in practice? For example, should all obligations

scored high risk (or above) be assessed each year (irrespective of which CMM they sit in)? If not, how should assessments of high-risk obligations be structured? For obligations scored medium and low risk, how frequently should these be assessed? Every two years for medium and three years for low? Is it reasonable to have formal rules around how frequently obligations of each risk rating are assessed, or is it better to leave some flexibility to take into account resourcing and other needs (i.e. that the final risk ratings serve as a guide, rather than a rigid rule)?

57. FFA members discussed this issue at the CMS workshop. Generally, members were strongly of the view that the RBAF should avoid any formal rules about how the outcomes are applied in practice – rather, Members agreed that the outcomes should serve solely as a guide and that the ultimate configuration of obligations to be included should be agreed by CCMs taking to account the outcomes of the RBAF, as well as other relevant factors (resourcing, the merit of including any new obligations, etc). That is, the RBAF should inform decision-making in the Commission, not be a substitute for it.

### 3.5 Process issues

#### 3.5.1 Who should do the risk assessment?

58. Given the possibility that some scoring will be subjective, there is a need for whoever completes the risk assessment to be impartial, informed and have the confidence of WCPFC members.
59. One possibility is the WCPFC Secretariat should be tasked with completing a draft risk assessment for discussion/finalisation at TCC each year. This would allow some room for CCM input into risk scoring, with a negotiation over the final configuration of obligations to be assessed in the upcoming year to be undertaken in the Commission. FFA members were generally supportive of this approach at the CMS workshop.

#### 3.5.2 How often should it be done?

60. In the absence of strong reasons to the contrary, assessments should ideally be updated annually, at least in the initial years, until CCMs become more familiar with the process. Frequency of assessments after the initial ‘bedding down’ can be determined based on experience, resources required, etc.

#### 3.5.3 Overall roles and responsibilities

61. Although not addressed in detail during the Workshop, discussion with members and other parties provided an indication of expectations in relation to the respective roles and responsibilities for administration and management of the RBAF in the CMS. In summary, discussions indicated the Secretariat should be responsible for:
  - a. maintenance of a record of the annual compliance assessment outcomes against obligations agreed for the CMS (in order to inform likelihood scoring);
  - b. maintenance of a record of the objectives or purpose, either explicit or inferred, for each CMM as agreed by the Commission against which to score the consequence of non-compliance;
  - c. preparation of a draft risk assessment for each obligation according to the RBAF scoring guidance; and
  - d. presentation of the draft risk assessment to the Technical and Compliance Committee (TCC).
62. The TCC will:

- a. utilise the draft risk assessment presented by the Secretariat to review, refine as considered appropriate and adopt a risk assessment for each obligation for submission to the Commission, and
  - b. using the risk assessment as a guide, agree to obligations to be included in the next annual CMS assessment for consideration and endorsement by the Commission.
63. The Commission will:
- a. review and adopt the risk assessment for each obligation submitted by TCC, and
  - b. review and adopt the obligations to be assessed in the next annual CMS.

## 4 Proposed RBAF

64. Based on the guidance provided by FFA members to the design questions above at the CMS workshop, a draft RBAF for the CMS for consideration by FFC is presented at **Appendix A**. The intent is that, once agreed by FFA members, this be used as a basis for a submission to the Commission for the adoption of a RBAF for the CMS.
65. An overview of the design and intent is included in the proposed RBAF, together with guidance for scoring likelihood, consequence and final risk ratings which should be self-explanatory.

## 5 Preliminary risk scoring and analysis

66. To provide FFA members an indication of the practical effect of the proposed RBAF and the implications for risk prioritisation, preliminary risk scores have been assigned to all individual obligations within CMMs currently in force (i.e. all of the current obligations which could be considered for inclusion in the CMS). These scores are outlined in **Appendix B**.
67. In total, 174 individual obligations were scored across 27 CMMs, plus scientific reporting obligations. Although they have been assessed in previous CMSs, higher level obligations in the Convention were not scored, nor were obligations which were either voluntary or simply 'encouraged' CCMs to take action.
68. Of the 27 CMMs considered, only six had explicit objective or purpose statements in the text. For those CMMs without clear objective statements, objectives were implied based on the preamble text and/or the measures in the CMM. Explicit or implied objectives are set out against each CMM in Appendix B. An important recommendation from this work is that proponents of all future CMMs should be required to incorporate an explicit statement of objectives or purposes (against which the success or otherwise of the measure can be assessed, and against which the consequence of non-compliance can be examined).
69. Of the 174 obligations assessed, 57 had never previously been assessed under the CMS and therefore had no compliance history to inform likelihood scoring. For these obligations, a preliminary likelihood score was assigned based on compliance history for similar obligations in the 2013-2020 period. FFA members may wish to review these scores prior to submission of any RBAF proposal to the WCPFC. For other obligations, compliance history under the CMS was used to inform likelihood scoring, consistent with the proposed RBAF.
70. While likelihood scoring is based on the outcomes of CMS assessments, **Members should note that consequence scoring should be considered preliminary**. Given the different types of obligations within CMMs, and the fact not all CMMs include an explicit objective statement, FFA members may need some discussion amongst themselves to reach consensus on final consequence scores. Nevertheless, the outcomes of the preliminary risk scoring provide some indication of the likely outcomes of the proposed RBAF.

71. Of the 174 obligations assessed, 16 (9%) were scored severe risk, 61 (35%) high risk, 70 (40%) moderate risk and 27 (16%) low risk (Figure 3). Amongst the obligations scored severe risk, seven were implementation obligations, four each were reporting and deadline obligations and one was a limit obligation. For reporting and deadline obligations rated severe, these tended to be where relatively high rates of historical non-compliance have been detected amongst CCMs through the CMS. Severe risk obligations were mainly grouped in the tropical tuna, observer-related, shark and transshipment CCMs.

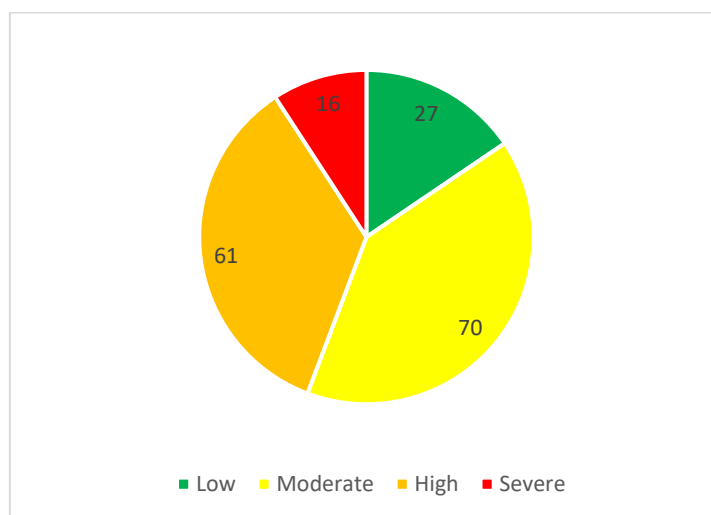
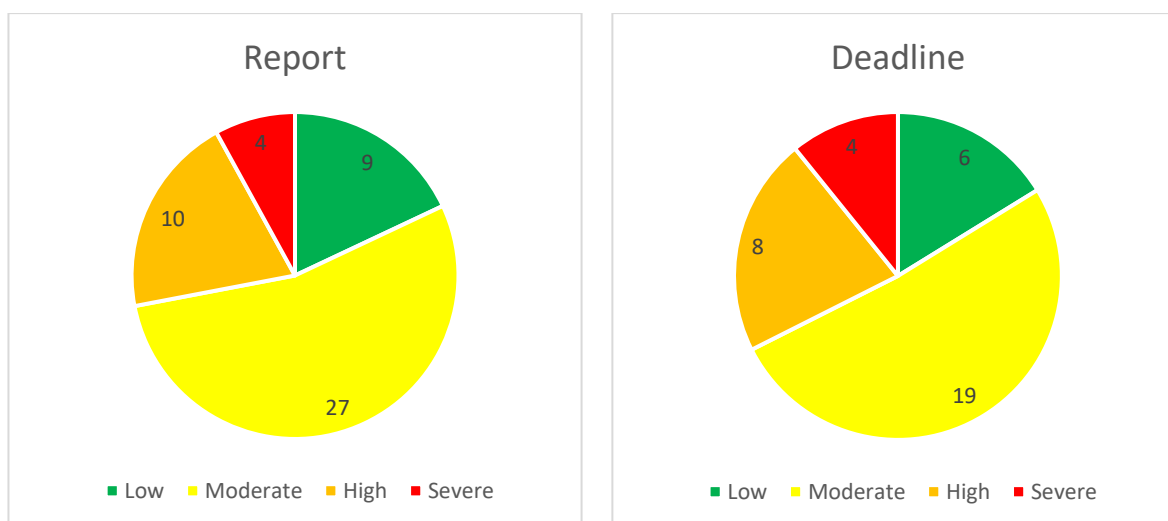


Figure 3: Proportion of different risk ratings amongst 174 obligations assigned a preliminary risk score.

72. Over half of the 61 obligations rated high risk were implementation obligations, with the remainder split roughly evenly across limit, reporting and deadline obligations. High risk obligations were broadly distributed amongst most CCMs. Of the 27 obligations scored low risk, obligation type was roughly evenly split between implementation, reporting and deadline obligations, with only two being limit obligations.
73. Amongst the different obligation types, the highest proportion of severe and high risks were in the implementation and limit obligations (Figure 4). For both of these obligation types, over half the obligations assessed were scored high or severe risk. Conversely, for the report and deadline obligations well over half the obligations were scored moderate or low risk.



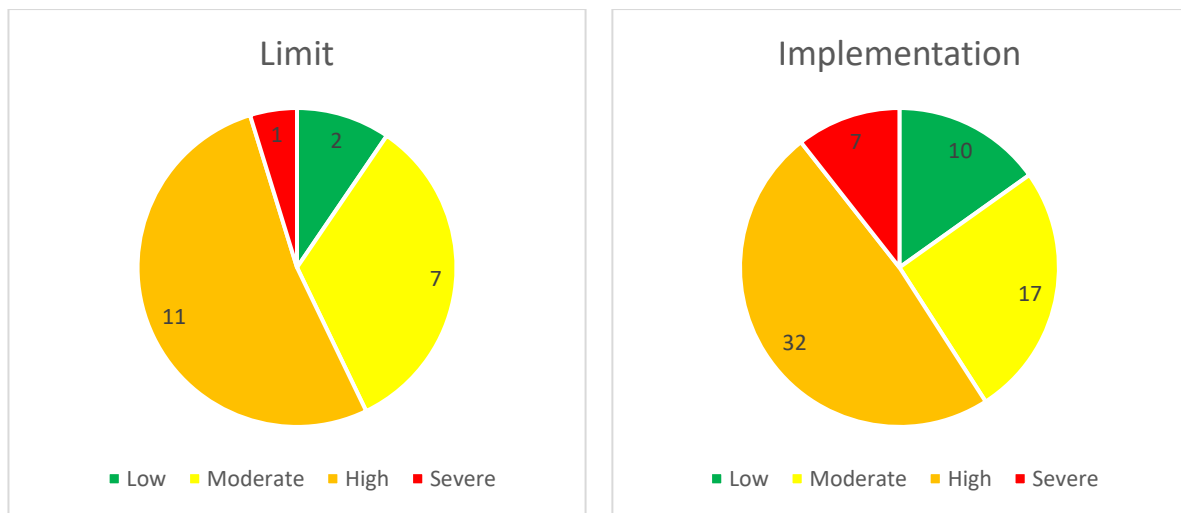


Figure 4: Distribution of preliminary risk ratings amongst the four different obligation types.

74. Of the 174 obligations assigned preliminary risk rankings here, 69 were selected for assessment in the 2021 CMS. Of these, nine were scored severe risk, 28 high risk, 21 moderate risk and 11 low risk. The seven obligations scored severe risk here but not included in the 2021 CMS included:
- one deadline obligation in the transshipment CMM,
  - two observer related obligations;
  - two oceanic whitetip/silky shark related obligations;
  - one deadline obligation in the charter vessel CMM; and
  - one deadline obligation in the tropical tuna CMM.
75. Assuming the figure of 69 obligations to be assessed under the 2021 CMS is somewhere near the maximum that FFA members would wish to have assessed from a resourcing point of view, it is worth noting that a blanket rule to assess all obligations rated severe or high risk annually would require increased resources (based on the preliminary risk ratings assigned here – i.e. there are more than 69 severe/high risks, so even without assessing any moderate/low risks more resources would be required). This lends additional weight to the outcomes of the FFA CMS workshop that the RBAF should serve as a guide to decision making (with the final configuration of the CMS taking into account resources available etc) rather than being a substitute for it.
76. While the preliminary risk rankings here are intended to serve as an indication of likely risk scores, there are a range of ways available to FFA members to ‘tweak’ both the scoring and the design to produce outcomes they feel are more reflective of the actual risk picture. In addition to revising likelihood scores for those obligations that haven’t been assessed and consequence scores (which have an unavoidable element of subjectivity given the different types obligations assessed), the ‘banding’ of likelihood categories (e.g. >1%, 1-5%, etc) could be revised with higher thresholds set. Similarly, for those CMMs without explicit objectives, alternate objectives to the ones presented here could be implied which may influence consequence scoring (given consequence is scored as the impact of non-compliance on achieving the objective of the CMM).

## Appendix A: Proposed Risk-Based Assessment Framework for the WCPFC Compliance Monitoring System (CMS)

| Risk-based Assessment Framework for the WCPFC Compliance Monitoring System |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Background and objectives                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                                                                         | The details of the Western and Central Pacific Fisheries Commission's (WCPFC) Compliance Monitoring System (CMS) are set out in Conservation and Management Measure (CMM) 2019-06. The objectives of the CMS are to: <ul style="list-style-type: none"> <li>a. <i>ensure that Members, Cooperating Non-Members and Participating Territories (CCMs) implement and comply with obligations arising under the Convention and conservation and management measures (CMMs) adopted by the Commission; and</i></li> <li>b. <i>assess flag CCM action in relation to alleged violations by its vessels, not to assess compliance by individual vessels.</i></li> </ul> |
| 2.                                                                         | Under the CMS, compliance by CCMs against a selection of obligations within CMMs are assessed annually in the context of objective (a) above. Obligations for inclusion in the CMS each year are agreed by CCMs, based on the individual interests and priorities of members as well as other considerations (e.g. resourcing).                                                                                                                                                                                                                                                                                                                                  |
| 3.                                                                         | The objective of the Risk-Based Assessment Framework (RBAF) is to assist members in prioritising obligations for inclusion in annual CMS assessments based on risk. Under the RBAF, obligations will be categorised according to the risk of non-compliance in achieving WCPFC objectives. All other things being equal, higher risk obligations could be expected to receive relatively greater attention under the CMS than lower risk obligations.                                                                                                                                                                                                            |
| 4.                                                                         | The outcomes of the RBAF are intended to serve as a guide to decision making, rather than a substitute for it. Measures included each year will ultimately be agreed by CCMs taking into account the outcomes of the RBAF, as well as other factors such as resourcing requirements and other priorities.                                                                                                                                                                                                                                                                                                                                                        |
| 5.                                                                         | Under the CMS framework, CCM compliance with obligations selected for inclusion in the CMS will be assessed against objective audit points agreed for each obligation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| RBAF Design                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 6.                                                                         | The RBAF is intended to be consistent with relevant international standards, including ISO 31000. Under ISO 31000, risk is typically expressed as a function of <i>likelihood</i> and <i>consequence</i> , where: <ul style="list-style-type: none"> <li>a. <i>likelihood is the chance of something happening; and</i></li> <li>b. <i>consequence is the outcome of an event affecting objectives.</i></li> </ul> <p>Broadly, events that are less likely to occur and have lower consequences are lower risk, and vice versa.</p>                                                                                                                              |

7. The risk being assessed under the RBAF is **the risk of non-compliance with an obligation in meeting WCPFC objectives**.
8. Risk will be assessed at the level of each individual obligation within each CMM. That is, the risk associated with non-compliance with each obligation within each CMM will be assessed for its impact on meeting WCPFC objectives.
9. Risk will be assessed across the WCPFC membership as a whole (rather than, for example, at the level of each CCM).
10. Risk assessments of the type envisaged by the RBAF do not easily lend themselves to quantitative approaches. To that end, the RBAF uses a qualitative approach to risk scoring.
11. Under the RBAF, the likelihood and consequences of non-compliance with each obligation will be scored independently using the scoring tables and guidance below. The product of likelihood and consequence scoring determines the final risk rating.

### Scoring likelihood

12. The likelihood of non-compliance with each obligation should be scored according to one of the five categories in Table 2.

*Table 2: Likelihood scoring categories.*

| Likelihood     | Description                                                                                                     |
|----------------|-----------------------------------------------------------------------------------------------------------------|
| Rare           | Experience indicates that non-compliance amongst CCMs is rare (<1% of CCMs in recent assessments)               |
| Unlikely       | Experience indicates that non-compliance amongst CCMs is unlikely (1-5% of CCMs in recent assessments)          |
| Moderate       | Experience indicates that non-compliance amongst CCMs is moderate (6-20% of CCMs in recent assessments)         |
| Likely         | Experience indicates that non-compliance amongst CCMs is likely (21-50% of CCMs in recent assessments)          |
| Almost certain | Experience indicates that non-compliance amongst CCMs is almost certain (51-100% of CCMs in recent assessments) |

13. The primary data used to score likelihood on non-compliance should be previous compliance history under the CMS.
14. Generally, likelihood scores should be guided by the average of the most recent 3-4 assessments. Where assessments have been inconsistent or sporadic over time, greater emphasis may be placed on more recent assessments.
15. Likelihood of non-compliance should be scored independent of how many CCMs the obligation applies to.
16. New obligations, or those which have not been previously assessed, should be scored according to the best available evidence (e.g. the history of compliance with similar obligations under the CMS).
17. Where limited information exists to score likelihood for an obligation, scoring should be precautionary.

### Scoring consequence

18. The consequence of non-compliance with each obligation should be scored according to one of the five consequence scoring categories in Table 3.

Table 3: Consequence scoring categories.

| Consequence   | Description                                                                                             |
|---------------|---------------------------------------------------------------------------------------------------------|
| Insignificant | The consequence of non-compliance presents minimal or no threat to the objective or purpose of the CMM. |
| Minor         | The consequence of non-compliance will have a minor impact on the objective or purpose of the CMM.      |
| Moderate      | The consequence of non-compliance may undermine the objective or purpose of the CMM.                    |
| Major         | The consequence of non-compliance will probably undermine the objective or purpose of the CMM.          |
| Serious       | The consequence of non-compliance will seriously undermine the objective or purpose of the CMM.         |

19. The consequence being assessed is the consequence of non-compliance on the objective of the CMM of which the obligation forms a part (i.e. for each obligation, what is the consequence of non-compliance for the objective of the CMM?).
20. Where no objective or purpose statement is specified in the CMM, one may be inferred based on the measures included and/or the language of the preamble.
21. Given the different types of obligations being assessed, consequence scoring may require discussion and agreement amongst members.

### Final risk ratings

22. Final risk ratings for each obligation will be assigned based on their likelihood and consequence scores according to the risk matrix in Table 4.

Table 4: Final risk matrix.

| Likelihood     | Consequence   |          |          |          |         |
|----------------|---------------|----------|----------|----------|---------|
|                | Insignificant | Minor    | Moderate | Major    | Serious |
| Rare           | Low           | Low      | Low      | Moderate | High    |
| Unlikely       | Low           | Low      | Moderate | High     | High    |
| Moderate       | Low           | Moderate | Moderate | High     | Severe  |
| Likely         | Moderate      | Moderate | High     | Severe   | Severe  |
| Almost certain | Moderate      | High     | Severe   | Severe   | Severe  |

### Roles and responsibilities

23. The WCPFC Secretariat will administer the RBAF. The Secretariat would be responsible for:
- maintenance of a record of the annual compliance assessment outcomes against obligations agreed for the CMS (in order to inform likelihood scoring);
  - maintenance of a record of the objectives or purpose, either explicit or inferred, for each CMM as agreed by the Commission against which to score the consequence of non-compliance;
  - preparation of a draft risk assessment for each obligation according to the RBAF scoring guidance; and
  - presentation of the draft risk assessment to the Technical and Compliance Committee (TCC).
24. The TCC will:
- utilise the draft risk assessment presented by the Secretariat to review, refine as considered appropriate and adopt a risk assessment for each obligation for submission to the Commission, and

- b. using the risk assessment as a guide, agree to obligations to be included in the next annual CMS assessment for consideration and endorsement by the Commission.

25. The Commission will:

- a. review and adopt the risk assessment for each obligation submitted by TCC, and
- b. review and adopt the obligations to be assessed in the next annual CMS.

## Appendix B: Draft risk assessment of existing obligations

| CMM                                 | CMM Para                                                                                                                                                                                                                                                                                                                                                                                                                               | Summary of obligation                                                          | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------|-----------|------------|-------------|----------|
| <b>Vessel marking</b>               | <b>Implied objective: To specify the markings of fishing vessels consistent with FAO Standards</b>                                                                                                                                                                                                                                                                                                                                     |                                                                                |             |           |            |             |          |
|                                     | 2004-03 02                                                                                                                                                                                                                                                                                                                                                                                                                             | Vessel markings                                                                | I           |           | 4          | Major       | High     |
|                                     | 2004-03 03                                                                                                                                                                                                                                                                                                                                                                                                                             | WIN                                                                            | I           |           | 4          | Major       | High     |
| <b>Striped marlin</b>               | <b>Implied objective: To prevent increases in fishing mortality on this stock until estimates of stock status are more certain</b>                                                                                                                                                                                                                                                                                                     |                                                                                |             |           |            |             |          |
|                                     | 2006-04 01                                                                                                                                                                                                                                                                                                                                                                                                                             | Limit vessels sth 15°S to any one year in 2000-2004                            | L           | ✓         | 0          | Major       | Moderate |
|                                     | 2006-04 04                                                                                                                                                                                                                                                                                                                                                                                                                             | Report on implementation of 01                                                 | R           | ✓         | 7          | Moderate    | Moderate |
| <b>HSBI</b>                         | <b>Objective: Boarding and inspection and related activities conducted pursuant to these procedures shall be for the purpose of ensuring compliance with the provisions of the Convention and conservation and management measures adopted by the Commission and in force</b>                                                                                                                                                          |                                                                                |             |           |            |             |          |
|                                     | 2006-08 07                                                                                                                                                                                                                                                                                                                                                                                                                             | Ensure vessels accept boarding and inspection                                  | I           |           | 1%         | Major       | High     |
|                                     | 2006-08 30                                                                                                                                                                                                                                                                                                                                                                                                                             | Inspectors to complete report on HSBI activity                                 | R           |           | 13%        | Moderate    | Moderate |
|                                     | 2006-08 30 (deadline)                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                | DL          |           | 5%         | Moderate    | Moderate |
|                                     | 2006-08 32                                                                                                                                                                                                                                                                                                                                                                                                                             | Inspectors to notify CCM authorities in event of serious violation             | R           |           | 0%         | Major       | Moderate |
|                                     | 2006-08 33 & 36                                                                                                                                                                                                                                                                                                                                                                                                                        | Receipt of notification and response                                           | R           |           | 0%         | Moderate    | Low      |
|                                     | 2006-08 33 & 36 (deadline)                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                | DL          |           | 17%        | Moderate    | Moderate |
|                                     | 2006-08 40                                                                                                                                                                                                                                                                                                                                                                                                                             | CPs to report annually on HSBI activities                                      | R           |           | 8%         | Moderate    | Moderate |
|                                     | 2006-08 40 (deadline)                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                | DL          |           | 8%         | Minor       | Moderate |
|                                     | 2006-08 41                                                                                                                                                                                                                                                                                                                                                                                                                             | Members to report on actions taken in response to HSBI                         | R           |           | 8%         | Moderate    | Moderate |
|                                     | 2006-08 41 (deadline)                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                | DL          |           | 17%        | Minor       | Moderate |
| <b>Use of large driftnets in HS</b> | <b>Implied objective: To prohibit the use of large scale drift nets in the WCPFC Convention area</b>                                                                                                                                                                                                                                                                                                                                   |                                                                                |             |           |            |             |          |
|                                     | 2008-04 02                                                                                                                                                                                                                                                                                                                                                                                                                             | CCMs take measures to prohibit use of driftnets by their vessels               | I           |           |            | Moderate    | Low      |
|                                     | 2008-04 05                                                                                                                                                                                                                                                                                                                                                                                                                             | Report on MCS actions in relation to driftnets in Part 2 report                | R           |           | 16%        | Moderate    | Moderate |
|                                     | 2008-04 05 (deadline)                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                | DL          |           | 10%        | Minor       | Moderate |
| <b>Swordfish</b>                    | <b>Implied objective: To ensure no increases in fishing mortality for south-central Pacific swordfish as a precautionary measure given the lack of a formal assessment and that constraining fishing mortality to current levels is recommended until there is a better understanding of fishing impacts in the south-central Pacific stock and the relationship between this stock and other south Pacific stocks is more certain</b> |                                                                                |             |           |            |             |          |
|                                     | 2009-03 01                                                                                                                                                                                                                                                                                                                                                                                                                             | Limit vessels targeting SWO sth of 20°S to # in any one year between 2000-2005 | L           | ✓         | 3          | Major       | High     |

| CMM                              | CMM Para                                                                                                                           | Summary of obligation                                                   | Oblig. type | 2021 CMS? | Likelihood | Consequence   | Risk     |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------|-----------|------------|---------------|----------|
|                                  | 2009-03 02                                                                                                                         | Limit catch of SWO sth 20°S to amount in any one year between 2000-2006 | L           | ✓         | 5          | Major         | High     |
|                                  | 2009-03 03                                                                                                                         | No shift in effort nth of 20°S                                          | L           | ✓         | 5          | Major         | High     |
|                                  | 2009-03 08                                                                                                                         | Report on catch and effort                                              | R           | ✓         | 3          | Moderate      | Moderate |
|                                  |                                                                                                                                    |                                                                         | DL          |           | 12         | Minor         | Moderate |
| <b>Data buoys</b>                | <b>Implied objective: To manage interactions between fishing vessels and data buoys in the WCPFC area</b>                          |                                                                         |             |           |            |               |          |
|                                  | CMM 2009-05 01                                                                                                                     | Prohibit fishing within 1nm of data buoys                               | I           |           |            | Insignificant | Low      |
|                                  | CMM 2009-05 03                                                                                                                     | Prohibit taking a data buoy on board                                    | I           |           |            | Insignificant | Low      |
|                                  | CMM 2009-05 05                                                                                                                     | Remove entangled gear                                                   | R           |           |            | Insignificant | Low      |
| <b>Transshipment</b>             | <b>Implied objective: To ensure effective management and monitoring of transshipment activity within the WCPFC Convention area</b> |                                                                         |             |           |            |               |          |
|                                  | 2009 -06 11                                                                                                                        | Report on all transshipment activities                                  | R           | ✓         | 23         | Major         | Severe   |
|                                  |                                                                                                                                    |                                                                         | DL          |           | 18         | Moderate      | Moderate |
|                                  | 2009-06 13                                                                                                                         | Requirement for observer for at sea transshipments                      | I           |           |            | Major         | High     |
|                                  | 2009 -06 29                                                                                                                        | Limit on PS transshipment outside of port                               | L           | ✓         | 0          | Major         | Moderate |
|                                  | 2009 -06 34                                                                                                                        | Ban on HS transshipment unless authorised                               | L           | ✓         | 17         | Major         | High     |
|                                  | 2009 -06 35 (a) (ii)                                                                                                               | Notification to Secretariat of vessels authorised to tranship on HS     | R           | ✓         | 11         | Major         | High     |
|                                  | 2009 -06 35 (a) (iii)                                                                                                              | HS Transshipment advance notification                                   | R           | ✓         | 42         | Major         | Severe   |
|                                  |                                                                                                                                    |                                                                         | DL          |           | 65         | Major         | Severe   |
|                                  | 2009 -06 35 (a) (iv)                                                                                                               | Completion of transshipment declaration                                 | R           | ✓         | 36         | Major         | Severe   |
|                                  |                                                                                                                                    |                                                                         | DL          |           | 60         | Minor         | High     |
|                                  | 2009 -06 35 (a) (v)                                                                                                                | Submit plan to WCPFC to encourage transshipment in port                 | R           |           |            | Moderate      | Moderate |
| <b>NP striped marlin</b>         | <b>Implied objective: To ensure the Nth Pacific stock of striped marlin remains within biologically-based limits</b>               |                                                                         |             |           |            |               |          |
|                                  | 2010-01 05                                                                                                                         | Limit catch to specified levels                                         | L           | ✓         | 6          | Major         | High     |
|                                  | 2010-01 08                                                                                                                         | Report on implementation of measure                                     | R           | ✓         | 5          | Moderate      | Moderate |
|                                  |                                                                                                                                    | Include report in Part 2 Report                                         | DL          |           | 14         | Minor         | Moderate |
| <b>Impact of PS on cetaceans</b> | <b>Implied objective: To limit the impact of purse seine fishing on cetaceans</b>                                                  |                                                                         |             |           |            |               |          |
|                                  | 2011-03 01                                                                                                                         | Prohibit PS vessels setting on cetaceans                                | L           |           | 0%         | Major         | Moderate |
|                                  | 2011-03 02                                                                                                                         | Ensure safe release and reporting                                       | I           |           |            | Moderate      | Moderate |
|                                  | 2011-03 03                                                                                                                         | Follow guidelines for safe release                                      | I           |           |            | Moderate      | Moderate |
|                                  | 2011-03 05                                                                                                                         | Report encirclements in Part 1 reports                                  | R           |           | 11%        | Moderate      | Moderate |
|                                  | 2011-03 05 (deadline)                                                                                                              |                                                                         | DL          |           | 29%        | Minor         | Moderate |
| <b>VMS</b>                       | <b>Implied objective: To provide for an effective system of satellite-based vessel monitoring for vessels on the RFV</b>           |                                                                         |             |           |            |               |          |

| CMM                       | CMM Para                                                                                                                                                                                                                                                                                                              | Summary of obligation                                              | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------|-----------|------------|-------------|----------|
| 2011-02 04 = 2014-02 04   | 2014-02 04                                                                                                                                                                                                                                                                                                            | Vessels nth 20°N, west 170°E keep ALC activated                    | I           |           | 1%         | Major       | High     |
| 2011-02 09a = 2014-02 09a | 2014-02 09a                                                                                                                                                                                                                                                                                                           | Vessel to comply with WCPFC VMS and ALC/MTU requirements           | I           | ✓         | 16%        | Major       | High     |
|                           | 2014-02 09a 2.8                                                                                                                                                                                                                                                                                                       | Provide VTAF data                                                  | I           | ✓         | 14%        | Major       | High     |
|                           | 2014-02 09a 5.4-5.5                                                                                                                                                                                                                                                                                                   |                                                                    | R           |           | 0%         | Moderate    | Low      |
|                           | 2014-02 09a 5.4-5.5 (deadline)                                                                                                                                                                                                                                                                                        |                                                                    | DL          |           | 0%         | Moderate    | Low      |
|                           | 2014-02 09a 7.2.2                                                                                                                                                                                                                                                                                                     | Periodic ALC/MTU audits                                            | I           | ✓         | 6%         | Moderate    | Low      |
|                           | 2014-02 09a 7.2.2 (deadline)                                                                                                                                                                                                                                                                                          |                                                                    | DL          |           | 13%        | Moderate    | Low      |
|                           | 2014-02 09a 7.2.4                                                                                                                                                                                                                                                                                                     |                                                                    | I           |           | 10%        | Moderate    | Low      |
|                           | 2014-02 09a 7.2.5                                                                                                                                                                                                                                                                                                     |                                                                    | I           |           | 0%         | Moderate    | Low      |
| <b>RFV SSPs</b>           | <b>Implied objective: To establish standards and specifications for the WCPFC RFV</b>                                                                                                                                                                                                                                 |                                                                    |             |           |            |             |          |
|                           | CMM 2014-03 02                                                                                                                                                                                                                                                                                                        | Submit complete vessel record data to the WCPFC Secretariat        |             |           |            | Major       | High     |
| <b>South Pacific ALB</b>  | <b>Implied objective: To ensure Commission Members, Cooperating Non-Members, and participating Territories (CCMs) do not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above 2005 levels or recent historical (2000-2004) levels.</b> |                                                                    |             |           |            |             |          |
|                           | 2015-02 01                                                                                                                                                                                                                                                                                                            | Limits vessels fishing for ALB sth 20°S                            | L           | ✓         | 5          | Major       | High     |
|                           | 2015-02 04                                                                                                                                                                                                                                                                                                            | Annual report on catch/vessels                                     | R           | ✓         | 3          | Moderate    | Moderate |
| <b>EHSP</b>               | <b>Implied objective: To establish special monitoring and management arrangements for the Eastern HSP SMA</b>                                                                                                                                                                                                         |                                                                    |             |           |            |             |          |
|                           | 2016 -02 06                                                                                                                                                                                                                                                                                                           | Prohibition of transshipment                                       | DL          | ✓         | 69         | Moderate    | Severe   |
| <b>Observer safety</b>    | <b>Implied objective: To ensure the safety of observers on fishing vessels in the WCPFC area, as well as effective responses to observer safety incidents</b>                                                                                                                                                         |                                                                    |             |           |            |             |          |
|                           | CMM 2017-03 03-06                                                                                                                                                                                                                                                                                                     | Responsibilities in event of observer incidents                    | I           |           |            | Major       | High     |
|                           | CMM 2017-03 07-08                                                                                                                                                                                                                                                                                                     | CCM responsibilities in event of observer assault, obstruction etc | I           |           |            | Major       | High     |
|                           | CMM 2017-03 09                                                                                                                                                                                                                                                                                                        | Port CCMs to facilitate entry for disembarkation                   | I           |           |            | Moderate    | Moderate |
|                           | CMM 2017-03 10                                                                                                                                                                                                                                                                                                        | Flag CCM responsibility to investigate incidents                   | R           |           |            | Major       | High     |
|                           | CMM 2017-03 11                                                                                                                                                                                                                                                                                                        | Obligation on observer CCMs to cooperate with investigations etc   | I           |           |            | Major       | High     |
|                           | CMM 2017-03 12                                                                                                                                                                                                                                                                                                        | Obligation to cooperate in SAR operations involving observers      | I           |           |            | Serious     | Severe   |
| <b>Marine pollution</b>   | <b>Implied objective: To limit, monitor and manage the impacts of marine pollution arising from authorised fishing vessels in the Convention area.</b>                                                                                                                                                                |                                                                    |             |           |            |             |          |
|                           | CMM 2017-04 01                                                                                                                                                                                                                                                                                                        |                                                                    | I           |           |            | Moderate    | Moderate |
|                           | CMM 2017-04 02                                                                                                                                                                                                                                                                                                        | No discharge of plastics (except fishing gear)                     | I           | ✓         |            | Major       | Severe   |
|                           | CMM 2017-04 03-07                                                                                                                                                                                                                                                                                                     |                                                                    | I           |           |            | Moderate    | Moderate |
|                           | CMM 2017-04 08                                                                                                                                                                                                                                                                                                        |                                                                    | I           |           |            | Moderate    | Moderate |

| CMM          | CMM Para                                                                                                                                                                                                                                                                                                   | Summary of obligation                                                                     | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------|-----------|------------|-------------|----------|
|              | 2017 -04 11                                                                                                                                                                                                                                                                                                |                                                                                           | I           |           |            | Moderate    | Moderate |
| Seabirds     | <b>Implied objective: The objective of this Conservation and Management Measure (CMM) is, through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation of seabirds</b>                                                    |                                                                                           |             |           |            |             |          |
|              | 2018-03 01                                                                                                                                                                                                                                                                                                 | Use of seabird bycatch mitigation measures sth 30°S                                       | I           | √         |            | Major       | High     |
|              | 2018-03 02                                                                                                                                                                                                                                                                                                 | Use of seabird bycatch mitigation measures 25-30°S                                        | I           | √         |            | Moderate    | Moderate |
|              | 2018-03 06                                                                                                                                                                                                                                                                                                 | Use of seabird bycatch mitigation measures nth 23°N                                       | I           | √         |            | Major       | High     |
|              | 2018-03 08                                                                                                                                                                                                                                                                                                 | Mitigation report south of 25S and north of 23N                                           | R           |           | 3%         | Moderate    | Moderate |
|              |                                                                                                                                                                                                                                                                                                            | Previously 2007-04 04                                                                     | DL          |           | 3%         | Minor       | Low      |
|              | 2018-03 13                                                                                                                                                                                                                                                                                                 | Report on seabird interactions (collected by observers)                                   | R           |           | 11%        | Moderate    | Moderate |
|              |                                                                                                                                                                                                                                                                                                            | Previously 2007-04 13                                                                     | DL          |           | 21%        | Minor       | Moderate |
|              | CMM 2018-03 (resolves 02)                                                                                                                                                                                                                                                                                  |                                                                                           |             |           |            |             |          |
| Sea Turtles  | <b>Implied objective: The objective of this Conservation and Management Measure (CMM) is, through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation of sea turtles.</b>                                                |                                                                                           |             |           |            |             |          |
|              | 2018-04 02                                                                                                                                                                                                                                                                                                 | Report on implementation in Part 2 report                                                 | R           |           | 8%         | Moderate    | Moderate |
|              |                                                                                                                                                                                                                                                                                                            | Previously 2008-03 02                                                                     | DL          |           | 9%         | Moderate    | Moderate |
|              | 2018 -04 05a                                                                                                                                                                                                                                                                                               | PS measures to mitigate capture/impact                                                    | I           | √         |            | Minor       | Moderate |
|              | 2019 -04 05c and 7e                                                                                                                                                                                                                                                                                        | Report interactions with sea turtles to CCM authorities/scientific data provided to WCPFC | R           |           |            | Moderate    | Moderate |
|              | 2018 -04 06                                                                                                                                                                                                                                                                                                | LL measures to limit impact (e.g. line cutters, de-hookers, dip nets)                     | I           | √         |            | Major       | High     |
|              | 2018 -04 07a                                                                                                                                                                                                                                                                                               | LL Measures to reduce capture (e.g. large circle hooks, finfish bait)                     | I           | √         | 7%         | Major       | High     |
|              |                                                                                                                                                                                                                                                                                                            | Previously 2008-03 07c                                                                    | DL          |           | 7%         | Moderate    | Moderate |
| ROP          | <b>Objective: The objectives of the Commission ROP shall be to collect verified catch data, other scientific data, and additional information related to the fishery from the Convention Area and to monitor the implementation of the conservation and management measures adopted by the Commission.</b> |                                                                                           |             |           |            |             |          |
|              | 2018 -05 10                                                                                                                                                                                                                                                                                                | Explain observer duties to captain                                                        | I           | √         | 1          | Major       | High     |
|              | 2018 -05 11                                                                                                                                                                                                                                                                                                | investigations under Art. 23 and 25                                                       | I           |           |            | Major       | High     |
|              | 2018 -05 15 (g)                                                                                                                                                                                                                                                                                            | Ensure vessel operators comply with Guidelines for vessels/crew                           | I           | √         | 7          | Serious     | High     |
|              | 2018 -05 Annex C 04                                                                                                                                                                                                                                                                                        | Existing sub-regional programmes and Commission data                                      | I           |           |            | Major       | High     |
|              | 2018 -05 Annex C 06                                                                                                                                                                                                                                                                                        | Minimum 5% coverage for non-PS fisheries                                                  | I           | √         | 39         | Major       | Severe   |
|              |                                                                                                                                                                                                                                                                                                            |                                                                                           | DL          |           | 16         | Major       | High     |
|              | 2018 -05 Annex C 08                                                                                                                                                                                                                                                                                        |                                                                                           | I           |           |            | Moderate    | Moderate |
| ROP N of 20N | <b>Implied objective: To provide a minimum level of observer coverage for vessels targeting fresh fish north of 20°N</b>                                                                                                                                                                                   |                                                                                           |             |           |            |             |          |

| CMM                      | CMM Para                                                                                                                                                                                                                                                          | Summary of obligation                                                                    | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------|-----------|------------|-------------|----------|
|                          | 2012-03 02                                                                                                                                                                                                                                                        | 5% observer coverage for fresh fish vessel nth 20°N                                      | I           |           |            | Major       | Severe   |
| <b>RFV</b>               | <b>Implied objective: To establish a list of vessels authorised to fish in the WCPFC Convention Area and establish processes for effective flag State control</b>                                                                                                 |                                                                                          |             |           |            |             |          |
|                          | CMM 2018-06 02                                                                                                                                                                                                                                                    | Transshipment/bunker/support only from authorised vessels                                | I           |           |            | Serious     | High     |
|                          | CMM 2018-06 03                                                                                                                                                                                                                                                    | Prohibit fishing beyond national jurisdiction without authorisation                      | I           |           |            | Serious     | High     |
|                          | CMM 2018-06 04                                                                                                                                                                                                                                                    | Permissions set out in authorisation                                                     | I           |           |            | Major       | High     |
|                          | CMM 2018-06 07                                                                                                                                                                                                                                                    | Notification of authorised vessels                                                       | R           |           |            | Major       | High     |
|                          | CMM 2018-06 09                                                                                                                                                                                                                                                    | Fished/'Did not fish' list                                                               | R           | √         | 1          | Minor       | Low      |
|                          |                                                                                                                                                                                                                                                                   |                                                                                          | DL          |           | 2          | Minor       | Low      |
|                          | CMM 2018-06 11                                                                                                                                                                                                                                                    | Extraordinary circumstances                                                              | R           |           |            | Minor       | Low      |
|                          | CMM 2018-06 16                                                                                                                                                                                                                                                    | CCM review                                                                               | R           |           |            | Moderate    | Moderate |
|                          | CMM 2018-06 17                                                                                                                                                                                                                                                    | CCMs to ensure authorised vessel placed on RFV                                           | I           |           |            | Major       | High     |
|                          | CMM 2018-06 18                                                                                                                                                                                                                                                    | Prohibit landing/transshipment by vessels not on RFV                                     | I           |           |            | Major       | High     |
| <b>North Pacific ALB</b> | <b>Implied objective: To ensure the total level of fishing effort for North Pacific albacore in the Convention Area north of the equator does not increase beyond current levels</b>                                                                              |                                                                                          |             |           |            |             |          |
|                          | 2019-03 02                                                                                                                                                                                                                                                        | Limit effort to 2002-04 levels                                                           | I           | √         | 3          | Major       | High     |
|                          | 2019-03 03                                                                                                                                                                                                                                                        | Catch and effort report for all ALB vessels nth of equator                               | R           | √         | 5          | Moderate    | Moderate |
|                          |                                                                                                                                                                                                                                                                   |                                                                                          | DL          |           | 11         | Minor       | Moderate |
| <b>Sharks</b>            | <b>Objective: The objective of this Conservation and Management Measure (CMM) is, through the application of the precautionary approach and an ecosystem approach to fisheries management, to ensure the long-term conservation and sustainable use of sharks</b> |                                                                                          |             |           |            |             |          |
|                          | CMM 2019-04 07-10                                                                                                                                                                                                                                                 | Shark finning measures                                                                   | I           |           |            | Major       | High     |
|                          | CMM 2019-04 11                                                                                                                                                                                                                                                    | Report on implementation of para 8 and 9                                                 | R           |           |            | Moderate    | Moderate |
|                          |                                                                                                                                                                                                                                                                   |                                                                                          | DL          |           |            | Minor       | Moderate |
|                          | CMM 2019-04 12                                                                                                                                                                                                                                                    | Measures to prevent retaining/transshipping/landing fins (was 2010-07 09 and 2011-04 01) | I           | √         | 7          | Major       | High     |
|                          | CMM 2019-04 13                                                                                                                                                                                                                                                    | Carcasses/fins landed/transhipped together                                               | I           |           |            | Major       | High     |
|                          | CMM 2019-04 14-15                                                                                                                                                                                                                                                 | No wire trace/shark lines                                                                | I           |           |            | Moderate    | Moderate |
|                          |                                                                                                                                                                                                                                                                   | Report on implementation by 31/3/21                                                      | R           |           |            | Moderate    | Moderate |
|                          | CMM 2019-04 16                                                                                                                                                                                                                                                    | Report on management plans for LL fisheries targeting sharks                             | I           |           |            | Moderate    | Moderate |
|                          |                                                                                                                                                                                                                                                                   |                                                                                          | DL          |           |            | Minor       | Moderate |
|                          | CMM 2019-04 18                                                                                                                                                                                                                                                    | Haul sharks alongside for species ID                                                     | I           |           |            | Moderate    | Moderate |
|                          | CMM 2019-04 20 (1)                                                                                                                                                                                                                                                | Prohibition on retaining oceanic whitetip and silky sharks                               | I           |           | 6          | Serious     | Severe   |
|                          | CMM 2019-04 20 (2)                                                                                                                                                                                                                                                | Requirement to release oceanic whitetip and silky sharks                                 |             |           |            | Serious     | Severe   |
|                          | CMM 2019-04 21                                                                                                                                                                                                                                                    | Whale sharks                                                                             | I           |           |            | Major       | High     |

| CMM                                | CMM Para                                                                                                                                                                                                                                                 | Summary of obligation                                       | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------|-----------|------------|-------------|----------|
|                                    | CMM 2019-04 23                                                                                                                                                                                                                                           | Report in implementation in Part 2 Reports (was 2010-07 12) | R           | ✓         | 8          | Moderate    | Moderate |
|                                    | 2019-04 16 and Annex 2 05                                                                                                                                                                                                                                | was 2014-05 01 and 02                                       | R           |           |            | Moderate    | Moderate |
|                                    |                                                                                                                                                                                                                                                          |                                                             | DL          |           |            | Moderate    | Moderate |
| Silky sharks                       | 2019-04 Annex 2 07                                                                                                                                                                                                                                       | 2011-04 03 and 2013-08 03                                   | R           |           | 9%         | Major       | High     |
| 2019-04                            |                                                                                                                                                                                                                                                          | 2013-08 03 (deadline)                                       | DL          |           | 11%        | Moderate    | Moderate |
| Protection of whale sharks from PS | 2012-04 01 = 2019-04                                                                                                                                                                                                                                     | 2019-04 21(1)                                               | L           |           | 0%         | Major       | Moderate |
| Mobulid rays                       | Implied objective: To minimise catches and maximise post-release survival of mobulid rays                                                                                                                                                                |                                                             |             |           |            |             |          |
|                                    | CMM 2019-05 03                                                                                                                                                                                                                                           | Prohibition of fishing on mobulid rays                      | I           |           |            | Major       | High     |
|                                    | CMM 2019-05 04-06, 08, 10                                                                                                                                                                                                                                | Requirements for non-retention, safe release                | I           |           |            | Moderate    | Moderate |
| Compliance Monitoring Scheme       | Objective: Ensure CCMs implement and comply with obligations arising under the Convention and CMMs                                                                                                                                                       |                                                             |             |           |            |             |          |
|                                    | CMM 2019-06 17                                                                                                                                                                                                                                           | Report progress on Capacity Development Plan                | R           |           |            | Moderate    | Moderate |
|                                    | CMM 2019-06 45                                                                                                                                                                                                                                           | Report in Part 2 report on actions taken on non-compliance  | R           |           |            | Major       | High     |
| Charter notifications              | Implied objective: To establish effective arrangement to manage the use of chartered vessels in the WCPFC area                                                                                                                                           |                                                             |             |           |            |             |          |
|                                    | 2019 -08 02                                                                                                                                                                                                                                              | Chartering CCM to notify WCPFC ED                           | R           | ✓         | 0          | Moderate    | Low      |
|                                    |                                                                                                                                                                                                                                                          |                                                             | DL          |           | 70         | Moderate    | Severe   |
|                                    | 2019 -08 03                                                                                                                                                                                                                                              | Notification of any modifications                           | R           | ✓         | 0          | Moderate    | Low      |
|                                    | 2019 -08 07                                                                                                                                                                                                                                              | Catch and effort reporting for chartered vessels            | R           | ✓         | 0          | Moderate    | Low      |
|                                    |                                                                                                                                                                                                                                                          |                                                             | DL          |           | 32         | Minor       | Moderate |
| TT CMM                             | Purpose: Pending the establishment of harvest strategies, and any implementing CMM, the purpose of this measure is to provide for a robust transitional management regime that ensures the sustainability of bigeye, skipjack, and yellowfin tuna stocks |                                                             |             |           |            |             |          |
|                                    | 2018-01 16                                                                                                                                                                                                                                               | PS 3-month FAD closure                                      | I           | ✓         | 16         | Major       | High     |
|                                    | 2018-01 17                                                                                                                                                                                                                                               | Additional 2-month HS FAD closure                           | I           | ✓         | 6          | Moderate    | Moderate |
|                                    |                                                                                                                                                                                                                                                          | Notification of which 2 months for FAD closure              | R           |           | 0          | Moderate    | Low      |
|                                    |                                                                                                                                                                                                                                                          | Notify WCPFC of months by 31/3/18                           | DL          |           | 31         | Moderate    | High     |
|                                    | 2018-01 23                                                                                                                                                                                                                                               | 350 FAD limit/vessel                                        | I           | ✓         | 0          | Major       | Moderate |
|                                    | 2018-01 25                                                                                                                                                                                                                                               | Zone-based purse seine effort control                       | L           | ✓         | 12         | Serious     | Severe   |
|                                    |                                                                                                                                                                                                                                                          | Notify limits to WCPFC by end 2018                          | DL          |           | 43         | Moderate    | High     |

| CMM                  | CMM Para                                                                                                                                                                                                                                                                                                               | Summary of obligation                                    | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------|-----------|------------|-------------|----------|
|                      | 2018-01 26                                                                                                                                                                                                                                                                                                             | High seas purse seine effort limits                      | L           | ✓         | 10         | Major       | High     |
|                      | 2018-01 27                                                                                                                                                                                                                                                                                                             | No effort transfer outside of 20°N/S                     | I           | ✓         | 0          | Minor       | Low      |
|                      | 2018-01 31                                                                                                                                                                                                                                                                                                             | BET/SKJ/YFT Catch retention                              | I           | ✓         | 0          | Moderate    | Low      |
|                      | 2018-01 33                                                                                                                                                                                                                                                                                                             | No manual reporting                                      | I           | ✓         | 0          | Moderate    | Low      |
|                      | 2018-01 34                                                                                                                                                                                                                                                                                                             | 100% PS observer coverage (HS, HS+)                      | I           | ✓         | 4          | Serious     | High     |
|                      | 2018-01 35                                                                                                                                                                                                                                                                                                             | 100% PS observer coverage (national only)                | I           | ✓         | 14         | Serious     | Severe   |
|                      | 2018-01 39                                                                                                                                                                                                                                                                                                             | LL BET limits                                            | L           | ✓         | 5          | Serious     | High     |
|                      | 2018-01 41                                                                                                                                                                                                                                                                                                             | BET Monthly catch reports                                | R           | ✓         | 13         | Major       | High     |
|                      |                                                                                                                                                                                                                                                                                                                        |                                                          | DL          |           | 49         | Moderate    | High     |
|                      | 2018-01 43                                                                                                                                                                                                                                                                                                             | 2,000t BET limit                                         | L           | ✓         | 0          | Major       | Moderate |
|                      | 2018-01 45                                                                                                                                                                                                                                                                                                             | PS capacity limits (vessels >24m)                        | L           | ✓         | 0          | Major       | Moderate |
|                      | 2018-01 47                                                                                                                                                                                                                                                                                                             | LL capacity limits for freezer vessels targeting BET     | L           | ✓         | 0          | Moderate    | Low      |
|                      | 2018-01 48                                                                                                                                                                                                                                                                                                             | LL capacity limits for ice-chilled vessels targeting BET | L           | ✓         | 0          | Moderate    | Low      |
|                      | 2018-01 51                                                                                                                                                                                                                                                                                                             | Catch limits on other fisheries                          | L           | ✓         | 17         | Moderate    | Moderate |
|                      | 2018-01 52                                                                                                                                                                                                                                                                                                             | Operational Level Catch and Effort Data (sth of 20°N)    | R           | ✓         | 4          | Major       | High     |
|                      | 2018-01 54                                                                                                                                                                                                                                                                                                             | 1X1 data for vessels nth of 20°N                         | R           | ✓         | 0          | Major       | Moderate |
|                      | 2018-01 Att 2 03                                                                                                                                                                                                                                                                                                       | Entry/exit reports for PH vessels in HSP1                | R           | ✓         | 43         | Moderate    | High     |
|                      |                                                                                                                                                                                                                                                                                                                        | 24hrs prior to entry/6hrs prior to exit                  | DL          |           | 71         | Moderate    | Severe   |
|                      | 2018-01 Att 2 05- 06                                                                                                                                                                                                                                                                                                   | 100% observer coverage for PH vessels in HSP1            | I           | ✓         | 0          | Major       | Moderate |
|                      | 2018-01 Att 2 08                                                                                                                                                                                                                                                                                                       | Monitor port landings by PH vessels from HSP1            | I           | ✓         | 0          | Moderate    | Low      |
| <b>PBT (2020-02)</b> | <b>Objective: This conservation and management measure has been prepared to implement the Harvest Strategy for Pacific Bluefin Tuna Fisheries (Harvest Strategy 2017-02), and the Northern Committee shall periodically review and recommend revisions to this measure as needed to implement the Harvest Strategy</b> |                                                          |             |           |            |             |          |
|                      | 2019-02 02 (1)                                                                                                                                                                                                                                                                                                         | Limit effort nth 20°N to 2002-04 average levels          | L           | ✓         | 0          | Serious     | High     |
|                      | 2019-02 02 (2)                                                                                                                                                                                                                                                                                                         | Reduce catches of <30kg PBT to 50% of 2002-04 levels     | L           | ✓         | 4          | Serious     | High     |
|                      | 2019-02 03                                                                                                                                                                                                                                                                                                             | No increase in catch of >30kg PBT on 2002-04 levels      | L           | ✓         | 0          | Serious     | High     |
|                      | 2019-02 05                                                                                                                                                                                                                                                                                                             | 3yr PBT catch records                                    | R           | ✓         | 0          | Major       | Moderate |
|                      |                                                                                                                                                                                                                                                                                                                        | Submit by 31 July each year                              | DL          |           | 20         | Moderate    | Moderate |
|                      | 2019-02 07                                                                                                                                                                                                                                                                                                             | Monitor juvenile PBT recruitment                         | I           |           |            | Major       | High     |
|                      | 2019-02 11                                                                                                                                                                                                                                                                                                             | Report on CMM implementation                             | R           | ✓         | 0          | Major       | Moderate |
|                      |                                                                                                                                                                                                                                                                                                                        | Submit by 31 July each year                              | DL          |           | 18         | Major       | High     |
| <b>SciData</b>       | <b>Implied objective: To ensure scientific data and information necessary to achieve the objectives of the WCPFC Convention is available to the Commission</b>                                                                                                                                                         |                                                          |             |           |            |             |          |
|                      | SciData01                                                                                                                                                                                                                                                                                                              | Annual Catch Estimates                                   | R           | ✓         | 4          | Moderate    | Moderate |
|                      |                                                                                                                                                                                                                                                                                                                        |                                                          | DL          |           | 2          | Minor       | Low      |

| CMM                                                                                                                                                                                                          | CMM Para  | Summary of obligation                   | Oblig. type | 2021 CMS? | Likelihood | Consequence | Risk     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------|-------------|-----------|------------|-------------|----------|
|                                                                                                                                                                                                              | SciData02 | Number of Active Vessels                | R           | √         | 2          | Moderate    | Moderate |
|                                                                                                                                                                                                              |           |                                         | DL          |           | 3          | Minor       | Low      |
|                                                                                                                                                                                                              | SciData03 | Operational Level Catch and Effort Data | R           | √         | 7          | Serious     | Severe   |
|                                                                                                                                                                                                              |           |                                         | DL          |           | 2          | Major       | High     |
|                                                                                                                                                                                                              | SciData05 | Size Composition Data                   | R           | √         | 10         | Major       | High     |
|                                                                                                                                                                                                              |           |                                         | DL          |           | 8          | Major       | High     |
| Notes:                                                                                                                                                                                                       |           |                                         |             |           |            |             |          |
| Implied objectives have been assigned where no explicit objective or purpose statement exists in the CMM                                                                                                     |           |                                         |             |           |            |             |          |
| Grey shaded cells under 'obligation type' have never been assessed under the CMS; for these obligations, a preliminary likelihood score has been assigned based on compliance history of similar obligations |           |                                         |             |           |            |             |          |
| Numerical figures in the likelihood scores represent the average level of non-compliance across all CMS assessments (2013 to 2020)                                                                           |           |                                         |             |           |            |             |          |