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Annual Report on the Commission Vessel Monitoring System (VMS)

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Purpose

1. The purpose of this paper is to present the Annual Report on the Commission Vessel Monitoring System (VMS) for the consideration of TCC20.

2. The stated purpose of the Commission VMS is:

> *"to cost effectively monitor the activities of fishing vessels authorized by flag States to fish for highly migratory fish species in the Convention Area in areas beyond jurisdiction of the Flag State. Data collected by the Commission VMS will be securely stored and used by the Commission and its Members, Cooperating Non-Members, and Participating Territories (CCMs) to achieve compliance with Conservation and Management Measures (CMMs), fisheries scientific analysis and sound fisheries management decision-making in the Convention Area."* [1]

Background and Overview

3. The Annual Report on the Commission VMS was prepared in accordance with the WCPFC VMS Standards, Specifications and Procedures (SSPs) requirements paragraphs 7.3.9 and 7.3.10. This report also provides updates in response to the WCPFC18 task that the Secretariat provide further information in the VMS Annual Report on the status of implementing VMS SWG recommendations.

4. Article 24(8) of the Convention obliges each Member of the Commission to require its fishing vessels that fish for highly migratory stocks on the high seas of the Convention Area to use an Automatic Location Communicator (ALC) or Mobile Transmitting Unit (MTU) which meets agreed SSPs, while in these areas. To implement this requirement, the Commission has adopted CMM 2014-02 Conservation and Management Measure for the Commission Vessel Monitoring System, a set of SSPs which were initially approved in 2008 (WCPFC5) and that were most recently modified in 2021 (WCPFC18), and an updated set of Standard Operating Procedures (SOPs) which were approved in 2021 (WCPFC18). Additionally, in 2012 (WCPFC9) the Commission adopted a Statement describing Purpose and Principles of the WCPFC VMS.

5. As a standing and mandatory requirement in the WCPO, all fishing vessels that fish for highly migratory fish stocks beyond their national waters in the WCPFC Convention Area are required to carry a fully operational MTU or ALC which sends information to communication satellites. The MTU and ALC must comply with the full range of minimum standards set out in Annex 1 of CMM 2014-02. There are around 3,300 vessels that are considered active on the Record of Fishing Vessels (RFV), and approximately 57-60% are activated to report to the Commission VMS (see total number of vessels by reporting type in Figure 1, and by vessel type in Table 1). In 2024, the Commission's core budget included funding for the Commission VMS in the order of $434,527.[2]

6. The Commission VMS primarily covers high seas waters in the Convention Area. The Commission at WCPFC9 in 2012 agreed to the "Flick the Switch" decision, which facilitates the application of the Commission VMS solely to waters under the jurisdiction of Members, and to complement

[1] Statement describing Purpose and Principles of the WCPFC VMS.

[2] VMS Capital costs $20,000, VMS Service Level Agreement with FFA $200,000, and VMS Airtime Costs $214,527.

and support Members' own national VMS arrangements. Since 2012, 16 CCMs have provided letters of notification for the Commission VMS to cover their EEZs for the list of CCMs.[3]

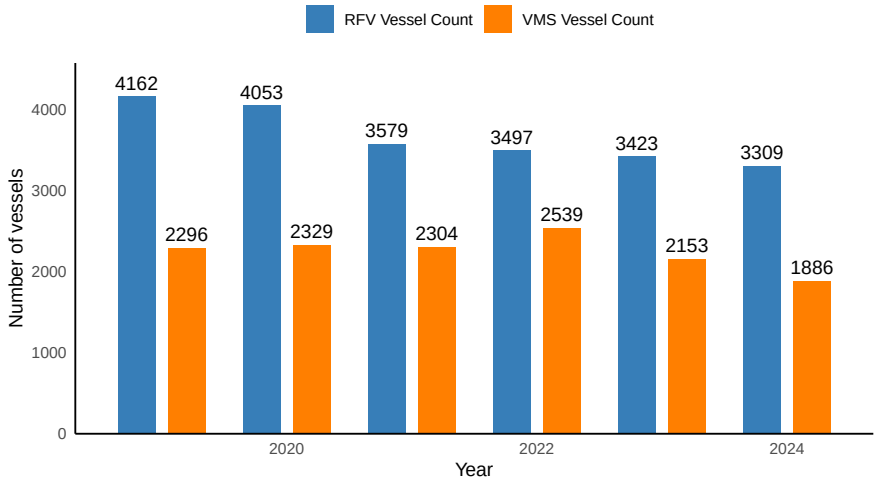

Figure 1: Total number of "Active" vessels on RFV (authorised to fish in the Convention Area) compared with total number of vessels reporting to the Commission VMS in the Convention Area.

Table 1: Count of vessels on the RFV by vessel type that reported directly to the Commission VMS or through the FFA VMS. Data are for the period from 2022 to 2024, as of 15 August 2024.

Vessel Type	2022		2023		2024	
	Direct	FFA	Direct	FFA	Direct	FFA
Bunker	74	34	15	32	7	30
Fish carrier	373	131	196	129	159	125
Longliner	1 719	533	1 211	538	1 018	446
Others	97		183		48	
Pole and line	63	23	45	21	43	20
Purse seiner	283	254	89	254	49	243
Support vessel	221	1	107	1	101	2
Total	2 830	976	1 846	975	1 425	866

7. Paragraph 7.3.3 of the SSPs requires, in part, the Secretariat to develop and manage a service level agreement (SLA) with the FFA for provision of VMS services. This SLA was signed by the Secretariats of the WCPFC and FFA in early December 2008, and the Pacific VMS became operational in April 2009. The Pacific VMS ensures that the FFA VMS and Commission VMS operate as two separate and distinct entities to protect the integrity of WCPFC VMS data. Since 30 June 2016, the service provider to the Pacific VMS has been TrackWell. The Secretariat presently has no matters of note to raise for TCC's attention with respect to the SLA with the FFA.

[3]The list of CCMs who have the Commission VMS covering their EEZs is provided at this page on the WCPFC website:https://www.wcpfc.int/vessel-monitoring-system.

Commission VMS database

8. Paragraph 2.8 of the SSPs requires the Secretariat to administer a Commission VMS database. It states that:

> *"For each fishing vessel required to report to the Commission VMS the flag CCM will submit all necessary data to complete its data file in the Commission's VMS database. This data will include the name of the vessel, unique vessel identification number (UVI), radio call sign, length, gross registered tonnage, power of engine expressed in kilowatts/horsepower, types of fishing gear(s) used as well as the make, model, unique network identifier (user ID) and equipment identifier (manufacturer's serial number) of the ALC that vessel will be using to fulfil its Commission VMS reporting requirements."*

9. As of 15 August 2024, there were almost 1,900 vessels reporting to the Commission VMS (see total number of vessels by reporting type in Figure 1, and by vessel type in Table 1).

10. The approved structure of the Commission VMS system allows vessels to report to the WCPFC in two ways:

    a) to the WCPFC through the FFA VMS, or

    b) directly to the Commission VMS.

11. As of 15 August 2024, the majority of vessels were activated to report directly to the Commission VMS, and nearly 900 vessels, mostly comprised of purse seine vessels, longliner vessels, bunker vessels, and carrier vessels reported through the FFA VMS (see Table 1 for annual counts of vessels reporting through the FFA VMS and reporting directly to the Commission VMS for the period between 2022 and 2024 (as of 15 August 2024) by vessel type).

12. In practice, there are many vessels that regularly report to the Commission VMS via the FFA VMS, and there are also many vessels that are activated to directly report to the Commission VMS. There are also some vessels that during the year may shift in how they report to the Commission VMS through the year, and so for this reason the annual total counts in Table 1 will not exactly match the annual VMS Vessel Count totals shown in Figure 1.

13. The Pacific VMS facilitates the transfer of FFA VMS data into the Commission VMS. Since early 2020, the FFA Secretariat has enabled an application programming interface (API) technical solution so that the WCPFC Secretariat has automated access to the current list of FFA Good Standing vessels for cross-checking purposes and for use in current WCPFC online tools.

14. Currently, the Pacific VMS specifications transfer FFA VMS data into the Commission VMS for the high seas waters of the Convention Area, including the overlap area between WCPFC and IATTC, and for the CCMs EEZ waters covered by the Commission VMS. Currently, FFA VMS data are not transferred to the Commission VMS when vessels are operating in the IATTC Convention Area. This non-transfer is an identified monitoring gap that limits the Secretariats ability to use WCPFC VMS data for monitoring and verifying reports of at-sea transhipments of WCPFC-caught fish when they occur in the IATTC Convention Area.

15. To facilitate the submission of necessary vessel tracking data for each fishing vessel required to report directly to the Commission, the Secretariat has introduced online registration of MTUs through the upgraded Record of Fishing Vessels (RFV) online system (https://vessels.wcpfc.int/).

The vessel system facilitates the submission from CCMs of MTU activation information, so CCMs do not need to additionally complete the Vessel Tracking Agreement Forms (VTAF)(see Figure 2 for annual counts of MTU activations by vessels directly reporting to the Commission VMS compared with vessels reporting through the FFA VMS). TCC20 Working Paper 22 presents some routine updates to the VMS SOPs, which include changes that confirm the VTAF form is no longer required.

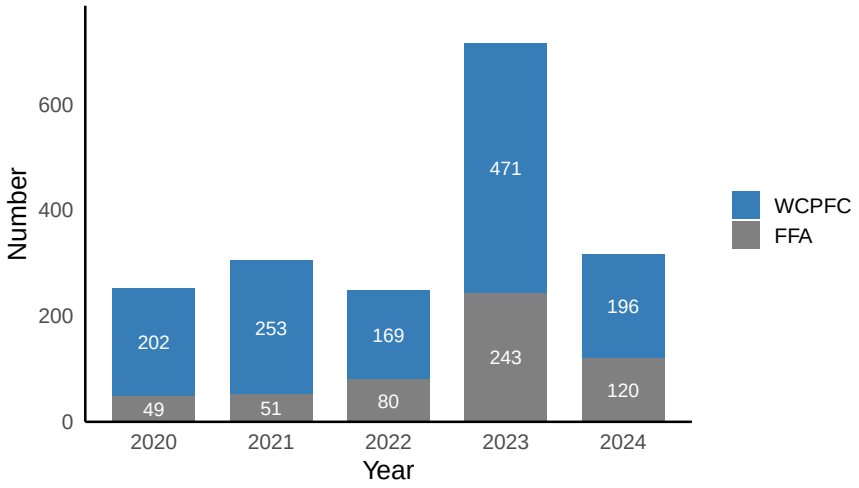

Figure 2: MTU activations for vessels reporting directly to the Commission VMS (WCPFC) or through the FFA VMS. Data are for the period between 2020 2024 (as of 27 August 2024) by vessel type.

WCPFC Approved MTUs/ALCs and Gateways for VMS Reporting

16. The complete list of approved MTUs, as of 1 February 2024, is appended to this report in Appendix A, Table A-1. The updated list of Approved MTUs/ALCs for 2024 reflects the following updates:

    a) as of 1 January 2024, the expiry of the limited extension which the Commission granted to the Philippines to replace Argos MTUs (FVT, MAR GE, MAR GE V2, and MAR GE V3) on support vessels that are operating in High Seas Pocket 1;

    b) the Commission decision at WCPFC20 (December 2023), to approve the Philippines' request to include SRT VMS-100Si on the list of approved MTUs.

17. A report on the counts of vessels with MTUs related to the now-phased out Argos MTUs is provided in Table 2. The counts in 2024 relate to the period between 1 January and 6 February 2024, the period before the date of effect of the WCPFC20 decision that included the VMS-100Si MTU on the WCPFC Approved MTU list.

18. There are several contracts that the Secretariat maintains in accord with paragraph 7.3.5 of the SSPs to facilitate the necessary arrangements for provision of position (and other) data from the MTUs/ALCs that are activated to report directly to the Commission VMS. Currently, the Secretariat has contracts with the following Mobile Communications Service Providers (MCSPs):

a) SpeedCast (formerly Satcomms Australia) – for Inmarsat C, D+ and Faria watchdog Iridium services;

b) Collecte Localisation Satelites (CLS) – for Argos and Halios/Iridium services which includes Faria Watchdog MTUs;

c) Vizada – an operational agreement for Inmarsat C DNID management; and

d) Addvalue – for Inmarsat BGAN MTUs.

Table 2: MTUs that are now phased out for the period from 2021 to 2024. Numbers in 2024 are for the period between 1 January and 6 February 2024.

CCM	Model	Vessel type	2021	2022	2023	2024
Philippines	MAR GE V2	Support vessel	9	9	10	10
Philippines	MAR GE V3	Support vessel	6	6	6	6
Total			15	15	16	16

19. There are also MCSPs who provide direct/simultaneous reporting to their primary client (the flag CCM), and the Commission VMS. This aspect means that technically VMS transmissions can be received by the Commission VMS, and the Secretariat is not charged for VMS airtime services from the relevant WCPFC Approved MTU/ALCs. In practice, this aspect also means any relevant charges for VMS activation and airtime from these MTU/ALCs have been covered by the relevant flag CCMs. To date the Secretariat has not needed to establish Contracts with the following four Mobile Communications Service Providers:

    a) MetOcean – for iTrac10101B (I Trac II) services;

    b) PTSOG Chinese Taipei;

    c) Rom Communications – for RomTrax Wifi services;

    d) SASCO – for BB3 and BB5 services;

    e) SkyMate Inc. – for SkyMate I1500 and m1600 services; and

    f) Orbcomm (Australia) - for ST1600.

20. As of 15 August 2024, there were 1,886 vessels that were considered activated to report to the Commission VMS. This number represents 56% of all “Active” vessels on the WCPFC Record of Fishing Vessels (RFV). Over 70% of vessels reported via FFA or Halios channels, and 21% of vessels reported via Inmarsat StdC channel (see Figure 3 for the current breakdown of vessels reporting to the Commission VMS by channel).

21. The Secretariat presently has no matters of note to raise for TCC’s attention with respect to the Contracts with Mobile Communication Service Providers (MCSPs).

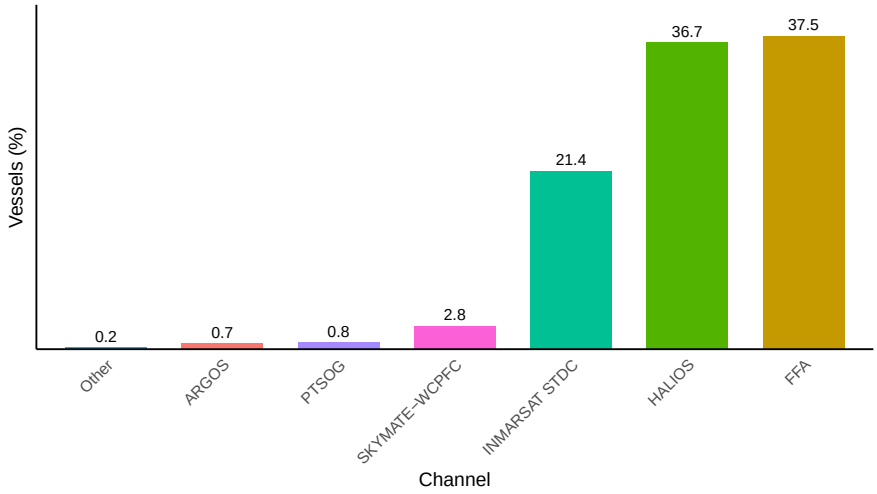

Figure 3: Percentage of vessels currently reporting on the Commission VMS by channel.

22. Table 3 provides summary information for the 2023 calendar year, comparing for each flag CCM, the number of vessels that were included on the WCPFC RFV (*Vessel count*) with other information available to the Secretariat that is relevant to Commission VMS and annual reporting. In Table 3, column *AFA Received Count* provides an indication of annual Fished and Did Not Fish reporting counts; occasionally, CCMs advise that Fished Count report should not be applicable, and the number of reports received (column *AFA Received Count*) will be lower than the *Vessel Count*. The column *VTAF Recorded Count* indicates the number of vessels for which MTU activation details were received by the Secretariat, so that the vessel's MTU can be activated to report directly to the Commission VMS. The count of FFA good standing status vessels (column *FFA Good Standing Count*) indicates the number of vessels that potentially may have reported to the Commission VMS through the FFA VMS. The number of vessels that the flag CCM reported as fished beyond its national jurisdiction (column *Fished Count*) represents the annual report submitted by the flag CCM (in accordance with CMM 2018-06 paragraph 9). Often numbers in the column *VMS Tracked Count* are not a sum of the numbers in the columns *FFA Good Standing Count* and *VTAF Recorded Count*, because some vessels may change how they report to the Commission VMS throughout the year. Where numbers in the column *Fished Count* do not match numbers in the column *VMS Tracked Count*, the discrepancy may be indicative of VMS reporting gaps. In addition, it may also be due to the Commission VMS covering some but not all EEZ waters.

Table 3: Summary of the number of vessels by flag for which the Secretariat has MTU activation data (VTAF recorded Count) and received position reports in areas covered by the Commission VMS (VMS Tracked Count) for the 2023 year, as of 15 August 2024.

CCM	2023						
	Vessel count	AFA received count	VTAF recorded count	FFA good standing count	VMS tracking count	Fished count	Did not fish count
AUS	49	49	36		34	15	34
CAN	6	6	5		1		6
CHN	613	613	156	325	372	355	258
COK	12	12	1	12	11	8	4
CUW	5	5	3		1		5
EC0	73	73	10	5	12	12	61
ECU	7	7	2	5	5	5	2
FJI	74	74	3	54	31	26	48
FSM	44	44		41	36	41	3
IDN	22	22					22
JPN	674	674	362	102	341	385	289
KIR	17	17		17	14	14	3
KOR	182	182	98	69	148	150	32
LBR	6	6					6
MHL	13	13		13	13	13	
NCL	17	17	2		2		17
NIC	1	1					1
NRU	24	24		23	22	24	
NZL	4	4	3		2	3	1
PAN	144	144	38	91	95	83	61
PHL	382	382	255	42	195	244	138
PNG	17	17		15	14	3	14
PYF	89	89					89
SLB	9	9		9	9	9	
SLV	4	4		2	2	2	2
THA	6	6	1				6
TON	2	2		1	1		2
TUV	7	7		6	6	7	
TWN	645	645	442	126	474	504	141
USA	199	199	180	13	181	168	31
VUT	86	86	29	44	66	64	22
Total	3 433	3 433	1 626	1 015	2 088	2 135	1 298

Protection, Access to, and Dissemination of WCPFC VMS data

23. The main method for authorized CCM users to access WCPFC VMS data is by logging into the WCPFC TrackWell VMS system. Since late 2023, the Secretariat has provided Single-Sign-On (SSO) facility to WCPFC's online systems, which includes WCPFC's TrackWell VMS.[4]

24. CCMs may access WCPFC VMS data through the WCPFC TrackWell VMS system in the following circumstances:

    a) Flag CCMs have access to their flagged vessels through WCPFC TrackWell VMS.

    b) Coastal CCMs may request coverage by the Commission VMS of their national waters under Article 24(8) WCPFC9 decision, and access to WCPFC VMS up to 100 nautical mile high seas buffer zone around their EEZ.

    c) Authorised MCS entities of Members may request to access certain WCPFC VMS data through non-public domain data requests, pursuant to paragraphs 19 to 25 of the *2009 Rules and Procedures for the Protection, Access to, and Dissemination of High Seas Non-Public Domain Data and Information Compiled by the Commission for the Purpose of Monitoring, Control or Surveillance (MCS) Activities and the Access to and Dissemination of High Seas VMS Data for Scientific Purposes (Data RaP 2009)*.

25. The Secretariat also arranges, on a CCM's request, for the WCPFC TrackWell VMS system to regularly send to specified e-mail address/es text files containing the WCPFC VMS data that the CCM's authorised users are permitted to view in WCPFC TrackWell VMS. The Secretariat uses an *Application Programming Interface* (API) to source WCPFC VMS data from WCPFC TrackWell VMS system. Some CCMs have also opted to use an API to source data from WCPFC TrackWell VMS to support their MCS activities in the Convention Area.

26. The Secretariat also provides certain reports that are accessible by all authorized CCM users through the CCM portal on the WCPFC website. These online tools are intended to assist flag CCMs in addressing the disparity between CCM-held and Secretariat-held VMS data (WCPFC18 Summary Report paragraphs 280 to 281). Reporting by the Secretariat on WCPFC VMS access is covered in TCC20 Required Report 8, providing the Annual Report on the Administration of the WCPFC Data Access Rules and Procedures.

27. VMS SSP 6.10 requires the integrity of the Secretariat's VMS data to be verified annually by qualified personnel, exterior to the Commission Secretariat staff. Reporting by the Secretariat related to this requirement, to verify the integrity of the Commission VMS, is covered in the Secretariat's report to TCC20 on its ongoing, expanded information and network security framework work, TCC20 Working Paper 8 for presentation under TCC20 Provisional Agenda item 14.1.

Status of Ongoing Monitoring and Compliance with WCPFC VMS Reporting

Performance of Approved MTU types

28. CMM 2014-02 Annex 1 paragraph 4 states that the positions must be received within 90 minutes of being generated by the ALC. To support TCC's review of this requirement, the Secretariat

[4] Access to WCPFC VMS related systems is visible and managed by Party Administrators who may grant permissions to users through assigning one of the following roles: VMS Viewer or VMS Editor.

presented to TCC19 (2023) an initial analysis, which indicated some MTU types had failed to provide position reports consistently within the standard. However, in response to suggestions from CCMs, TCC requested that the Secretariat amend the analysis to limit the scope to position points of type *Normal…* and provide an update to TCC20.

29. The outcome of the updated analytical approach is provided here as a reporting rate percentage for all MTUs currently on the WCPFC Approved MTU List (see Appendix A, Table A-2). The amended analytical approach had a positive effect, and the Secretariat confirms for TCC that over the recent period, reports from each WCPFC Approved MTU type were, on average, reporting above the 80% CMM 2014-02.

Results of reported MTU/ALCs Audits

30. Paragraphs 2.9 and 2.13 of the SSPs state that CCMs are to carry out a periodic audit of a representative sample of installed ALCs. The results of these audits are to be provided to the Commission by CCMs in Annual Report Part 2 (WCPFC VMS SSPs 7.2.2).

31. Since early 2023, the WCPFC Secretariat has provided CCMs with an electronic submission facility through the upgraded Record of Fishing Vessels (RFV) online system (https://vessels.wcpfc.int/) to report their MTU audit inspection results.

32. Annual counts of MTU audit inspections by Approved MTU type that have been reported to WCPFC are provided in Appendix A, Table A-3 for the period from 2019 to 2024.

33. In 2023, there were 2,119 vessels that were reported to have fished beyond their national waters in the Convention Area (see Table 3). Eight hundred and eight (808) of these vessels have not had an MTU Audit Report submitted to WCPFC since 2011 (please see Appendix A, Table A-4 for a summary of vessel with no MTU Audit Inspection reported to WCPFC by CCM and approved MTU type).

34. Of the vessels that have provided manual reports, 33 of the vessels' MTU have not been audited since 2016 (see Table A-5).

35. All CCMs that have vessels that were reported to have fished beyond their national jurisdiction in the Convention Area (*fished*) have carried out and reported MTU/ALC audit inspections for some of their flag vessels (see Table A-6).

Processes and tools to support flag CCMs

36. The VMS Reporting Status Tool (VRST) is presently live and available to all authorized users of CCMs at this link: https://vrst.reports.wcpfc.int.

37. The VRST provides the authorized CCM user with a daily snapshot of whether each CCM vessel on the Record of Fishing Vessels is meeting its Commission VMS requirements, including whether each vessel is reporting directly to WCPFC VMS. The VRST is updated each day at 1am UTC. There are currently five parts to the VRST (see Figure 4):

    a) The "Information" tab provides explanatory information about the VRST.

    b) The "All Vessels" tab is in response to the WCPFC12 task, and provides the latest WCPFC VMS reporting status for every vessel on the Record of Fishing Vessels (RFV).

c) The “CCM Vessels” tab lists only RFV vessels flagged to the CCM, viewable only by the CCM’s authorized contact. It provides CCMs with a daily snapshot of information whether each of their vessels on the RFV is meeting its Commission VMS requirements. If a vessel is not on the FFA Good Standing List, the VRST provides an indication of whether WCPFC has completed the necessary steps to activate the vessels MTU to report to the Commission VMS; if so, the VRST provides a generic current vessel status (e.g., ’OK’ or ’STOP’) for each of their vessels, and a daily VMS-reporting status (how many position reports are transmitted by each vessel each day for the preceding 31 days).

d) The “Non-Reporting Vessels” tab is a subset of the CCM Vessels tab list, providing a list of vessels from which the expected VMS data are not being received. For each vessel that is not reporting to the WCPFC VMS, authorized CCM users are able to update the status to ‘In Port’ or ‘Outside the Convention Area’ or ‘Within flag CCM EEZ’, and the date the status took effect. When VMS data are received by the WCPFC VMS, the status is automatically reset to ‘OK’.

e) The ”Manual Reports” tab provides a report on the number of manual reports by vessel submitted and processed by VMS.

Figure 4: Screenshot of the VRST page on the WCPFC website https://vrst.reports.wcpfc.int.

38. CCMs are also able to download a copy of the relevant report in CSV format.

39. In addition to the VRST tool, the Secretariat has implemented a workflow that tracks where the Secretariat has identified issues, and has worked to resolve these issues related to the VMS reporting status of a vessel. The source of the issues may be various:

    a) **CCM query** – follow up on a query raised by a CCM about a vessel’s VMS reporting status.

    b) **FFA vs WCPFC MTU** – If a vessel that has its MTU activated to report directly to WCPFC VMS is subsequently listed on the FFA Good Standing List, or if a vessel that was on the FFA Good Standing List is de-listed, WCPFC VMS staff will take necessary steps to update the MTU Register accordingly. This is to avoid duplicate reporting by a vessel.

    c) **HSBI** –a notification is received that a vessel has been inspected through the High Seas Boarding and Inspection (HBSI) Scheme and/or a VMS-related issue is raised by a member conducting HSBI.

    d) **Transhipment Advice (TSER)** – a high seas transhipment notification is received by the Secretariat, but the vessel is not reporting to WCPFC VMS.

    e) **Vessel Not Reporting** – a vessel has stopped reporting.

    f) **Vessel Reporting Status (VRST)** – if there is another MTU-related issue identified from VRST, that is not related to non-reporting.

    g) **WCPFC Vessel on MTU Register (channel)** – there is a difference between the WCPFC MTU Register active MTU and the channel that TrackWell has recorded the receipt of the WCPFC VMS data.

40. A report on the Secretariat's workflow is provided in Appendix B (Table B-1); the report indicates the number of vessels with MTU-related issues that the WCPFC Compliance team have worked to resolve in the period from 1 January 2023 to 31 July 2024. Provided is a breakdown by MTU type and the source of information or report that initiated the workflow. The Secretariat is working on ways to further improve these workflow processes, and to enhance the reporting that can be shared about trends in VMS-related issues for future TCC Annual Reports on the Commission VMS.

Summary of Members MCS and Inspection activities, including in the high seas

41. Summary information of the aerial surveillance, High Seas Boarding and Inspection (HSBI) and other remote MCS activities are provided in Figures 5 and 6. This information relates to where one Member has requested an Article 25 (2) investigation by a flag CCM due to alleged VMS violations, between 1 January 2019 and 15 August 2024. Most requests for Article 25 (2) investigations had indicated the VMS-related issue was related to VMS reporting (CMM 2014-02 9a) (see Figure 5). For the majority of the reported outcomes from these investigations, the flag CCM has advised that in the majority of cases the finding was of No Infraction. However, there were a few cases where the flag CCM has imposed a warning or sanction for the infraction.

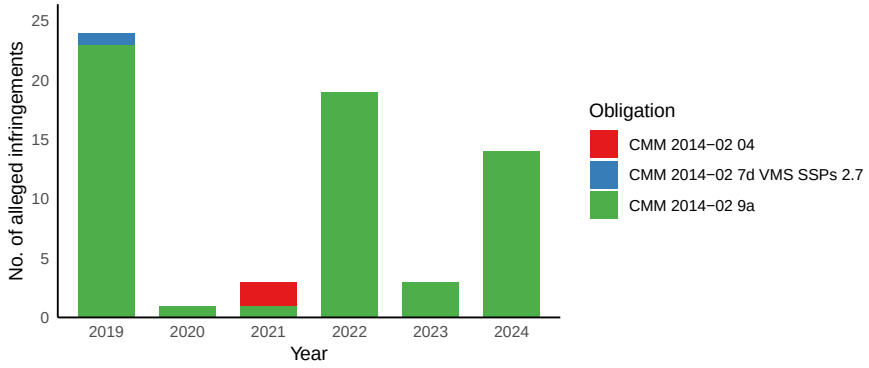

Figure 5: Number of VMS-related alleged infringement cases by event year (from 2019 to 2024) by VMS obligation. Distinguished are: CMM 2014-02 04, related to VMS-reporting in the northern part of the Convention Area; CMM 2014-02 7d VMS SSPs 2.7, an MTU Approval issue; CMM 2014-02 9a, a VMS reporting issue.

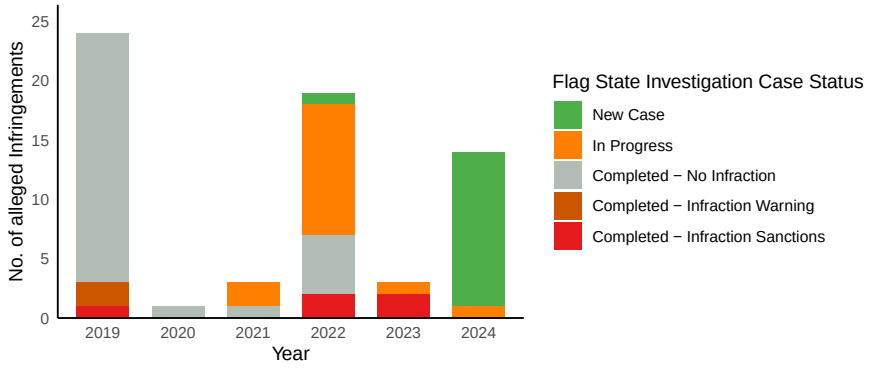

Figure 6: Current case status by event year (from 2019 to 2024) for Article 25(2) CCFS cases that identified VMS-related alleged infringements.

Summary of Manual Position reporting

42. At WCPFC18, the Commission supported the Secretariat's continued work to address data gaps from VMS failure, including with interested CCMs on a trial basis, to facilitate automatic integration of VMS manual reports into the Commission VMS (WCPFC18 Summary Report paragraph 282). The Secretariat has set up a mailbox arrangement with TrackWell that facilitates automatic integration of VMS manual reports based on the common North Atlantic Format (NAF). VMS manual reports can be submitted by CCMs to the Commission VMS via e-mail. Correctly-formatted data received are automatically integrated into the Commission VMS, and these positions are clearly identifiable as manually-generated reports, and can be distinguished from non-manually generated VMS positions. The Secretariat has been working with individual CCMs to submit manual reports in NAF to WCPFC VMS.

43. The text in the box below provides a sample of a manual report in NAF format:

```
//SR//TM/POS//SQ/1//ID/11112//NA/XIN SHI JI 208//LT/-9.165//LG/-145.617//DA/20220527//TI/0536//ER//Z
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44. A summary of the number of vessels by flag that have recorded manual position reports to the Commission VMS is provided in Table 4. The total number (81) of vessels over the reporting period represented approximately 4% of all vessels reporting to the Commission VMS.

Secretariat Observations

45. In April 2023, the Secretariat completed the necessary work to upgrade the Secretariat's internal MTU Management process. This upgrade included a mechanism that facilitates electronic (online) submission and processing of new and updated VTAFs and MTU Audit records. This service at https://vessels.wcpfc.int went live on 3 April 2023, and is available for CCM users. In 2024, the Secretariat has continued to work with individual CCMs through online platforms and opportune in-person meetings to explain how to use this online service. Feedback from CCMs to date has continued to be positive.

46. The Secretariat observes that commonly WCPFC VMS reporting gaps are associated with the use of DNID-based MTUs. DNIDs can only be programmed for the Ocean Region where the

Table 4: Number of vessels by flag that provided manual position reports (from 1 January 2023 to 31 July 2024), and the total distinct number of vessels over the period, as of 15 August 2024. (Note that at the time of preparing this report, there were no manual position reports submitted for May to June 2024.)

Flag CCM	2023												2024					Distinct
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	July	vessels
Australia	2	1	2	2	2	2	1											4
China	12	11	11	9	12	13	9	7	6	5	5	7		2	2	1	1	28
Cook Islands							1											1
Federated States of Micronesia			1															1
Korea (Republic of)	7	8	8	1	1	2	2	2	1	1	3	1	1	1	1	1		12
Panama				1														1
Philippines	4	5	4	5	3	4	3	2	4	3	3	3		2	2			11
Spain		1	1	2	1	1	1			1		1						2
United States of America	3	3	1	1	1	1	1											3
Vanuatu	5	4	7	6	5	5	10	9	10	12	11	11						18

MTU is logged in (in some cases, vessels at the time of activations are logged into other Ocean Regions). Some MTUs can have up to 64 DNID slots, but only a small number of the top slots can be programmed to report automatically. If WCPFC DNID downloaded successfully is below the programmable slots, then the vessel will not be reporting at a set interval. Access to DNID in the MTUs should be restricted to service technicians only, so as not to tamper with the DNID settings or disable activated DNIDs. This setup should be checked during boarding and inspection or when conducting MTU audits.

47. This year, the Secretariat saw a number of reporting anomalies from CLS-approved MTU reporting through the HALIOS channel. VMS data from CLS is "pulled" rather than "pushed" as is the case with other MCSPs. When fetching large amounts of data, timeouts may occur, which result in loss of data. TrackWell continues to explore the limitations of the CLS API by changing the frequency of data requests as well as creating batches of vessels to fetch. In addition to how the data are transferred, the Secretariat and TrackWell are exploring the possibility of introducing some proactive alerts on data feeds, similar to what the Secretariat has implemented for other data feeds.

Administrative Notes

a) CCMs should check reporting status of their flag vessels on the VRST (https://vrst.reports.wcpfc.int/vms-transmission-report) and provide updates directly into the VRST system.

b) To assist the Secretariat with keeping track of VMS-related correspondence and reporting, please send VMS-related emails to VMSHelpdesk@wcpfc.int.

Appendix A: Reporting on Approved MTUs and MTU Inspection Audit

Table A-1: WCPFC list of approved ALC/MTU, as of 1 February 2024. (Note that this list is directly applicable to MTUs of vessels that report directly to WCPFC VMS. FFA requirements determine which MTU units can be used for FFA VMS reporting.)[5]

Model	Manufacturer	Comm System	Service Provider
750VMS	Faria - Watchdog	HALIOS	CLS
750VMS SB	Faria - Watchdog	HALIOS	CLS
750VMS W/VTerm	Faria - Watchdog	HALIOS	CLS
BB3	SASCO	Iridium (mini LEO)	SASCO
BB5	SASCO	Iridium (mini LEO)	SASCO
CLS TRITON	CLS OROLIA	HALIOS	CLS
CLS TRITON ADV	CLS OROLIA	HALIOS	CLS
ELB 2000	SATLINK	INMARSAT STDC	Speedcast
ELB2004	SATLINK	INMARSAT STDC	Speedcast
ELB2020	SATLINK	INMARSAT ISATDATA PRO	Speedcast
FELCOM10	Furuno	INMARSAT STDC	Speedcast
FELCOM12	Furuno	INMARSAT STDC	Speedcast
FELCOM15	Furuno	INMARSAT STDC	Speedcast
FELCOM16	Furuno	INMARSAT STDC	Speedcast
FELCOM18	Furuno	INMARSAT STDC	Speedcast
FELCOM19	Furuno	INMARSAT STDC	Speedcast
H1622D	Sailor	INMARSAT STDC	Speedcast
Insight X2 EMTU	Nautic Alert	IRIDIUM	Nautic Alert
JUE-75C	JRC	INMARSAT STDC	Speedcast
JUE-75C-FFA	JRC	INMARSAT STDC	Speedcast
JUE-85	JRC	INMARSAT STDC	Speedcast
JUE-87	JRC	INMARSAT STDC	Speedcast
JUE-95C	JRC	INMARSAT STDC	Speedcast
JUE-95VM	JRC	INMARSAT STDC	Speedcast
LEO	CLS ELTA	HALIOS	CLS
NERA MINI-C	SATLINK	INMARSAT STDC	Speedcast
ORBCOMM ST6100	ORBCOMM/Skywave	INMARSAT ISATDATA PRO	Skywave
RSS405A	Anritsu	INMARSAT STDC	Speedcast
RomTrax Wifi	Rom Communications	Iridium SBD	Rom Communications
SKYMATE I1500 VMS	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.
SKYMATE m1600	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.
SRT VMS-100Si	SRT Marine Systems	SRT - Iridium	SRT
Sailor 3027D	Thrane & Thrane	INMARSAT STDC	Speedcast
Sailor 6140	Thrane & Thrane	INMARSAT STDC	Speedcast
Sailor 6150	Thrane & Thrane	INMARSAT STDC	Speedcast
Skywave IDP-690	ORBCOMM/Skywave	PTSOG	Skywave
TNL 7001	Trimble	INMARSAT STDC	Speedcast
TNL 7002	Trimble	INMARSAT STDC	Speedcast
TNL 8001	Trimble	INMARSAT STDC	Speedcast

Continued on next page

[5]The Commission agreed at WCPFC19 to the request from the Philippines for a limited extension of no longer than 12 months (until 1 January 2024) for the replacement of Argos MTUs (FVT, MAR GE, MAR GE V2, and MAR GE V3) covering only the support vessels that are operating in the High Seas Pocket 1.

Table A-1: WCPFC list of approved ALC/MTU, as of 1 February 2024. (Note that this list is directly applicable to MTUs of vessels that report directly to WCPFC VMS. FFA requirements determine which MTU units can be used for FFA VMS reporting.) (Continued).

Model	Manufacturer	Comm System	Service Provider
TNL7005	Trimble	INMARSAT STDC	Speedcast
TT-3020C	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3022D	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3026	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3026S	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3027M	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3027S	Thrane & Thrane	INMARSAT STDC	Speedcast
TT-3062D	Thrane & Thrane	INMARSAT STDC	Speedcast
Thorium TST-100	CLS KENWOOD	HALIOS	CLS
iFleetONE	Addvalue	INMARSAT BGAN	Addvalue
iTrac101B (i Trac II)	MetOcean Telematics	Iridium SBD	MetOcean Telematics

Table A-2: Average reporting rate (%) for WCPFC Approved MTU type for 2023, and 1 Jan to 31 July 2024. (Note this updated analysis indicates the timing performance of transmission reporting with 100% being the positive side of the scale.)

Approved MTU type	2023	2024							Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	
750VMS	91	100	100	100	100	100	100	98	94
750VMS SB	100	99	99	100	100	100	100	100	100
750VMS W/VTerm	100	100	100	100	100	100	100	100	100
CLS TRITON	99	100	100	100	100	100	100	100	100
CLS TRITON ADV	99	100	100	100	100	100	100	100	99
DMR-800 D/D2	100	100							100
ELB 2000	100	100	100	100		100	100		100
ELB2004	100		100	100		100	100	100	100
ELB2020	100	100	100	100	100	100	100	100	100
FELCOM10	100	100	100	100	100	100	100	100	100
FELCOM12	100	100	100	100	100	100	100	100	100
FELCOM15	100	100	100	100	100	100	100	100	100
FELCOM16	99	100	100	100	100	100	100	100	100
FELCOM18	17	100	100	100	100	100	100	100	27
FELCOM19	98	100	100	100	100	100	100	100	99
iFleetONE	77	100	100	100	100	100	100	100	84
JUE-310B	100								100
JUE-75C	100	100	100	100	100	100	100	100	100
JUE-75C-FFA	100	100			100	100	100	100	100
JUE-85	100	100	100	100					100
JUE-87	99	100	100	100	100	100	100	100	99
JUE-95VM	100	100	100	100	100	100	100	100	100
LEO	99	100	100	100	100	100	100	100	99
ORBCOMM ST6100	100	100	100	100	100	100	100	100	100
Sailor 3027D	99	100	100	100	100	100	100	100	100
Sailor 6140	99	99	100	100	100	100	100	100	99
Sailor 6150	100	100	100	100	100	100	100	100	100
SKYMATE I1500 VMS	100	100	100	100	100	100	100	100	100
SKYMATE m1600	100	99	100	100	100	98	95	98	99
Skywave IDP-690	100	100	100	100	100	100	100	100	100
Thorium TST-100	97	100	100	100	100	100	100	100	98
TNL 7001	99	100	100	100	100	100	100	100	99
TNL 8001	100	100				100	100	100	100
TNL7005	100	100	100	100	100	100	100	100	100
TT-3020C	100	100	100	100		100	100	100	100
TT-3022D	99	100	99	100	99	99	100	99	99
TT-3026	100	100	100	100	100			100	100
TT-3026D	98	100	100	84	98				98
TT-3026S	100	100	100	100	100	100	100	100	100
TT-3027M	95	100	100	100	100	100	100	100	96
TT-3027S	100								100
TT-3062D	100								100
Total	97	100	100	100	100	100	100	100	98

Table A-3: Number of MTU audits by Approved MTU type by year for the period from 2019 to 2024, as of 15 August 2024.

MTU Type	2019	2020	2021	2022	2023	2024
750VMS	2	1	5	2	2	
750VMS SB	3	1	4	1	4	
CLS TRITON	21	33	51	22	25	4
CLS TRITON ADV	49	75	90	105	203	15
ELB 2000		1	1			
ELB2020				3	8	
FELCOM10					1	
FELCOM12	5	4	4	2		
FELCOM15	1					
FELCOM16	29	24	43	26	49	1
FELCOM18	1		1		1	
FELCOM19	1	3	2	2	2	2
JUE-310B					1	
JUE-75C	1	1		1	2	
JUE-75C-FFA	2	1		1		
JUE-95VM	3	4	7	7	15	
LEO	19	29	36	35	47	6
ORBCOMM ST6100	1	1			1	
SKYMATE I1500 VMS	3	2	9	1		
SKYMATE m1600	4	5	5	13	31	18
Sailor 3027D	1	1	1		2	
Sailor 6140	40	26	37	32	29	
Sailor 6150	4	8	4	10	10	
Skywave IDP-690	6	5	6	10	8	
TNL 7001		1	3	1	1	
TT-3020C		1		2		
TT-3022D	14	11	10	5	7	
TT-3026	7	6	6	3		
TT-3026D		1			2	
TT-3026S	14	11	11	5	5	
TT-3027M	2	1	2	1		
TT-3027S	2	2	2	2		
Thorium TST-100	17	12	60	41	53	9
iFleetONE			1	1	1	

Table A-4: Summaries and trends of MTU Inspection Audit reporting. Number of vessels that Fished in 2023 that have not had an MTU Audit Report submitted to the Secretariat through the MTU Audit Inspections list.

Approved MTU type	AUS	CAN	CHN	COK	CUW	ECU	EU	FJI	JPN	KOR	NCL	NZL	PAN	PHL	THA	TWN	USA	VUT	Total
750VMS																	3		3
CLS TRITON	1		5				1						1	7		13	34		62
CLS TRITON ADV	2		27	1			1		13	11			2	30		147	14	9	257
ELB 2000							1												1
FELCOM15									5	1									6
FELCOM16									160										160
FELCOM18							2		7										9
FELCOM19									24	2									26
JUE-75C									2							1			3
JUE-85									1										1
JUE-87			1				1		12										14
JUE-95VM									38				1						39
LEO										2				4		26	9	9	50
MAR GE V2														2					2
SKYMATE I1500 VMS																	2		2
SKYMATE m1600														20			9		29
Sailor 3027D	1		1																2
Sailor 6140	1		1				1									56			59
Sailor 6150			1										1			7			9
Skywave IDP-690																12			12
TT-3020C																1			1
TT-3022D	4															4			8
TT-3026																1			1
TT-3026D	2																		2
TT-3026S																4			4
Thorium TST-100			20							3			2	2		12	3	4	46
Total Fished MTU Not Audited	11		56	1			7		262	19			7	65		284	74	22	808
Total Active MTUs that fished	32	5	159	1	2	2	10	3	356	98	2	3	42	261	1	449	180	32	1638
Percentage of vessel's MTU audited	66	100	65	0	100	100	30	100	26	81	100	100	83	75	100	37	59	31	51

Table A-5: Number of vessels by Approved MTU type that provided manual reports to WCPFC, but with outstanding MTU audit inspection report to the Secretariat for the vessel, as of 15 August 2024.

MTU Type	AUS	CHN	ESP	FSM	KOR	PAN	PHL	USA	VUT	Total
CLS TRITON								2		2
CLS TRITON ADV	1	2			2				1	6
ELB2004			1							1
FELCOM16					4				1	5
FELCOM19			1							1
LEO									2	2
MAR GE		1								1
Sailor 6140			1							1
Thorium TST-100		7					1			8
TNL 7001		1							1	2
TT-3022D	3								1	4
TT-3026D	1			1						2
TT-3026S						1				1
Total	4	11	2	1	5	1	1	2	6	33

Table A-6: List of flag CCMs and number of MTU audits undertaken, compared with the number of vessels that fished in the Convention Area beyond their flag CCM's jurisdiction, as advised by the flag CCM.

Flag CCM	Active	Fished	2019	2020	2021	2022	2023	2024	2025
Australia	49	15							
Canada	6		1	1	1				
China	615	355	315	315	281	284	242	2	
Cook Islands	12	8	24	19	17	8	1		
Curacao	5			4			1		
Ecuador	7	5	4	5	3	2	8		
El Salvador	4	2	1	2	2	2	2		
European Union	77	24	4	4	6		6		
Federated States of Micronesia	44	41	39	35	41	54	23		
Fiji	74	19		5	5	2			
French Polynesia	89								
Indonesia	22								
Japan	674	385	105	104	98	79	79	9	
Kiribati	17	14	9	7		6	11	2	
Korea (Republic of)	182	148	127	58	123	83	114	26	
Liberia	6		9	5	5	3			
Marshall Islands	13	13	18	15	12	13	10		
Nauru	24	24	7	13	21	20			
New Caledonia	17								
New Zealand	4	3	2	2	2		3		
Nicaragua	1								
Panama	144	80	4	7	7	23	113	3	
Papua New Guinea	17		24	13	3	3		2	1
Philippines	382	243	206	266	247	200	200	8	
Solomon Islands	9	9	8	8	8	8	9		
Chinese Taipei	645	504	180	130	134	91	72		
Thailand	6								
Tonga	2								
Tuvalu	7	7	1	2	5		6		
United States of America	199	168	139	26	38	31	142	117	
Vanuatu	86	64	42	23	26	25	28	1	

Appendix B: Report on Secretariat workflows to track and resolve VMS reporting issues

Table B-1: Indicative number of vessels with MTU-related issues, including their sources, which the WCPFC Compliance team have worked to resolve, for the period 1 January 2023 to 31 July 2024.

Approved MTU type	CCM Query	FFA Query	FFA vs WCPFC	HSBI	MTU Deactivate	TSER	Not Reporting	Channel	Total
CLS TRITON (CLS OROLIA)	2							1	3
CLS TRITON ADV (CLS OROLIA)	4	10	3			2	6	1	26
Doesn't exist on RFV		1							1
ELB 2000 (SATLINK)	1								1
FELCOM16 (Furuno)		1			1				2
FELCOM18 (Furuno)	1								1
FELCOM19 (Furuno)			1						1
iFleetONE (Addvalue)			2						2
JUE-95VM (JRC)	1	1							2
LEO (CLS ELTA)		1						1	2
MAR GE V2 (CLS MARTEC SERPE-IESM)					1				1
No MTU on RFV		2		2					4
Sailor 6140 (Thrane & Thrane)	1	1	1	1		4			8
Skywave IDP-690 (ORBCOMM/Skywave)		1					1		2
Thorium TST-100 (CLS KENWOOD)		6	2	2					10
TT-3026S (Thrane & Thrane)						1			1
Total	10	24	9	5	2	7	7	3	67