**CO-CHAIRS’ DRAFT CONCEPT PAPER[[1]](#footnote-2)**

**VMS SMALL WORKING GROUP (SWG) POTENTIAL RECOMMENDATIONS TO TCC16**

 26 May 2020

1. **Area of focus**

In accordance with the WCPFC16 decision, the VMS SWG is required to develop recommendations for TCC16’s consideration to “address VMS data gaps and improve the number of vessels reporting to the Commission VMS” (para 74, WCPFC16 Summary Report).

1. **WCPFC Secretariat Background Paper**

To assist the SWG’s work, the WCPFC Secretariat has kindly taken the time to prepare a useful VMS background paper. This paper provides a comprehensive overview of the:

* background on the Commission VMS;
* current status of associated IT tools for CCMs use when assessing WCPFC VMS data; and
* Secretariat’s current work activities to address VMS data gaps with the objective to improve the number of vessels reporting to the Commission VMS.

This paper, along with all other VMS SWG material, is available on the VMS SWG page on the WCPFC website ([www.wcpfc.int/2020\_vms-swg](http://www.wcpfc.int/2020_vms-swg)).

1. **VMS data gaps**

CCMs have raised the issue of VMS data gaps in numerous TCC and WCPFC meetings. Most recently, this issue was raised during TCC15[[2]](#footnote-3) and WCPFC16[[3]](#footnote-4), leading to the formation of this VMS SWG.

An example of VMS data gaps can be seen in the proportion of ‘fished’ vessels that were ‘VMS tracked’ as a percentage of the total number of ‘fished’ vessels for a given year[[4]](#footnote-5). On average, 83% of total vessels that reported as ‘fished’ were ‘VMS tracked’ during 2017 and 2018. These data gaps are experienced by numerous flag CCMs.

In 2017, 13 flag CCMs had one or more ‘fished’ vessels that were not able to be ‘VMS tracked’ by the Secretariat. This indicates that 54% of 24 flag CCMs had vessels that fished without being tracked in the Commission VMS in 2017. In 2018, the number of flag CCMs experiencing this form of data gap was even higher (16 flag CCMs), which is 67% of 24 flag CCMs.

There are four main categories of issues: technical, administrative, regulatory, and compliance monitoring & assessment (see Section 4 below) that our working group may consider in trying to address VMS data gaps.

1. **Suggested framework for analysis & recommendations**

To assist the SWG’s development of targeted recommendations to TCC16, the co-chairs propose the below four categories be used to frame potential solutions to VMS data gap issues. Although we note that it is likely that some issues/recommendations may span more than one category, we consider this approach may assist the SWG’s analysis.

1. **“Technical”**: Aspects / issues which may require new technical work by the Secretariat, CCMs and/or their technical service providers (e.g. software adjustments).
2. **“Regulatory”**: Changes that may be needed to WCPFC rules or regulations (e.g. CMM(s), rules, SOPs, SSPs, etc.).
3. **“Administrative”**: Changes to VMS administrative processes that may be needed either at the CCM or Secretariat (or their service providers) level.
4. **“VMS Compliance Monitoring & Assessment”**: Potential methods or approaches to improve CCMs’ ability to effectively monitor and assess VMS compliance.
5. **Issues and Options**

This concept paper outlines 3 key VMS data gap issues and corresponding options for addressing each. The co-chairs have sourced these issues from previous discussions and records from TCC and WCPFC[[5]](#footnote-6), including as part of the Compliance Monitoring Scheme (CMS). All of the identified key issues can potentially be addressed through one or more of the four categories of action areas outlined above (technical, regulatory, administrative, and compliance monitoring/assessment). SWG participants are asked to consider the 3 issues and the package of options proposed for addressing each.

**Issue 1**: **Disparity between CCM-held and Secretariat-held VMS data[[6]](#footnote-7)**.

**1)** **Background**:

These persistent gaps may be symptomatic of the difficulty and inefficiency Members and the Secretariat currently experience trying to manage vessels reporting separately to Members’ Fisheries Monitoring Centers (FMCs) as well as the Commission VMS. CCMs advise that vessel VMS reporting to Members’ FMCs is significantly more reliable than it is to the Commission VMS. This issue also negatively impacts the Secretariat’s cost-efficiency (manpower, satellite airtime[[7]](#footnote-8), Mobile Communications Service Provider (MCSP) contracts, etc.). It also impacts Members’ and the Secretariat’s ability to focus on higher risk, non-reporting vessels (vessels not reporting via any VMS), rather than administrative issues. Improving this issue would also assist to optimize Member and Secretariat resource allocation to higher-priority mission areas.

The below proposed option for addressing this issue contains three interrelated elements.

**2) Option for addressing this issue**: streamline, minimize, or eliminate “dual/separate-reporting”

1. **Regulatory**. Recommend that the Commission designate other organization(s) through which it may receive VMS information (e.g. CCM’s FMCs, their VMS software service providers, or their MCSP), similar to the way FFA VMS positions work currently. This recommendation is made in accordance with Article 24(8) of the Convention (highlighted below).

Convention text, Article 24:

“8. Each member of the Commission shall require its fishing vessels that fish for highly migratory fish stocks on the high seas in the Convention Area to use near real-time satellite position-fixing transmitters while in such areas. The standards, specifications and procedures for the use of such transmitters shall be established by the Commission, which shall operate a vessel monitoring system for all vessels that fish for highly migratory fish stocks on the high seas in the Convention Area. In establishing such standards, specifications and procedures, the Commission shall take into account the characteristics of traditional fishing vessels from developing States. The Commission, directly, and simultaneously with the flag State where the flag State so requires, or through such other organization designated by the Commission, shall receive information from the vessel monitoring system in accordance with the procedures adopted by the Commission. The procedures adopted by the Commission shall include appropriate measures to protect the confidentiality of information received through the vessel monitoring system. Any member of the Commission may request that waters under its national jurisdiction be included within the area covered by such vessel monitoring system.”

1. **Regulatory**. Recommend that the Commission adopt procedures to guide the Commission’s receipt of VMS information (as per Article 24(8)). This would require various amendments to existing documents and provisions (CMM 2014-02, VMS SSPs and VMS SOPs).

For example, it would require an amendment to CMM 2014-02, para 7a, to allow the Commission VMS to receive VMS information through other organizations (e.g. CCM’s FMCs, their VMS software service providers, or their MCSP) in addition to the FFA VMS.

CMM 2014-02 text, Para 7a:

“7. Nature and specification of the Commission VMS

1. The Commission VMS shall be a stand-alone system:

• developed in and administered by the Secretariat of WCPFC under the guidance of the Commission, which receives data directly from fishing vessels operating on the high seas in the Convention Area; and

• with the added capability that it can accept VMS data forwarded from the FFA VMS and [#], so that the fishing vessels operating on the high seas in the Convention Area will have the option to report data via the FFA VMS [or #].”

1. **Regulatory / Technical**. If agreement (as per 2a and b above) for the Commission to receive VMS information through other organizations (e.g., CCM’s FMCs, their VMS software service providers, or their MCSP), consider developing an audit/approval process. The initial approval process could be similar to the current approval process[[8]](#footnote-9) for new ALC types to be approved for use in the Commission VMS whereby Members provide detailed technical specifications and the Secretariat confirms test results showing that VMS data is securely, efficiently, reliably and effectively routed to the Commission VMS from the ALC type the Member is nominating. This is also similar to how FFA VMS data is automatically and reliably replicated to the WCPFC VMS by its service provider under a “Service Level Agreement” (SLA). In the case of CCMs seeking Commission approval for the Commission to receive their vessels’ VMS information through other organizations, the CCM could be required to provide the Commission details of their proposal sufficient that the Commission may consider and approve their request. This could include results, verified by the Secretariat, of tests[[9]](#footnote-10) by the relevant technical service providers demonstrating reliable, secure compatibility and performance[[10]](#footnote-11), as well as explicit assurances from the CCM that the designated organization will accept and facilitate subsequent data integrity and security audits, as may be required by the Commission. The audit process could perhaps likewise be similar to the analysis and report on ALC performance included in the Secretariat’s VMS Annual Report and/or included for review as part of the WCPFC annual VMS security audit[[11]](#footnote-12). If so, additional edits in the applicable WCPFC documents (e.g., VMS SSPs) will be necessary.

**Issue 2**: **Data gaps relating to delays associated with establishing manual reporting[[12]](#footnote-13)**

**1)** **Background**:

Members and the Secretariat currently experience difficulty and inefficiency trying to monitor and manage situations where the Secretariat does not receive expected VMS position reports. Two main reasons for this include:

**Situation 1**: technical or communication errors which prevent the Secretariat from receiving vessels’ position despite vessels continuing to reliably report to their FMC; or

**Situation 2**: ALC failure at sea.

Current requirements for manual reporting can apply in both of the above situations, but to accommodate Situation 1, there is considerable flexibility and variability in the existing requirements (and their application) for when manual reporting is triggered.

Currently, flag State direction to the relevant vessel Master to begin manual reporting can be significantly delayed due to ambiguity regarding whether Situation 1 or Situation 2 causes the data gap. The delay continues until the ‘Secretariat has exhausted all reasonable steps to re-establish’ the feed[[13]](#footnote-14), noting that this determination is also inherently subjective.

Additionally, there is currently no “middle ground” alternative between a flag State ordering a vessel to immediately return to port, and ordering a vessel to begin manual reporting. Consequently, when a vessel’s ALC fails at sea, a significant amount of position reports can be lost.

Many vessels already have hardware on board[[14]](#footnote-15) that could automatically provide temporarily-acceptable (i.e. “better than nothing”) position reports in the event of at-sea ALC failure, until the vessel returns to port for VMS repair/replacement. Allowing those vessels to temporarily automatically report by other means may erase many of the current manual-reporting data gaps. This would not remove any existing requirements on flag States or the Secretariat to resolve any VMS reporting failures. Instead, it seeks to fill current VMS data gaps while those steps are being taken.

Successfully addressing the “Issue 1 data gaps” (disparity between CCM-held VMS data and Secretariat-held VMS data), may consequently serve to streamline Secretariat-CCM troubleshooting analysis in Situation 1 and Situation 2. Instead of two separate organizations (CCM and Secretariat) struggling to analyze separate position reports communicated independently by separate pathways to separate entities, CCMs and the Secretariat could focus analysis on a single linear pathway. This could reasonably be completed much more quickly than the current process.

But since the SWG will not know whether the Commission will adopt its “Issue 1” recommendation(s) before its meeting in December, the co-chairs recommend possible amendments to Section 5, paragraphs 4 and 5 of the VMS SSPs that reflect either agreement to the "Issue 1" recommendations (see Option 1 below) or disagreement to the "Issue 1" recommendations (Option 2 below).

Option 3, is a technical/administrative stand-alone option that is not reliant on Option 1 or 2.

**2) Options for addressing this issue**:

The co-chairs are proposing the below general options for the SWG’s consideration. Note that there will be follow-on **regulatory**, **technical** and **administrative** actions needed to implement the below options (e.g. amendments to CMM 2014-02, SSPs, SOPs, technical integration of other position reports from ‘other automated means”, etc.). These are not outlined in detail and can be assessed at a later date depending on the SWG’s discussions.

**Option 1**

***Proposed amendments to manual reporting requirements (if proposed option to designate other organizations to receive VMS information is agreed)***

**Regulatory/Technical.** Recommend that the Commission adopt procedures to decrease manual-reporting data gaps. This would require various amendments to existing documents and provisions (e.g. CMM 2014-02, VMS SSPs and VMS SOPs).

For example, it would require an amendment to Section 5, paragraphs 4 and 5 of the VMS SSPs, to account for streamlined Secretariat-CCM troubleshooting analysis. Suggested edits include:

(from Section 5 of the VMS SSPs)

“4. In the event of non-reception of two consecutive, programmed high seas VMS positions, ~~and where the Secretariat has exhausted all reasonable steps3 to re-establish normal automatic reception of VMS positions the Secretariat will notify~~ the flag State CCM ~~who~~ shall ~~then~~ direct the vessel Master to begin manual reporting or begin temporarily reporting positions to the Commission via other automated means[[15]](#footnote-16). During this period, if not reporting positions to the Commission via other automated means, the vessel shall be required to report its position manually to the Secretariat every 6 hours. If automatic reporting to the Commission VMS has not been re-established within 30 days of the commencement of manual reporting the flag state CCM shall order the vessel to cease fishing, stow all fishing gear and return immediately to port. The vessel may recommence fishing on the high seas only when the ALC/MTU has been confirmed as operational by the Secretariat following the flag State CCM informing the Secretariat that the vessel’s automatic reporting complies with the regulations established in this SSP.”

(Note: footnote 3 from this paragraph is also deleted)

**Option 2 (alternative to Option 1)**

***Proposed amendment to manual reporting requirements (if proposed option to designate other organizations to receive VMS information is not agreed)***

**Regulatory/Technical.** Same as Option 1 above, but add text along the lines of the following:

“4. In the event of non-reception of two consecutive, programmed high seas VMS positions, and where the Secretariat has exhausted all reasonable steps3 to re-establish normal automatic reception of VMS positions the Secretariat will notify the flag State CCM who shall then direct the vessel Master to begin manual reporting or begin temporarily reporting positions to the Commission via other automated means[[16]](#footnote-17).During this period, if not reporting positions to the Commission via other automated means, or if the Commission is not receiving automatically forwarded position reports from the vessel’s FMC, the vessel shall be required to report its position manually to the Secretariat every 6 hours.”

**Option 3 (stand-alone option i.e. not reliant on Option 1 or 2)**

Separate to Options 1 and 2 above, the below recommendation is proposed to address VMS data gaps arising from manual reporting:

**Technical / Administrative**. Consider whether automating ingestion by the Commission VMS of manual reports transmitted by email is feasible[[17]](#footnote-18), and if so, whether it may be beneficial (including cost-benefit analysis).

**Issue 3**: **Compliance review of VMS (particularly data gaps)**.

**1)** **Background**: Members and the Secretariat spend valuable time and effort, both before and at TCC, during the preparation and review of the Compliance Monitoring Report to “account” for VMS data gaps at the vessel-level. This impacts TCC’s ability to effectively assess CCM compliance with VMS obligations and also takes away time and resources from higher-level compliance oversight. Can the “accounting” be automated and therefore facilitate more effective compliance monitoring and assessment within the CMS?

The below proposed option for addressing this issue contains two related components.

**2) Option for addressing this issue**:

1. **Administrative / VMS Compliance Monitoring & Assessment**. Initially, familiarize CCMs with the Secretariat’s new “VMS Reporting Status Tool” (VRST), which is an automated web-accessible report that could be useful as a platform to facilitate timely, efficient communications / coordination between the Secretariat and the flag States. If / when feasible, operationalize and utilize the VRST to assist ongoing flag State monitoring of their vessels (rather than once/year as part of the Compliance Monitoring Report). See paragraphs 9 to 11 of the WCPFC Secretariat Background Paper for progress update of the Secretariat delivery of this reporting functionality.
2. **Technical / VMS Compliance Monitoring & Assessment**. Consider how the above tool can be used to help the flag States and Secretariat (ideally, automatically) focus on vessels:
	1. not reporting in the WCPFC VMS for 24 hours;
	2. with ALC failure at sea on the high seas in the Convention Area;
	3. whose last position report was not in port;
	4. other criteria that may be developed.[[18]](#footnote-19)
3. **Timeline for SWG work**

Based on the WCPFC16 decision (para 74, WCPFC16 Summary Report) and associated TCC15 recommendation (para 211, TCC15 Summary Report), the VMS SWG shall provide specific recommendations to TCC16 for its consideration.

Due to the busy annual meeting schedule already in place, coupled with the current uncertainty regarding international travel restrictions caused by COVID-19, the co-chairs propose to conduct the SWG electronically.

Where possible, the co-chairs are available to consult with interested SWG participants/CCMs in the margin of existing meetings (e.g. SC or NC). However, this will depend on attendance and also travel restrictions that may be in place.

Therefore, the below timetable is proposed for remote/electronic work in 2020 to progress the VMS SWG:

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| --- | --- |
| **Date** | **Description** |
| 23 March 2020 | Co-chairs distribute VMS SWG Concept Paper to SWG participants for comment |
| 17 April 2020 | Deadline for SWG participants’ comments on Concept Paper (i.e. 4 week period for review/comment) |
| 26 May 2020 | Co-chairs distribute revised Concept Paper based on comments and feedback from SWG participants, with a view towards moving the discussion to potential recommendations. |
| 24 June 2020 | Deadline for SWG participants’ comments on revised Concept Paper |
| 22 July 2020 | Co-chairs to distribute draft paper containing potential recommendations to include in a report to TCC16.  |
| 7 August 2020 | Deadline for SWG comments on draft paper / report to TCC16. |
| 2 September 2020 | Co-chairs submit VMS SWG report to TCC16 containing outputs and recommendations.  |
| 23-29 September 2020 | **TCC16 Meeting** (consideration of VMS SWG recommendations) |

1. Version 2, attempting to reconcile SWG members’ inputs. [↑](#footnote-ref-2)
2. For example, see TCC15 Annual Report on the Commission VMS, para 23 and 29; TCC15 Meeting Report, paras 34, 35, 204 to 211. [↑](#footnote-ref-3)
3. Draft WCPFC16 Summary Report, as of 18 Feb 2020, paras 535 and 536. [↑](#footnote-ref-4)
4. Aggregated data sourced from WCPFC Secretariat regarding ‘VMS tracked’ status for ‘fished’ vessels during 2017 and 2018 reporting years. Note: “Fished” should be interpreted in accordance with CMM 2017-05 para 9 “whether each vessel fished for highly migratory fish stocks in the Convention Area beyond its area of national jurisdiction”. “VMS Tracked count” provides an indication that there was at least one VMS position that was reported WCPFC VMS from a MTU associated with a vessel in the calendar year, when in waters covered by the Commission VMS. [↑](#footnote-ref-5)
5. See references contained in footnotes 1 and 2 above. [↑](#footnote-ref-6)
6. The disparity between the number of position reports received from a Member’s vessels by the Commission VMS and the number of position reports received from these vessels by a Member’s FMC. [↑](#footnote-ref-7)
7. Approximately $US 200,000/year (from most recently approved budget). [↑](#footnote-ref-8)
8. WCPFC VMS SSPs, section 2, paragraph 7, [↑](#footnote-ref-9)
9. It is anticipated that the short-term cost to the Commission of set-up and testing by their VMS service provider would be more than offset by the long-term savings in airtime for approved CCMs. Any cost for work by the nominating CCM’s service provider would be the responsibility of the nominating CCM. [↑](#footnote-ref-10)
10. FFA’s established standards, in this regard, may be a useful guide for nominating CCMs [↑](#footnote-ref-11)
11. Required Report RP-09, “Review of Secretariat's VMS data and Secretariats review of integrity of IMS and RFV” [↑](#footnote-ref-12)
12. Position reports that are missing in the Commission VMS from the time an ALC initially stops reporting in the Commission VMS, until the time the vessel’s ALC resumes reporting in the Commission VMS. [↑](#footnote-ref-13)
13. Paragraph 4, Section 5, VMS SSPs. [↑](#footnote-ref-14)
14. For example, AIS transmitters and/or additional/back-up ALC. [↑](#footnote-ref-15)
15. e.g., AIS transmitters, or other system that may be approved by the Commission for temporary use during this specific period of time for this specific purpose. [↑](#footnote-ref-16)
16. e.g., AIS transmitters, or other system that may be approved by the Commission for temporary use during this specific period of time for this specific purpose. [↑](#footnote-ref-17)
17. The co-chairs acknowledge that Section 3.2 of VMS SOPs states that the Commission VMS does not currently have a capability to do this. [↑](#footnote-ref-18)
18. Note, these are key assessment criteria used by the Secretariat as part of the Compliance Monitoring Report review. [↑](#footnote-ref-19)