TECHNICAL AND COMPLIANCE COMMITTEE
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ANNUAL REPORT ON THE COMMISSION VMS

WCPFC-TCC19-2023-RP01
9 September 2023

Paper prepared by the Secretariat

Purpose

1. The purpose of this paper is to present the Annual Report on the Commission VMS for the consideration of TCC19.

Introduction

2. The Annual Report on the Commission VMS is prepared in accordance with the VMS SSPs requirements paragraph 7.3.9 and 7.3.10. It also provides a report 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.

3. The paper is structured as follows:
   I. Background and Introduction
      - Service Level Agreement with FFA
      - Contracts with Mobile Communications Service Providers

   II. Commission VMS database
   III. List of WCPFC Approved MTUs/ALCs
      - Update on FVT, MAR GE, MAR GE V2 and MAR GE V3 phase out
      - Consideration of reporting issues associated with Approved MTU types

   IV. VMS Audit Report
   V. Manual Position reporting
   VI. CCM access to WCPFC VMS data including related reports
      - Users of WCPFC TrackWell System and Provision of High Seas VMS Data in support of MCS Activities
      - VMS Reporting Status tool
      - Reporting on Secretariat processes to identify and follow-up on VMS reporting issues
      - Update on Secretariats work to facilitate electronic (online) submission and processing of new and updated VTAFs

   VII. Update on Security and Integrity of the Commission VMS
   VIII. Secretariat observations on WCPFC VMS reporting gaps
   IX. Recommendations

Background and Introduction

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 ALC/MTU which meets agreed WCPFC Standards, Specifications and Procedures, while in these areas. To implement this requirement, the Commission has adopted CMM 2014-02 Commission Vessel Monitoring System Conservation and Management Measure, a set of Standards, Specifications and Procedures (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).

5. Additionally, in 2012 (WCPFC9) the Commission adopted a Statement describing Purpose and Principles of the WCPFC VMS. 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.*"

6. The Commission VMS primarily covers high seas waters of 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 and support Members' own national VMS arrangements. Since 2012, 16 CCMs have provided letters of notification for the Commission VMS to cover their EEZs (see https://www.wcpfc.int/vessel-monitoring-system for the list of CCMs).

7. The approved structure of the Commission VMS system allows vessels to report to the WCPFC in two ways: i) directly to the Commission VMS, or ii) to the WCPFC through the FFA VMS. There are several contracts that the Secretariat maintains to facilitate the necessary arrangements for the Commission VMS. These are described in the succeeding paragraphs.

Service Level Agreement with FFA

8. 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 Commission VMS became operational in April 2009. VMS service is provided through the SLA with FFA and since 30 June 2016, the service provider has been TrackWell.

9. The Secretariat has noticed occasional VMS reporting anomalies whereby MTUs may have been incorrectly matched to vessels within the Commission VMS and has been working with CCMs and FFA Secretariat to address these anomalies.

10. 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 use in the online VMS Reporting Status tool.

11. The Secretariat presently has no matters of note to raise for TCC's attention with respect to the SLA with the FFA.

Contracts with Mobile Communications Service Providers

12. Paragraph 7.3.5 of the SSPs requires the WCPFC Secretariat to enter, and to maintain, direct contracts with Mobile Communications Service Providers (MCSPs) for the provision of position (and other) data from the MTUs/ALCs that are activated to report directly to the Commission VMS. For this purpose, the WCPFC Secretariat has contracts with:
    - SpeedCast (formerly Satcomms Australia) – for Inmarsat C, D+ and Faria watchdog Iridium services;
    - Collecte Localisation Satelites (CLS) – for Argos and Halios/Iridium services which includes Faria Watchdog MTUs;
    - Vizada – an operational agreement for Inmarsat C DNID management; and
    - Addvalue – for Inmarsat BGAN MTUs.

13. Although VMS Gateways are established with WCPFC TrackWell to support the receipt of VMS data, to date the Secretariat has not needed to establish Contracts with the following four Mobile Communications Service Providers:
- MetOcean – for iTrac10101B (I Trac II) services;
- Rom Communications – for RomTrax Wifi services;
- SASCO – for BB3 and BB5 services;
- SkyMate Inc. – for SkyMate I1500 and m1600 services; and
- Orbcomm for IDP690 and ST1600.

14. This means that technically VMS transmissions can be received by WCPFC TrackWell, and the Secretariat is not charged for VMS airtime services from the relevant WCPFC Approved MTU/ALCs. Rather any relevant charges for VMS activation and airtime from these MTU/ALCs have been covered by the relevant flag CCMs.

15. The following MCSPs provide direct/simultaneous reporting to their primary client and WCPFC VMS:
- MetOcean – for iTrac10101B (I Trac II) services;
- Rom Communications – for RomTrax Wifi services;
- SASCO – for BB3 and BB5 services;
- PTSOG Chinese Taipei;
- SkyMate Inc. – for SkyMate I1500 and m1600 services; and
- Orbcomm (Australia) – for ST1600.

16. The Secretariat presently has no other matters of note to raise for TCC's attention with respect to the Contracts with Mobile Communication Service Providers.

Commission VMS database

17. 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."*

18. To facilitate the submission of necessary vessel tracking data for each fishing vessel required to report 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 also complete the Vessel Tracking Agreement Forms (VTAF).

19. As of 31 July 2023, there were 2,380 vessels that were considered activated to report to the Commission. This represents 73% of all "Active" vessels on the WCPFC Record of Fishing Vessels. Some general statistics on the Commission VMS over time are provided in the following charts (Figures 1-3) below. Some summary information by flag reporting through different MCSPs is shown in Table 1 below.

Table 1. Number of vessels by CCMs activated to report through different MSCPs

Flag CCM	Add-value	FFA VMS	CLS	Rom Comm	SASCO	SKYMATE	Orbcomm / Skywave	SpeedCast	Total
AU			4				2	28	34
CA			1	2	3				6
CK		15	3						18
CN	4	290	67					72	433
CU			2						2
EC		5						2	7
EU		4	2					17	23
FJ		24	2					1	27
FM		35						2	37
JP		101	15					341	457
KI		14							14
KR		78	77					9	164
MH		13							13
NC								3	3
NR		22							22
NZ								2	2
PA		80	22					12	114
PG		12	1						13
PH		38	246					1	285
SB		7							7
SV		2						1	3
TH								1	1
TO		1							1
TV		6							6
TW		129	272				38	150	589
US		12	145			34			191
VU		37	39						76
Total	**4**	**925**	**898**	**2**	**3**	**34**	**40**	**642**	**2,548**

Figure 1. Records of Vessel MTU activations by year

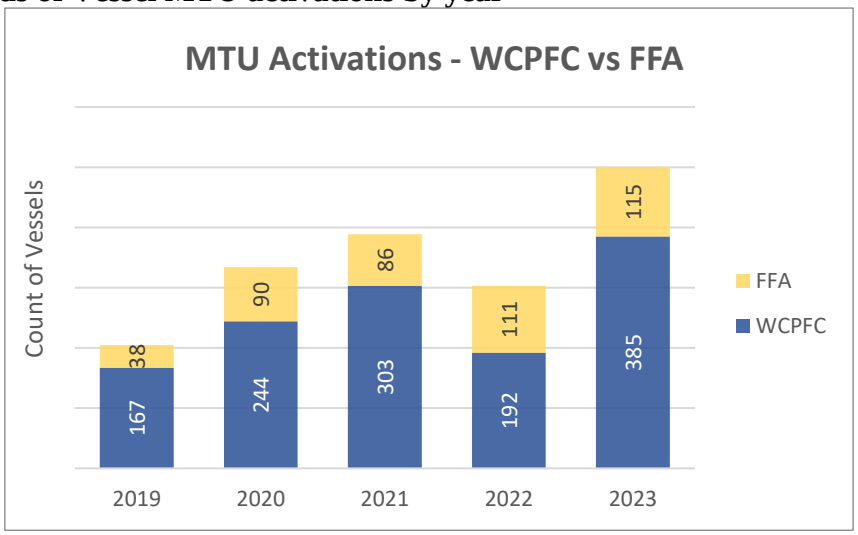


Figure 2. Number of VMS vessels reporting in the Convention Area against RFV by year

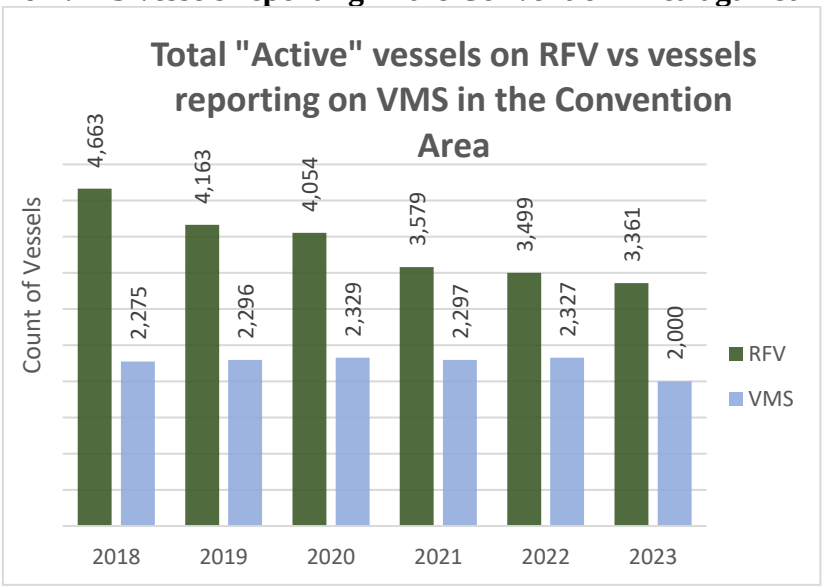
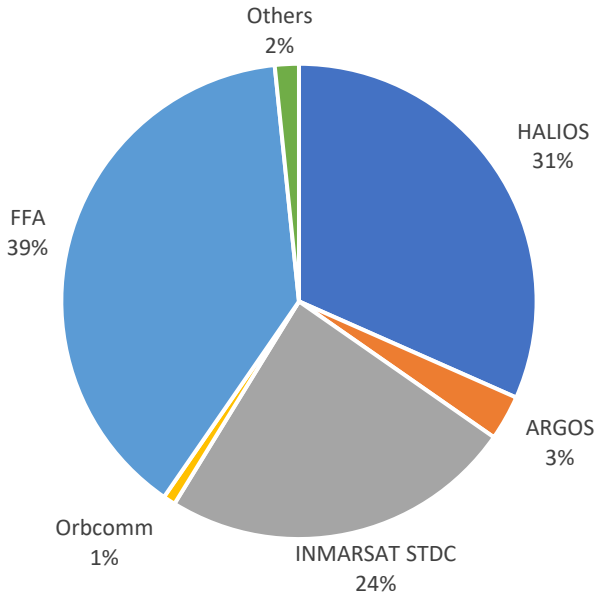


Figure 3. The percentage of vessels currently reporting by Channel on the Commission VMS as of 31 July 2023



20. Table 2 below lists the number of vessels with an "Active" status on the WCPFC RFV (Vessel Count), information available to the Secretariat on count of FFA good standing status vessels (abbreviation: *FFA Good Standing Cnt*) and reported by the flag CCM as fished beyond its national jurisdiction (abbreviation: *Fished Cnt*). Occasionally CCMs advise that *Fished Cnt* report should not be applicable, and the count of reports received (*AFA Received Cnt*) will be less than Vessel Count.

Table 2. Summary of the number of vessels by flag for which the Secretariat has VTAF data (VTAF recorded Cnt) in 2022 and 2023 and received position reports in areas covered by the Commission VMS (VMS Tracked Cnt), as of 31 July 2023

	2022							2023			
CCM	Vessel Count	AFA Received Cnt	VTAF Recorded Cnt	FFA Good Standing Cnt	VMS Tracked Cnt	Fished Cnt	Did Not Fish Cnt	Vessel Count	VTAF Recorded Cnt	FFA Good Standing Cnt	VMS Tracked Cnt
AU	51	51	34	0	37	9	42	49	34	0	29
CA	6	6	5	0	0	0	6	6	5	0	0
CK	18	18	2	17	17	14	4	12	2	12	11
CN	614	614	414	329	385	367	247	608	415	316	343
CW	9	0	3	0	1	0	0	5	3	0	1
EC	7	7	7	5	5	5	2	7	7	5	5
EU	73	72	23	5	10	10	62	73	23	5	11
FJ	71	71	13	51	18	15	56	70	13	48	24
FM	45	45	20	43	36	41	4	43	20	40	32
ID	13	13	0	0	0	0	13	15	0	0	0
JP	741	738	454	113	388	375	363	670	453	100	320
KI	17	17	9	17	17	17	0	17	9	17	14
KR	193	193	125	85	140	144	49	180	124	68	138
LR	9	9	0	0	0	0	9	6	0	0	0
MH	14	14	4	14	13	13	1	13	4	13	13
NC	18	18	3	0	5	0	18	17	3	0	2
NI	1	1	0	1	1	0	1	1	0	0	0
NR	21	21	2	21	20	20	1	24	2	23	22
NZ	3	3	3	1	3	1	2	3	3	0	2
PA	166	164	91	107	114	89	75	141	91	84	90
PF	88	88	0	0	0	0	88	89	0	0	0
PG	16	16	7	16	15	4	12	17	7	15	12
PH	359	359	257	43	231	158	201	359	257	38	177
SB	10	10	0	9	9	3	7	9	0	9	7
SV	4	4	3	2	4	2	2	4	3	2	2
TH	5	5	1	0	0	0	5	5	1	0	0
TO	1	1	0	0	0	0	1	2	0	1	1
TV	7	7	3	7	7	7	0	7	3	6	6
TW	652	651	567	119	462	505	146	633	568	123	451
US	198	198	178	13	184	173	25	197	178	13	175
VU	77	76	64	32	63	62	14	83	66	39	59
Total	**3,499**	**3,490**	**2,292**	**1,050**	**2,185**	**2,034**	**1,456**	**3,361**	**2,294**	**977**	**1,947**

21. Table 3 below provides a count of vessels on the RFV by vessel type that report to the Commission VMS directly or through the FFA VMS.

Table 3. Count of vessels on the RFV by vessel type that reported to the Commission VMS, through the FFA VMS and directly activated to report to the WCPFC VMS as of 31 July 2023

	2020		2021		2022		2023	
Vessel Type	Direct	FFA	Direct	FFA	Direct	FFA	Direct	FFA
bunker	5	33	8	38	8	34	10	29
fish carrier	130	149	180	145	173	131	156	120
fishery research vessel	18		17		19		19	
fishery training vessel			1		2		2	
fishing vessel not specified	1							
handliner	3		3		3		1	
longline	1,260	802	1,257	707	1,220	533	1,068	493
pole and line	60	22	58	22	47	23	45	21
pot vessel			2	2	1			
purse seine	91	248	90	255	67	254	58	241
support vessel	117	2	114	2	112	1	96	1
troller	10		18		20		19	
tuna mothership	2	1						
Total	**1,697**	**1,257**	**1,748**	**1,171**	**1,672**	**976**	**1,474**	**905**

List of WCPFC Approved MTUs/ALCs

22. The complete list of approved MTUs as of 1 February 2023 is appended in Annex 1.

Update on FVT, MAR GE, MAR GE V2 and MAR GE V3 phase out

23. At WCPFC14, the Commission agreed that "*CCMs shall ensure that vessels flying their flag do not purchase, install, or transfer the following VMS units: FVT, MAR GE, MAR GE V2, and MAR GE V3 (all Argos units) and that they be removed from the WCPFC approved ALC/MTU list. The Commission further agreed that existing units on vessels shall be allowed to continue to operate for 5 years (until 1 January 2023).*"

24. 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 4 below provides counts related to the phase out of Argos MTUs.

Table 4. Number of Argos MTUs by CCMs of FVT, MAR GE, MAR GE V2 and MAR GE V3 ALC units – as of 31 July 2023

CCM	Model	Vessel Type	2021	2022	2023
Philippines	MAR GE	support vessel	2	2	2
	MAR GE V2	support vessel	30	30	34
	MAR GE V3	fish carrier	1	1	1
		support vessel	36	36	36

Consideration of reporting issues associated with Approved MTU types

25. CMM 2014-02 Annex 1 paragraph 4, states that the positions must be received within 90 minutes of being generated by the ALC. Table 9 below lists the MTU type that have failed to provide position reports consistently within the required 90 minutes.

Table 5. MTU type that failed to provide position reports consistently within the required 90 minutes*

	2022						2023						
MTU Type	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**
FELCOM15	100%	94%	75%	71%	65%	70%	68%	64%	64%	97%	100%	100%	100%
FELCOM18	97%	96%	100%	100%	100%	97%	99%	82%	1%	96%	91%	80%	100%
FELCOM19	99%	99%	96%	95%	100%	100%	83%	83%	93%	99%	98%	98%	97%
JUE-75C	87%	99%	93%	88%	100%	70%	96%	92%	100%	100%	100%	100%	100%
JUE-75C-FFA	87%	89%	85%	96%	99%	100%	89%	86%	100%	99%	94%	86%	97%
RSS405A	45%	63%	59%	44%	47%	41%	41%						
TNL 7001	100%	100%	100%	97%	100%	100%	85%	93%	100%	100%	100%	100%	100%
TT-3026D	100%	100%	99%	100%	100%	96%	99%	94%	100%	100%	78%	29%	100%
TT-3027S	0%	0%		0%	0%	0%							

**This is based on a report which indicates the percentage of transmission reports received within 90 minutes of the actual event*

26. Position reports from the MTUs listed above have not been received consistently within the 90 minutes as required and stated in CMM 2014-02 and as can be seen in table 6, below, a total of 89 vessels used the listed MTUs. Thirty-nine (39) of the vessel MTU have been de-activated and only 53 remain active. **Given the small number of vessels with these problematic MTUs, it is recommended that the relevant flag States take necessary steps to ensure that the vessels replace the MTUs.**

Table 6. Number of MTUs by CCMs reporting from 01 July 2022 to 31 July 2023**

MTU Type	AU	CN	EU	JP	KR	NC	PA	TW	Active MTUs
FELCOM15				5 (7)					5
FELCOM18			1 (2)	9 (11)		1 (1)			11
FELCOM19			1 (1)	28 (32)	4 (4)		0 (1)		33
JUE-75C		1 (1)		2 (9)					3
JUE-75C-FFA				0 (7)					0
RSS405A				0 (3)					0
TNL 7001					0 (1)		0 (1)	0 (2)	0
TT-3026D	0 (3)	0 (1)							0
TT-3027S		1 (2)							1
Total active MTUs	**0**	**2**	**2**	**44**	**4**	**1**	**0**	**0**	**53**

*** the bracketed value is the total number of MTUs in the analysis*

VMS Audit Report

27. 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 the Part 2 Annual Report to the Commission (WCPFC VMS SSPs 7.2.2). In early 2023, the WCPFC Secretariat has provided CCMs with an electronic facility through the upgraded Record of Fishing Vessels (RFV) online system (https://vessels.wcpfc.int/) to report their MTU audit inspection results. A summary of CCMs reporting is shown in Table 7a and 7b below.

Table 7(a). Number of MTU audits by type from 2018 to 31 July 2023

MTU Type	2018	2019	2020	2021	2022	2023
750VMS	4	5	3	6	2	
750VMS SB	3	3	2	4	1	
CLS TRITON	9	24	37	48	22	
CLS TRITON ADV	7	52	77	92	84	7
ELB 2000	1		1	1		
FELCOM10	1	1				
FELCOM12	8	5	4	4		
FELCOM15	5	1				
FELCOM16	30	44	31	55	24	1
FELCOM18		1		1		
FELCOM19	2	3	5	3	1	
iFleetONE				1	1	
JUE-75C	1	1	2	3		
JUE-75C-FFA	5	2	1			
JUE-95VM	15	8	8	14	1	
LEO	23	21	33	40	33	2
ORBCOMM ST6100		1	1			
Sailor 3027D	4	1	1	1		
Sailor 6140	24	46	40	43	14	
Sailor 6150	5	5	9	9	3	1
SKYMATE I1500 VMS	1	3	2	9	1	
SKYMATE m1600		4	4	3	12	2
Skywave IDP-690		6	7	8		
Thorium TST-100	21	20	12	61	37	4
TNL 7001	4		1	3	1	
TNL 8001			1	1	1	
TT-3020C	1					
TT-3022D	21	14	12	11		1
TT-3026	3	7	6	6	1	
TT-3026D	1		1			
TT-3026S	16	14	11	11		
TT-3027M		2	3	3	1	
TT-3027S		2	3	3	1	

Table 7(b). Number of MTU audits in relation to Argos MTU to be phased out from 2018 to 31 July 2023

MTU Type	2018	2019	2020	2021	2022	2023
FVT	2			1	1	
MAR GE	4	2		3		
MAR GE V2	28	8	14	17	16	1
MAR GE V3	16	8	14	10	13	2

28. In 2022 there were 2,040 vessels that were reported to have fished beyond their national waters in the Convention Area. Seven hundred seventy-nine (779) of these have not had an MTU Audit Report submitted since 2011. The list of relevant ALC/MTUs is appended in Annex 2.

29. Of the vessels that have provided manual reports, 39 of the vessels MTU have not been audited since 2016, as shown in Table 8 below.

Table 8. Summary of vessels that have provided manual reports and that have not submitted MTU audits as of 31 July 2023

Approve MTU Type	AUS	CHN	JPN	KOR	PAN	PHL	USA	TOTAL
750VMS						1		1
CLS TRITON		1		1			2	4
CLS TRITON ADV	1	5		3		1		10
FELCOM15			1		1			2
FELCOM16			3					3
JUE-95VM			3					3
LEO						2	1	3
Thorium TST-100		6			1			7
TT-3022D	3							3
TT-3027S		1						1
Total	**4**	**13**	**7**	**4**	**2**	**4**	**3**	**37**

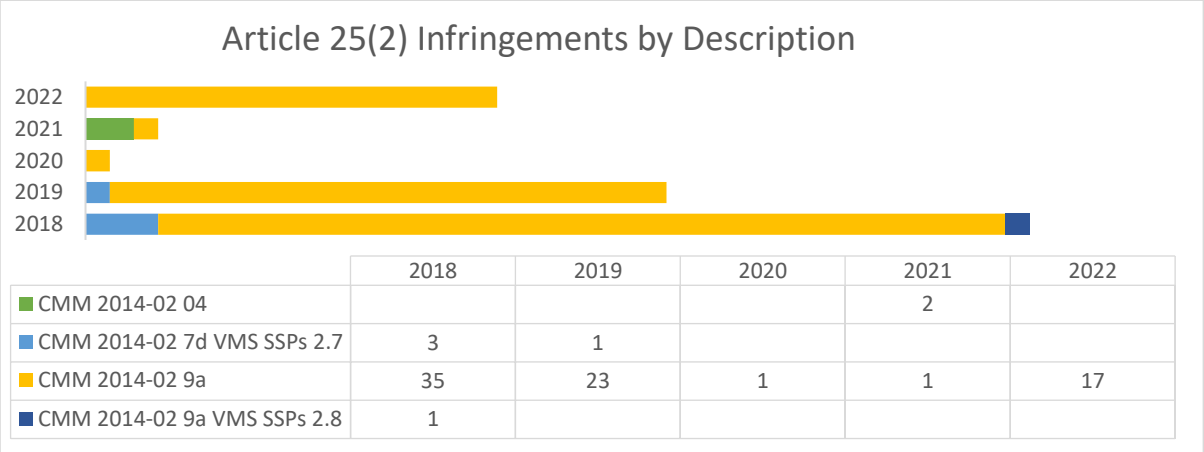
30. All CCMs that have vessels that were reported to have fished beyond its national jurisdiction in the Convention Area (*fished*) in 2022 have carried out and reported MTU/ALC audit inspections from 2018 – 2020 for some of their flag vessels as shown in Table 9, below.

Table 9. List of flag CCMs and number of MTU audits undertaken, compared to the count of vessels that the flag CCM advised fished in the Convention Area beyond its flag CCM's jurisdiction during 2022, as of 31 July 2023

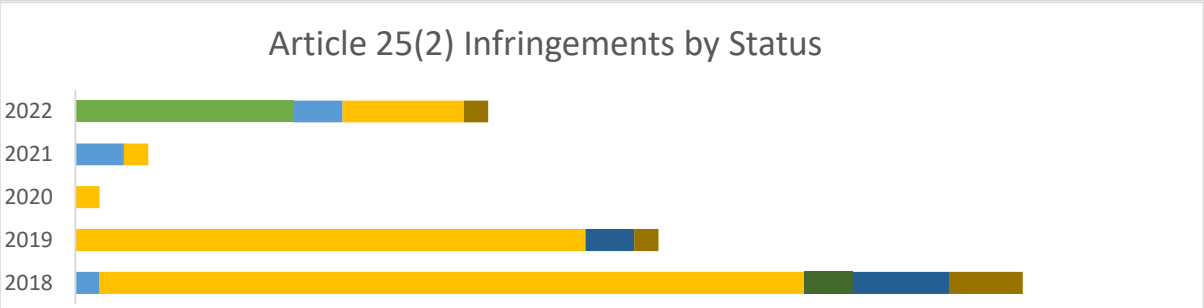
Flag CCM	Active	Fished	2018	2019	2020	2021	2022	2023
Australia	51	9						
Canada	6		2	1	1	1		
China	614	367	305	315	315	281	283	7
Cook Islands	18	14	12	24	19	17	8	1
Curacao	9				4			
Ecuador	7	5	5	4	5	3		3
El Salvador	4	2	1	1	2	2	2	
Europe Union	73	10	1	2	2	3		
Federated States of Micronesia	45	41	39	39	36	41	35	
Fiji	71	15	58		5	5	2	
French Polynesia	88							
Indonesia	13							
Japan	741	391	154	105	104	98	76	6
Kiribati	17	17	17	9	7		6	
Korea (Republic of)	193	144	84	127	58	123	82	3
Liberia	9	0		9	5	5	3	
Marshall Islands	14	13	14	18	15	12	13	
Nauru	21	20		7	13	21	20	
New Caledonia	18	0	7					
New Zealand	3	1	3	2	2	2		2
Nicaragua	1	0						
Panama	166	89	3	4	7	7	12	
Papua New Guinea	16	4	22	24	12	3	3	
Philippines	359	158	236	206	266	247	200	4
Solomon Islands	10	3	10	8	8	8	8	
Thailand	5							
Chinese Taipei	652	505	164	180	128	134	90	
Tonga	1							
Tuvalu	7	7	2	1	2	5		
United States of America	198	173	113	139	26	38	31	8
Vanuatu	77	62	32	42	23	26	25	2

31. Figure 4 below provides a summary of the aerial surveillance, High Seas Boarding and Inspection (HSBI) and other remote MCS activities where Article 25 requests for investigation related to VMS violations were noted since 01 January 2018.

Figure 4. Summary of outcome of flag CCM investigations of alleged infringements that were notified to WCPFC as Article 25(2) matters, based on aerial surveillance, HSBI or other remote surveillance based MCS activities



	2018	2019	2020	2021	2022
CMM 2014-02 04				2	
CMM 2014-02 7d VMS SSPs 2.7	3	1			
CMM 2014-02 9a	35	23	1	1	17
CMM 2014-02 9a VMS SSPs 2.8	1				



	2018	2019	2020	2021	2022
New Case					9
In Progress	1			2	2
Completed - No Infraction	29	21	1	1	5
Completed - Infraction No sanction	2				
Completed - Infraction Warning	4	2			
Completed - Infraction Sactions	3	1			1

Manual Position Reporting

32. 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 with TrackWell a mailbox arrangement 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 email. 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.

33. 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//

Table 10. Number of vessels by flag that provided manual position reports (01 August 2022 – 31 July 2023)

Flag CCM	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Australia						1	2	1	2	3	4	1
China	69	64	59	56	58	11	11	11	9	9	8	7
European Union	1	1		1	1		1	1	1	1	1	
Kiribati									2	1	1	
Korea	1	1	1	2	1	9	11	11	6	3	4	3
Nauru		1	1									
Panama			1	1	1	1			1			
Philippines		2	5	5	3	4	3	5	1		1	
Tuvalu							1					
United States					3	3	3	1	2	1	1	1
Vanuatu											1	1
Total	**71**	**69**	**67**	**65**	**67**	**29**	**32**	**30**	**24**	**18**	**21**	**13**

CCM access to WCPFC VMS data including related reports

34. The main method for authorized CCM users to access WCPFC VMS data is by logging into the WCPFC TrackWell VMS system. The WCPFC also arranges for the WCPFC TrackWell VMS system to regularly send to specified email address/es txt files containing the WCPFC VMS data that they are permitted to view in TrackWell. 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. The WCPFC 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 in addressing the disparity between CCM-held and Secretariat-held VMS data (WCPFC18 Summary Report paragraphs 280 – 281).

Users of WCPFC TrackWell System and Provision of High Seas VMS Data in support of MCS Activities

35. Flag CCMs have access to their flagged vessels through WCPFC TrackWell VMS. As per WCPFC9 decision, authorized MCS entities of CCMs may request coverage by the Commission VMS of their national waters under Article 24(8) decision, and once enabled can view through their WCPFC TrackWell login the relevant data for all vessels reporting to the Commission VMS when within their EEZs.

36. In terms of high seas VMS access, authorised MCS entities of other CCMs may request to access certain WCPFC VMS data through non-public domain data requests pursuant to paragraphs 19 – 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).*

37. Nineteen (19) CCMs have requested access to 100 nautical mile high seas buffer zone, some on an ongoing basis, and others for the purposes of specific MCS activities. Some FFA members have

nominated the FFA Regional Fisheries Surveillance Centre in Honiara, Solomon Islands, as one of their MCS entities to receive Commission VMS data on their behalf. The list of CCMs will be included the Annual Report on the Administration of the WCPFC Data Access Rules and Procedures see TCC19-2023-RP08)

38. There are now 161 VMS users from 35 CCMs registered to use WCPFC's TrackWell VMS system, and 44 users from 13 CCMs are active users. A breakdown of when user accounts were created is shown below in Table 11. In late 2023, the Secretariat expects to deliver a Single-Sign-On (SSO) facility to WCPFC's TrackWell VMS with user access visible to, and able to be managed by, Party Administrators.

Table 11. Number of VMS Users by CCM

CCM / approved user	Accounts created	Accounts deactivated	Current users
Australia	30	16	14
Canada	12	2	10
China	6		6
Cook Islands	3		3
Ecuador	1		1
European Union	10		10
Fiji	1		1
France	15	8	7
Federated States of Micronesia	5	1	4
Indonesia	10		10
Japan	5		5
Kiribati	1		1
Korea	9		9
Liberia	1		1
Mexico	1		1
Marshall Islands	1		1
New Caledonia	12		12
Niue	1		1
Nauru	3		3
New Zealand	68	43	25
Panama	1		1
Philippines	12	6	6
Palau	2		2
Papua New Guinea	1		1
Samoa	2	1	1
Solomon Islands	1		1
El Salvador	1		1
Thailand	1		1
Tokelau	2		2
Tonga	1		1
Tuvalu	1		1
Chinese Taipei	4		4
United States	7	1	6
Vietnam	1		1
Vanuatu	6		6
Total	**238**	**78**	**160**

VMS Reporting Status Tool

39. 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

40. The VRST provides the authorized CCM user a daily snapshot of whether each CCM vessel on the Record of Fishing Vessels is meeting its Commission VMS requirements. The VRST is updated each day at 1am UTC. There are currently five parts to the VRST (see Figure 5 below):

Figure 5. VRST page on the website – https://vrst.reports.wcpfc.int

1. **Information:** The "Information" tab of the VRST provides explanatory information about the VRST.
2. **All Vessels:** The "All Vessels" tab of the VRST 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).
3. **CCM Vessels:** The "CCM Vessels" tab of the VRST lists only RFV vessels flagged to the CCM, viewable only by that CCM's authorized contact. It provides CCMs with a daily snapshot of 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, and 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 past 31 days).
4. **Non Reporting Vessels:** The "Non-Reporting Vessels" tab of the VRST is a subset of the CCM Vessels tab list providing a list of vessels from which the expected VMS data is 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 is received by the WCPFC VMS, the status will be automatically reset to 'OK'.
5. **Manual Report:** Provides a report on the number of manual reports by vessel submitted and processed by VMS.

41. Figure 6 below is a sample of the VRST where a Vessel Status is marked as STOP when no position reports received more than 9 hours from the last position.

Figure 6. Vessel Status is marked as STOP when no position reports received more than 9 hours from the last position

Active VTAF with WCPFC	Date of Last Update	Vessel Status	Channel ID	20-Aug	19-Aug	18-Aug	17-Aug
Yes	20-Aug-23	STOP	INMARSAT STDC	1	7	6	5
Yes	20-Aug-23	STOP	INMARSAT STDC	2	12	6	7
Yes	20-Aug-23	STOP	INMARSAT STDC	1	5	10	1
Yes	20-Aug-23	STOP	INMARSAT STDC	5	8	1	2
Yes	20-Aug-23	STOP	INMARSAT STDC	4	5	1	6
Yes	20-Aug-23	STOP	INMARSAT STDC	7	16	12	13
Yes	20-Aug-23	STOP	INMARSAT STDC	5	8	9	8
Yes	20-Aug-23	STOP	HALIOS	10	25	24	23
Yes	20-Aug-23	STOP	INMARSAT STDC	9	24	23	24
Yes	20-Aug-23	STOP	HALIOS	1	3	24	23

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

Reporting on Secretariat processes to identify and follow-up on VMS reporting issues.

43. 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 range from:

i. **CCM query** – follow up on a query raised by a CCM about a vessel's VMS reporting status.
ii. **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.
iii. **HSBI** –a notification is received that a vessel has been inspected through the High Seas Boarding and Inspection Scheme and/or a VMS-related issue is raised by a member conducting HSBI.
iv. **Transhipment Advice (TSER)** – a high seas transshipment notification is received by the Secretariat, but the vessel is not reporting to WCPFC VMS.
v. **Vessel Not Reporting** – a vessel has stopped reporting.
vi. **Vessel Reporting Status (VRST)** – if there is another MTU-related issue identified from VRST, that is not related to non-reporting.
vii. **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.

44. Table 12 below shows the count of vessels with MTU-related issues that the WCPFC VMS staff have worked to resolve from 01 August 2022 to 31 July 2023. The Table provides a breakdown by MTU type in relation to WCPFC VMS vessel operations.

Table 12. VMS related issues by MTU type from 01 August 2022 to 31 July 2023

Approved MTU Type	CCM query	FFA Query	FFA vs WCPFC	HSBI	Manual Reporting	MTU Deactivate	TSER	Not Reporting	Channel	Total
750VMS [Faria - Watchdog]	1									**1**
750VMS SB [Faria - Watchdog]			1							**1**
CLS TRITON [CLS OROLIA]	3					2			1	**6**
CLS TRITON ADV [CLS OROLIA]	5		26			4	2		1	**38**
FELCOM12 [Furuno]	1		1			1				**3**
FELCOM16 [Furuno]	1		17	1	1	12		1		**33**
FELCOM19 [Furuno]			6							**6**
iFleetONE [Addvalue]			4							**4**
JUE-75C-FFA [JRC]						2				**2**
JUE-95C [JRC]						1				**1**
JUE-95VM [JRC]	1		2			3				**6**
LEO [CLS ELTA]						3	1	1	1	**6**
MAR GE V2 [CLS MARTEC SERPE-IESM]						6				**6**
MAR GE V3 [CLS MARTEC SERPE-IESM]						1				**1**
RSS405A [Anritsu]						1				**1**
Sailor 6140 [Thrane & Thrane]	5		6		3	2	12		2	**30**
Sailor 6150 [Thrane & Thrane]						3	2		1	**6**
Skywave IDP-690 [ORBCOMM/Skywave]		2								**2**
Thorium TST-100 [CLS KENWOOD]	2		8	2		1				**13**
TNL 7001 [Trimble]			1			2				**3**
TT-3022D [Thrane & Thrane]	2	1	2			2	4		1	**12**
TT-3026D [Thrane & Thrane]						1				**1**
TT-3026S [Thrane & Thrane]	2	1	1				5		1	**10**
Not Specified	1		3			2	2			**8**
Total	**24**	**4**	**78**	**3**	**4**	**49**	**28**	**2**	**8**	**200**

Electronic (online) submission and processing of new and updated VTAFs and MTU audit records

45. In early 2023, the Secretariat completed the necessary work to upgrade the Secretariat's internal MTU Management process. This includes a mechanism that will facilitate electronic (online) submission and processing of new and updated VTAFs and MTU Audit records. This service https://vessels.wcpfc.int went live on 03 April 2023 and is available for CCM use.

Figure 7. https://vessels.wcpfc.int

46. The Secretariat worked with individual CCMs through online platforms and opportune in-country visits to explain how to use this online service. Feedback from CCMs to date has been positive.

Update on Security and Integrity of the Commission VMS

47. 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. An update of the VMS audit will be provided in the TCC19 paper for Agenda 12.2 which covers the IT/VMS Security Audit (see TCC19-2023-23).

Secretariat observations on WCPFC VMS reporting gaps

48. 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 which the MTU is logged in(in some cases vessels at the time of activations are logged in to 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 should be checked during boarding and inspection or when conducting MTU audits.

49. This year, the Secretariat saw quite a few 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 would occur which results 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 is 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

50. 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.

51. Note that ARGOS MTUs (MAR GE, MAR GE V2, and MAR GE V3) were phased out on 01 January 2023, but a limited exemption was granted to Philippines Support vessels operating in High Seas Pocket #1 for 12 months expiring on 01 January 2024.

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

Recommendations

53. Noting the information presented in paragraphs 25 – 26 and Tables 7 - 8 above, **TCC19 is invited to recommend the removal of the following listed MTU types from the List of WCPFC Approved MTUs/ALCs:**

Model	Manufacturer	Comm System
FELCOM15	Furuno	INMARSAT STDC
FELCOM18	Furuno	INMARSAT STDC
FELCOM19	Furuno	INMARSAT STDC
JUE-75C	JRC	INMARSAT STDC
JUE-75C-FFA	JRC	INMARSAT STDC
RSS405A	Anritsu	INMARSAT STDC
TNL 7001	Trimble	INMARSAT STDC
TT-3026D	Thrane & Thrane	INMARSAT STDC
TT-3027S	Thrane & Thrane	INMARSAT STDC

54. TCC19 is also invited to note the report and discuss the activities of the Commission VMS.

Annex 1

WCPFC List of approved ALC/MTU as of 01 February 2023[1]

*** 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.*

Model	Manufacturer	Comm System	Service Provider
750VMS	Faria - Watchdog	HALIOS	CLS
750VMS SB	Faria - Watchdog	HALIOS	CLS
750VMS W/VTerm	Faria - Watchdog	HALIOS	CLS
CLS TRITON	CLS OROLIA	HALIOS	CLS
CLS TRITON ADV	CLS OROLIA	HALIOS	CLS
LEO	CLS ELTA	HALIOS	CLS
Thorium TST-100	CLS KENWOOD	HALIOS	CLS
iFleetONE	Addvalue	INMARSAT BGAN	Addvalue
ORBCOMM ST6100	ORBCOMM/Skywave	INMARSAT ISATDATA PRO	Skywave
ELB2020	SATLINK	INMARSAT ISATDATA PRO	SpeedCast
ELB 2000	SATLINK	INMARSAT STDC	SpeedCast
ELB2004	SATLINK	INMARSAT STDC	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
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
NERA MINI-C	SATLINK	INMARSAT STDC	SpeedCast
RSS405A	Anritsu	INMARSAT STDC	SpeedCast
Sailor 3027D	Thrane & Thrane	INMARSAT STDC	SpeedCast
Sailor 6140	Thrane & Thrane	INMARSAT STDC	SpeedCast
Sailor 6150	Thrane & Thrane	INMARSAT STDC	SpeedCast
TNL 7001	Trimble	INMARSAT STDC	SpeedCast
TNL 7002	Trimble	INMARSAT STDC	SpeedCast
TNL 8001	Trimble	INMARSAT STDC	SpeedCast
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-3026D	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
Insight X2 EMTU	Nautic Alert	IRIDIUM	Nautic Alert
BB3	SASCO	Iridium (mini LEO)	SASCO
BB5	SASCO	Iridium (mini LEO)	SASCO
iTrac101B (i Trac II)	MetOcean Telematics	Iridium SBD	MetOcean Telematics
RomTrax Wifi	Rom Communications	Iridium SBD	Rom Communications
Skywave IDP-690	ORBCOMM/Skywave	PTSOG	Skywave
SKYMATE I1500 VMS	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.
SKYMATE m1600 **	SkyMate Inc.	SKYMATE-WCPFC	SkyMate Inc.

[1] The Commission agreed at WCPFC19 to the request from the Philippines for a limited extension of no longer than 12 months (until 01 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

Annex 2

Number of vessels that Fished in 2022 that have not had an MTU Audit Report submitted to the Secretariat through the MTU Audit Inspections list

Approved MTU Type	AU	CN	CK	EU	FM	JP	KR	PA	PH	TW	US	VU	Total
750VMS		1									3		4
CLS TRITON		3		1			1		3	16	47	1	72
CLS TRITON ADV	1	21	3	1		11	10	1	4	118	10	10	190
ELB2004				1									1
FELCOM12						2							2
FELCOM15						5							5
FELCOM16						152							152
FELCOM18				2		7							9
FELCOM19				1		26	2	1					30
iFleetONE		4											4
JUE-310B										1			1
JUE-75C						2				2			4
JUE-85						1							1
JUE-87		1		1		6							8
JUE-95VM						38							38
LEO							3		2	28	19	12	64
MAR GE V2									4				4
MAR GE V3									5				5
NERA MINI-C									1				1
Sailor 3027D	1	2						1					4
Sailor 6140		4								70			74
Sailor 6150	1	3						1		7			12
SKYMATE I1500 VMS											2		2
SKYMATE m1600											8		8
Skywave IDP-690										14			14
Thorium TST-100		11					4		2	15	11	7	50
TNL 7001							1						1
TNL 8001						1							1
TNL7005	1												1
TT-3020C										1			1
TT-3022D	2				2					7			11
TT-3026										1			1
TT-3026D	1												1
TT-3026S										3			3
Total Fished MTU Not Audited	**7**	**50**	**3**	**7**	**2**	**251**	**21**	**4**	**21**	**283**	**100**	**30**	**779**
Total Active MTUs	**34**	**147**	**3**	**19**	**2**	**357**	**86**	**34**	**249**	**467**	**179**	**39**	**1637**
Percentage of vessels MTU not audited	*21%*	*34%*	*100%*	*37%*	*100%*	*70%*	*24%*	*12%*	*8%*	*61%*	*56%*	*77%*	*48%*