
12TH MEETING OF THE COMPLIANCE AND TECHNICAL COMMITTEE (CTC)

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CTC 12 – Doc 07

Implementation and Operation Report: Commission VMS

Secretariat

This report is provided pursuant to Paragraph 32 of CMM 06-2023 (VMS), which states: *“At each annual meeting of the Commission, the Secretariat shall provide the Commission with a report on the implementation and operation of the Commission VMS”*.

CTC12 is requested to:

- **note** this implementation report and make any recommendations deemed appropriate;
- **consider** a request from the VMS service provider for an inflationary increase of 1.5%, to the annual maintenance fee, and provide guidance to the FAC/COMM on whether the Executive Secretary should be directed to amend the existing contract.

1. Introduction

For authorised vessels operating in the SPRFMO Convention Area, Article 27(1)(a) of the SPRFMO Convention requires that the Commission establish appropriate cooperative procedures for *“... the reporting of vessel movements and activities by a satellite vessel monitoring system that shall be designed to ensure the integrity and security of near real-time transmissions, including through the possibility of direct and simultaneous transmissions, to the Commission and flag State”*.

The application of the Commission VMS is specified in paragraph 2 of CMM 06-2023. *“The Commission VMS shall apply to vessels included in the Commission Record of Vessels Authorised to Fish in the SPRFMO Convention Area. It shall cover the area as defined in Article 5 of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean and have a buffer zone of 100 nautical miles outside the Convention Area. The buffer zone shall not apply to vessels flagged to adjacent coastal States fishing in waters under their jurisdiction”*.

The purpose of the Commission VMS is set out in paragraph 4 of CMM 06-2023 *“to continuously monitor the movements and activity of fishing vessels that are on the Commission Record of Vessels and are authorised by Members or CNCPs to fish for fisheries resources in the SPRFMO Convention Area in a cost-effective manner in order to, inter alia, support the implementation of SPRFMO CMMs”*.

2. State of Reporting

2.1 Points of Contact:

Pursuant to CMM 06-2023 (Annex 2, paragraph 7), each Member and CNCP shall designate a point of contact for the purposes of any communication regarding the VMS system (including data requests). These points of contact are listed in the Compliance-related sections (VMS Points of Contact tab) on the Members area of the SPRFMO website. In the case of Cuba, which has no vessels in SPRFMO and is not engaged in HSBI, the default point of contact is the Head of Delegation.



2.2 Method of Reporting:

As per CMM 06-2023, paragraph 9, each Member and CNCP shall require vessels flying its flag to report VMS data to the Commission VMS automatically either:

- (a) to the Secretariat via their Member or CNCP's FMC; or
- (b) simultaneously to both the Secretariat and its FMC.

The arrangement for the majority of the Members/CNCPs is to have the FMC coordinate the reporting of their vessels' VMS positions. Members and CNCPs are to ensure that VMS position reports are reported by each of their authorised vessels at least once every hour. For those Members and CNCPs that choose to report under option (a) of paragraph 9 then the FMC will automatically forward the VMS reports received to the SPRFMO FMC (Commission VMS) at an interval not less frequent than hourly.

Table 1 identifies the reporting selection for each Member/CNCP, and the corresponding number of unique SPRFMO authorised vessels reflected by name in Commission VMS database with 1 or more positions within the SPRFMO Convention Area during the 2023/24 reporting period¹. In total 779 unique SPRFMO authorised vessels² were identified on VMS as being within the SPRFMO Convention Area during reporting period 2023/24. A full listing of these vessels, by name, for each Member/CNCP can be found in Annex 1.

Table 1: VMS reporting for SPRFMO Authorised Vessels by Member/CNCP

Member/CNCP	Type of Reporting (if applicable)	Unique Vessel Count – SPRFMO Convention Area (2023-24 Reporting Period)
Australia	Simultaneous	3
Belize	Via FMC	1
Chile	Via FMC	2
China	Via FMC	609
Cook Islands	Via FMC	2
Cuba	<i>No authorised vsls</i>	0
Curaçao	Via FMC	0
Ecuador	Simultaneous	0
European Union	Via FMC	6
Faroe Islands	<i>No authorised vsls</i>	0
Korea	Via FMC	7
Liberia	Via FMC	7
New Zealand	Simultaneous	8
Panama	Via FMC	58
Peru	Via FMC	52
Russian Federation	Via FMC	4
Chinese Taipei	Via FMC	2
United States	<i>No authorised vsls</i>	0
Vanuatu	Via FMC	18
Total		779

¹ SPRFMO authorized vessels must report their VMS positions whenever in SPRFMO or the buffer zone regardless of their activity.

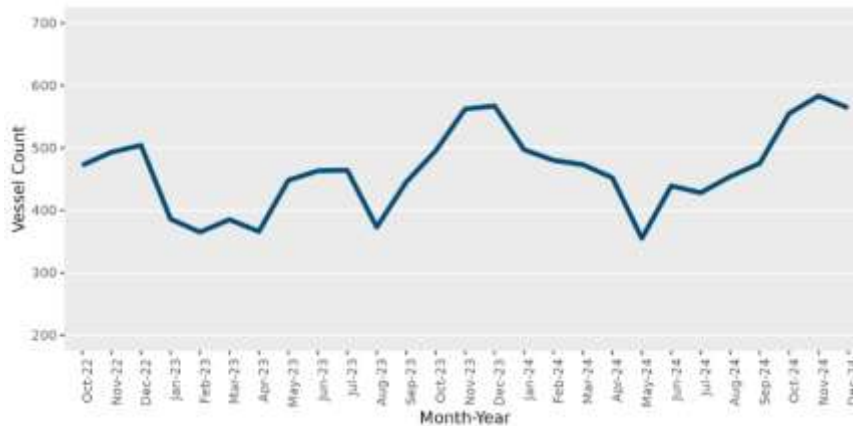
² Possible duplication may occur in situations where a vessel has renamed and/or reflagged during the reporting period.



2.3 SPRFMO Authorised Vessels – Monthly Unique Vessel Count

Figure 1 graphically depicts the fluctuation and relative distribution by month of the total number of unique vessels authorised on the SPRFMO Record of Vessels present in the Convention Area during the 2022/23 and 2023/24 reporting periods (RP).

Figure 1: Total Unique Vessel Count – Monthly Fluctuation (RP 2022/23 and 2023/24)



During the past 2 reporting periods the number of unique vessels in SPRFMO Convention Area in any given month fluctuates between ~350-600 vessels. The general trend displayed is that the “Unique Vessel” count in SPRFMO peaks during the November-December periods. Periods with the fewest unique vessels in the Convention Area were found during February-April 2023; August 2023, and May 2024. Monthly fluctuations are largely influenced by the monthly vessel movements within the larger fleets and the spikes of Peruvian vessels in the Convention Area. Figure 2 depicts the relative change in the monthly unique vessel count by Member/CNCP.

Figure 2: Monthly Unique Vessel Count by Member/CNCP (RP 2022/23 and 2023/24)





3. Operation of the Commission VMS

3.1. Personnel

The Commission VMS is primarily managed, and day to day operations overseen, by the Compliance Manager. The Data Manager, and the SPRFMO database support team at DRAGONFLY Data Science, assist on matters of data integration, data analysis, and report generation.

3.2. Day to day work processes

The Secretariat monitors the VMS system daily, including:

- Monitoring the number and movement of vessels reporting to the Commission VMS.
- Monitoring for data gaps, disruptions, and stoppages to the VMS display on Commission VMS.
- Monitoring VMS for compliance with zone entry requirements and other CMM obligations.
- Investigating system-generated alerts such as:
 - Zone Entry and Exit
 - In-zone VMS cessation
 - Incoherent Data
 - Expired or without authorisation
 - Bottom fishing management area entry/exit
 - New beacon identified, not yet associated with a vessel on the SPRFMO Record of Vessels
- Cross-referencing other data holdings with VMS.
- Develop and maintain a filing system to document, track, and report on VMS issues.
- Ongoing communications with VMS points of contact to identify and resolve VMS issues as well as any file follow-up or support for issue resolution.
- Regular communications and virtual meetings with the VMS service provider (CLS) to facilitate product development and troubleshoot reporting or display issues.
- Respond to requests for VMS data, geo-fence areas of interest for reporting and appropriate documentation and follow-up with Members and CNCPs.
- Activating and de-activating polling for vessels³ using simultaneous reporting.
- Reviewing of bi-monthly invoices covering charges for DNID Upload, Polling, Periodic Rate Change and Position Reports for vessels belonging to Members using simultaneous reporting.

4. Requests for VMS data

Pursuant to CMM 06-2023 VMS data may be obtained by a Member/CNCP for their own vessels (*Paragraph 22*). Additionally, the Secretariat can provide VMS data to a requesting Member or CNCP where the VMS data relates to vessels flagged to other Members or CNCPs that have provided prior written consent through their VMS Point of Contact for the data to be shared (*Paragraph 21*).

Furthermore, pursuant to paragraph 24, the Secretariat can provide VMS data without the permission of the Member or CNCP, for the exclusive purposes of:

- Planning for active surveillance operations (*Paragraph 24a*)
- Active surveillance operations and/or inspections at sea (*Paragraph 24b*)
- Supporting search and rescue activities subject to the terms of an arrangement between the Secretariat and the competent MRCC (*Paragraph 24c*)

A template for data release pursuant to Paragraphs 21, 22 and 24 is available on the non-public section of the SPRFMO website.

³ In consultation with CLS Oceania



VMS data may also be used by the Scientific Committee for analysis to support specific scientific advice requested by the Commission (*Paragraph 8*). A template for such requests is available in the Science area of the SPRFMO website.

In total, 2 requests⁴ were received from 2 Members for access to VMS data during the reporting period Oct 2023-Sept 2024. Each request was received from the relevant VMS Point of Contact using the SPRFMO Request Template and containing the necessary information. All requests were made pursuant to Paragraphs 24a-b (*Planning/Active Surveillance Operations and/or Inspections*). There were no requests for VMS data pursuant to Paragraph 24c (*Search and Rescue*). In all cases, in accordance with Annex 5, Paragraph 5, the Secretariat informed, no later than 7 days after the provision of VMS data, the relevant VMS Points of Contact representing the Member or CNCP of the vessel(s) whose VMS positional data was obtained.

5. Performance of the Commission VMS Service Provider

The Commission VMS service provider is the Collecte Localisation Satellites SAS (CLS) Group, a global company engaged in vessel satellite monitoring. The corporate headquarters and primary VMS Fisheries Monitoring support team are headquartered in France. In January 2021 the parent company transferred the contracts of its customers located in Oceania (*Australia, New Zealand and the Pacific Islands*) to its wholly owned Australian subsidiary, CLS OCEANIA. Invoicing and billing are processed through the Australian office where there are also points of contact to assist with operational SPRFMO VMS issues involving Australia and New Zealand based vessels. (This is in addition to the broader Fisheries Monitoring Technical Support team based in France).

While there has been some change over within the CLS Technical Support team throughout the reporting period, as a matter of practice the SPRFMO Secretariat, CLS Oceania representatives and CLS Fisheries Monitoring support team (France) representatives continued with ongoing email communications and several virtual meetings throughout the reporting period to facilitate the exchange of information on relevant VMS issues. This continues to be effective manner to improve communications between the service provider and SPRFMO and having a positive effect on issue identification and resolution.

Additionally, on 17-18 June 2024 three senior CLS representatives⁵ were hosted at the SPRFMO Headquarters in Wellington to deliver a 2-day on-site THEMIS⁶ training and support meeting. It permitted CLS representatives an opportunity to provide an overview on relevant topics and update on THEMIS system functions. As well, it afforded Secretariat staff time to interact face to face with key CLS personnel regarding THEMIS and relevant VMS operational and interphase issues as well as live demonstration from Wellington of remote system access and response challenges (e.g., latency issue with data download and access speeds⁷). The two full days were productive and informative, yielding positive discussions, results and proposed solutions. Future on-site and face-to-face meetings are highly recommended.

For the calculation of the SPRFMO SLA, the monthly rates shall not include the time spent on planned maintenances. The Service Level Agreement (SLA) stipulates that CLS shall provide a 99.7% fault tolerance for front office. This is calculated monthly and summarized for each 6-month period in the 2 Operating (Service) Reports per year. The “planned uptime” monthly average was identified as 99.98% for the period December 2023 to May 2024 and 99.95% from June to November 2024. While there were occasional minor monthly fluctuations between the “planned” service availability and the “real” service delivery, CLS has consistently delivered on service commitments above the 99.7% threshold. The average monthly “Real uptime” was identified as 99.95% for both the period December 2023 – May 2024 and from June to November 2024.

⁴ In addition to a vms data request ongoing from the previous reporting period.

⁵ From the CLS, Sustainable Management of Fisheries Division, Pierre Vassel (Business Developer Asia-Pacific), Indonesia and David Mouhamadaly (Operational Project Manager), France along with Guan Oon, (CEO and GM, CLS Oceania), Australia.

⁶ THEMIS is the software used as the base of the CLS fisheries Monitoring/Management Platform that integrates a wide range of maritime data. For SPRFMO it is used to manage the vessel positioning information for the VMS system.

⁷ In this regard, follow-up with our current internet service provider, SPARK NZ, has also commenced.



In terms of identified “major events” impacting availability, CLS identified a maintenance operation on 19 December 2023 to upgrade to THEMIS v8.14.25 and two IT operations (15 April 2024 and 19 November 2024) to switch the data centre for maintenance operation.

6. Operational Performance of the Commission VMS

While there are occasional gaps and/or technical issues temporarily disrupting vessel track displays, the overall performance of Commission VMS is quite impressive. It continues to demonstrate that the Commission VMS system is an effective tool for monitoring the vessels authorized on the Commission Record of Vessels that are active in the SPRFMO Convention Area and buffer zone on a “near real time” basis.

Notwithstanding, there are always opportunities to seek continuous improvements in the utilization of the tool to streamline and improve application in the SPRFMO context. As reported last year, thanks to funding made available by the United States through the NOAA – SPRFMO MOU for MCS Enhancement work, several reporting and alerting tools were developed to enhance VMS functionality and improve the Secretariat’s ability to monitor for, and respond to, disruptions and irregularities. The operationalization of the use of these new tools, combined with regular monitoring, continued during 2024 improving the ability of the Secretariat to better detect and respond to developing situations and data disruptions. Use of the new tools also led to areas for possible finetuning or standardizing of practices to improve vessel monitoring and related data and administrative processes including the processing of NAF messages⁸.

Following analysis of a couple situations which arose during the reporting period, it was identified that slight variations in the formatting of NAF messages, while not always impacting directly on display of vessels on Commission VMS, may have contributed to administrative challenges and delays in the detection of certain issues stemming from the import of NAF messages to THEMIS. The finding of the root cause of these issues was relatively recent and recommendations regarding any possible tweaking of the NAF message data fields to better align with THEMIS setup/sequencing for system acceptance and Record of Vessel matching may be premature considering that there is no clear direction in the VMS CMM with respect to the required content in NAF messages (It is probable that in the early days of developing Commission VMS the nuances of NAF messaging were not fully considered and VMS reporting likely reflective of existing systems and minimum data exchange to get Commission VMS up and running. Albeit it, at the time IMO numbers were not available for most vessels so during the set up phase CLS indicated that the Radio Call sign would be key in vessel identification.)

References in CMM 06 to “VMS reporting” requirements are more general in nature, with wording such as “forwarding VMS reports to the Secretariat”. Annex 1 - “Minimum Standards for ALCs” indicates it must “communicate the following data” and for the “vessel registration” the data element is identified as “Static Unique Vessel Identifier”. However, Annex 4 – “Manual reporting”, indicates that the standard format will include a) IMO number (if applicable), b) International Radio Call Sign, and c) Vessel Name. Notwithstanding, a summary of several potential Commission VMS “back-end issues” encountered related to importing NAF messages into THEMIS that may affect analysis or operational performance in certain situations follows.

⁸ The “North Atlantic Format” (NAF) messages are short, compact, concise, computer readable, pre-set data strings used for fisheries and vessel related electronic data transmission. The NAF message ensures that most critical information required for MCS is effectively transmitted and facilitates exchange of information between VMS programmes. For specific information on message formatting, data elements, and field codes visit <https://www.naf-format.org/>



6.1. Importing NAF Messages to THEMIS

The NAF message is internationally recognized and uses a concise format of data elements aligned with selectable, pre-set, field codes to transmit VMS information between FMCs in a manner that can be computer read and imported into the receiving software system. The “data string” in the NAF message must include certain identifiers but then can be expanded to include other desired information as necessary. In the case of SPRFMO, in practice, a standard NAF message usually includes information on the sender, vessel identifier(s), date/time information, position location, course, speed, flag, etc. An example (not prescriptive – other variations – longer and shorter also accepted) of a NAF message string currently sent to SPRFMO is:

```
//SR//AD//SPRFMO//FR//MEM//TM//POS//NA//VslName//IR/9876AB//RC//AA11B0//XR/1234567//DA/20250114//TI/232302//LT/-04.472//LG/-132.594//SP/10//CO/296//FS/NNN//ER//
```

When SPRFMO VMS was established, because of the design of the THEMIS system, the International Radio Call Sign (*NAF field code “RC”*) became a key identifier of vessels that was used when matching with the SPRFMO Record of Vessels for VMS purposes. Other vessel identifiers, such as the IMO number (*NAF field code “IM”*) when available could be used as secondary identifiers. This has served us well however, unlike the IMO number, the RC assigned to a vessel can change over the life of a vessel particularly when ownership and/or the flag of the vessel changes and new registrations are issued. Additionally, although infrequent, if a vessel is removed from service or scrapped, it is possible that the company could register and reassign the RC number to a replacement vessel.

To oversimplify, with the current setup for Commission VMS, when a NAF message is received, THEMIS searches the SPRFMO Record of Vessels information and matches to a profile linked to the International Radio Call Sign. Normally, this serves the intended purpose and the vessel profile displays on Commission VMS based on this linkage to the SPRFMO Record of Vessels (RoV). However, as the RoV retains a listing of all vessels, both those currently authorized and those previously authorized, if a RC identifier has been reused it is possible that the incoming NAF message may be linked to the initial vessel with that RC resulting in erroneous vessel information displaying (e.g. wrong name) on Commission VMS.

Although infrequent, two such incidents were detected during the reporting period where, in separate incidents, new vessels were added to the SPRFMO RoV (one in July and the other in September 2024) to replace vessels no longer in service (one a replacement for a vessel that sank and another a replacement for a vessel scrapped) where the RC registered to the new vessel was the same RC number previously used on the former vessels.

While the NAF messages for the two vessels were formatted and transmitted correctly by the Member, when imported to THEMIS the RC in the NAF message matched to a previous vessel in the data base and not the intended “new” vessel resulting in the vessel VMS track being displayed with the incorrect vessel name. The issue was detected during a cross-check of “new vessels” added to the RoV and VMS records and subsequent follow up with the Member. Once the issue was detected, CLS was engaged, and the situation was ultimately rectified. The NAF messages were linked to the correct RoV vessel profile and commenced displaying correctly. Actions were also taken by CLS to investigate means, and take steps, to prevent future incidents, possibly by prioritizing linking to “active” vessels over “inactive” vessels.

During discussions regarding this situation, it was suggested that the inclusion of the IMO numbers as a secondary control may enhance the data matching process with the RoV given that number will never change over the life of the vessel. Currently it appears that the only consistent numeric vessel identifier used in NAF messages is the RC number. A preliminary review of recent NAF messages from vessels of various flags indicates that the IMO field code “IM” is rarely present. Only a few vessels had NAF messages including the “IM” field. Furthermore, it appears that vessels from 4 flags use only the RC field code with the vessel name whereas the NAF messages for vessels of other flags included the vessel name and other identifiers, most



common being the external registration field (*NAF field code "XR"*) but occasionally the Internal Reference Number (*NAF field code "IR"*) as well. However, it should be noted that often, the data contained in the "XR" field was frequently (but not always) the actual IMO number assigned to the vessel, not the registration number appearing in the SPRFMO RoV.

On the surface, if the IMO number is being sent in the NAF message, it would seem prudent to have it appear as the "IM" field rather than in other fields. It is as simple as updating the populating of the NAF message to have the IMO number appear in the "IM" field and, if provided, the registration number of the vessel in the "XR" field. This would likely resolve the issue for fleets already including the IMO number. Given the evolution of the SPRFMO VMS program since its inception, there may be a desire to reflect more broadly on the content and minimum requirements of future VMS data transmissions, particularly in this case pertaining to vessel identification fields.

A second, minor administrative and analysis, issue connected to the NAF message content arose with respect to querying the newly developed "Rejected NAF Message" folder. The underlying assumption was that it would be easy to sort by Member and follow up if significant number of messages were being rejected by THEMIS for format errors. While in practice this is generally how it works, the program was built to leverage the "FROM" field (*NAF field code "FR"*) to identify the source. It has since been realized that not all users send NAF message including a "FR" field (it is not required with respect to the vessel nationality as the Flag State ("FS") field can provide this information) and hence it is not always possible to group messages by source.

Given the variability of situations and practices by different Members/ CNCPs, additional reflection and analysis may be required before arriving at any conclusions or recommendations regarding incorporation into the CMM 06 guidance regarding the content of NAF messages. However, in the absence of specific amendments to the CMM there is still utility for Members/CNCPs to begin adding the vessels IMO number to the NAF messages in the "IM" field and include a "FR" field to indicate the FMC source (3-alpha country/flag code).

7. VMS Issues Overview

The purpose of the Commission VMS is to continuously monitor on a "near real-time" basis the movements and activity of vessels authorised by the Members/CNCPs and included on the SPRFMO Record of Vessels. The combination of GPS transponders, satellite receivers, earth receiving stations and automated data forwarding and display programs is quite efficient at tracking vessels at sea and visually displaying a track of vessel positions and movements. However, with millions of VMS positions being transmitted and received over the course of a year it is inevitable that there will be occasional disruptions, gaps, and data abnormalities appearing on the Commission VMS display due to any number of factors.

There has been significant improvement in the continuity of VMS data displaying on Commission VMS. The number of disruptions and gaps have reduced over the past few years and most of the recent disruptions and data gaps are isolated to individual vessels for relatively short periods of time, with data display resuming with minimal intervention from the Secretariat. There is no indication that any of these disruptions are the result of nefarious actions of vessel operators.

In terms of the number of VMS issues included in the annual Compliance Assessment, there has been a decrease from 75 issues for 2021-22 to 69 in 2022-23 and the most recent reporting period the number of issues has dropped to 29, predominately disruptions of short duration. While these disruptions require consideration, in isolation, they have relatively minor impacts on the overall operations and effectiveness of the Commission VMS. While there is need to continue to document issues and follow up in a timely manner, they are of minimal consequence to the overall vessel monitoring program. More significant issues to the



overall monitoring program would be vessels arriving or operating in SPRFMO for potentially longer periods of time without their positional location information being displayed on Commission VMS.

During this reporting period most of the VMS issues detected are disruptions of a relatively short duration, the VMS data has been recovered and individually the incidents have minimal impact on the overall operations of Commission VMS. Notwithstanding, there were several incidents detected where vessels were within the SPRFMO VMS reporting area without their VMS displaying on Commission VMS for longer periods. The specific VMS issues detected, and their causes, are outlined in the VMS section (CTC12-Doc10.1) associated with the Draft Compliance Report (CTC12-Doc10). These 29 VMS issues will be reviewed at CTC at the annual meeting.

8. VMS Data Analysis and Support to Other CMMs

In addition to near real-time monitoring of authorised vessels active in SPRFMO, Commission VMS is intended to support the implementation of other SPRFMO CMMs through verification of vessel positional data to corroborate, for example, fishing activity and transshipment data and to monitor compliance. It was previously noted that to achieve this, as a first step, the Secretariat requires access to the full VMS database. This has been a work in progress for a few years but as outlined in last year's Implementation Report there have been several unplanned impediments delaying progress for achieving this goal.

This year we have overcome various hurdles and in June 2024 our database provider (Dragonfly) worked with our VMS service provider (CLS) to successfully establish an API for the transfer of vessel positional data from THEMIS to the SPRFMO Database (reference the Data Management Update FAC12-Doc07.2). Since then, there has been ongoing review and validation of the VMS positional data extracted to ensure completeness of records and datasets for future comparative analysis.

Preliminary findings are positive, and the API development has been successful. The next steps will be to refine the data for analysis and develop the means and scripts required for the relevant cross-referencing / data analysis to generate the desired checks and reports. (This of course also relies on the other datasets to be collected, stored, and structured in useable formats within the SPRFMO database. Again, work in progress in parallel by the Data Manager).

9. VMS Performance Monitoring and Workplan

The time spent on Commission VMS is significant. To have an efficient and effective VMS system with reliable information and data it is necessary to have appropriate checks and balances to minimize data gaps and delays in positional information to Commission VMS and to keep abreast of other VMS issues requiring attention (e.g., duplicate vessels, erratic positions, alerts, missing information, etc). The Secretariat continues to work closely with the VMS Service provider, and the relevant Member/CNCP VMS Points of Contact to identify and resolve issues to enhance performance of Commission VMS.

Over time, it is expected to see a continued decrease in number of prolonged disruptions requiring Secretariat intervention, however Commission VMS will continue to require a dedicated focus, spot checks, and daily quality control to ensure it meets the threshold of continuous monitoring of SPRFMO vessels. Some of this workload has already been reduced or modified with the development of additional "Alerting" mechanisms to detect stoppages and irregularities. Progress is expected to continue over the coming year and into the future with the automation of other components such as data verification checks and cross-referencing with other data holdings/sources. Collaboration with the Data Manager and the database provider to identify and finetune datasets and develop potential reports has commenced as part of the broader SPRFMO data reporting development.

The development and reporting on indicators of VMS performance such as data gap analysis for missing and delayed VMS reports continues to be a viable concept and preliminary "proof of concept/utility" testing has



recently begun. However, with the demand currently on the need to work on data analysis for more established reports ongoing work is delayed until after the annual meeting. The sections previously outlined in the VMS workplan continue to be the guiding principles for the Secretariat in respect to Commission VMS.

These include a focus on identifying:

- SPRFMO vessels in the Convention Area without displaying VMS;
- VMS Gaps - Missing and Incomplete VMS data;
- Situations with delayed receipt of VMS data;
- The cause of disruptions and other VMS vessel related issues;
- VMS system (THEMIS) or Administrative Issues impacting performance or efficiency.

10. Updates and Observations

10.1. Skywave VMS Units

Following up from last year's report, unfortunately the resolution to the receipt of positional data by CLS from Skywave Units remains unresolved. This issue arose in respect to an Australian research vessel that infrequently conducts short duration plankton surveys in SPRFMO. After obtaining an access ID/user password and engaging CLS it was thought that there may have been a work around involving another receiving station configured for SKYWAVE and then a conversion of data for inclusion into THEMIS. Unfortunately, this did not materialize as being a "shared user" was not a viable option. Although unconventional, to resolve the situation, CLS has offered to donate an Iridium unit to CSIRO for use by the vessel if it returns to SPRFMO. However, it does not seem that there is a clear mechanism administratively to facilitate this approach.

10.2. Vessels operating in SPRFMO without being displayed on Commission VMS

Again, this year, there have been several situations detected where authorised SPRFMO vessels, with functioning VMS units onboard, began operating in SPRFMO without their VMS positional information displaying on Commission VMS (specific cases are identified in the VMS section of the Compliance report). While none of these incidents appear to be of nefarious intent it does highlight a potential weakness in the current vessel monitoring situation.

Often these situations come to light if the vessel later starts appearing on Commission VMS already in the Convention Area or is detected during ad hoc cross checks with other data sources such as Port Inspections, Transshipment, and/or Transfer (bunkering) related reports. Now that the new SPRFMO database is in place, it is suggested that work in 2025 continue to collate and store SPRFMO data holdings to improve and automate, the cross referencing of VMS against other SPRFMO data holdings to better identify any potential deficiencies in VMS reporting (or other data/compliance issues).

10.3. Engagement with other RFMOs

The Pan-Pacific Fisheries Compliance Network is an informal group of RFMO Compliance Officers supported logistically by the International Monitoring, Control, Surveillance (IMCS) Network that was established in 2020 to help foster better networking between RFMO colleagues in the Pacific. The group convenes virtually several times a year for one-hour sessions for general discussion on over-arching topics of mutual interest. There is also opportunity for smaller group discussions and exchange on topics of specific interest. Seeking best practices and support regarding VMS issues was often a common issue raised at several meetings and led to several virtual side meetings in March/April 2024 supported by the IMCS Network between participants with an interest in VMS issues (WCPFC, CCAMLR, NPFC, and SPRFMO).



Discussion focused largely on issues with accessing large volumes of VMS data and information, mechanisms to analyse large volumes of positional data, and the use of VMS data for analysis and cross referencing with other data holdings. These meetings were productive in terms of learning of the experience of others and ideas on the tools/tips to try and streamline and expedite analysis but did not lead to any “one size fits all” solutions. While every organization has different nuances to consider, it was apparent that SPRFMO is reasonably well advanced with regards to VMS and issue identification and resolution.

10.4. Proposed Revision of the Annual Maintenance Fees

During the SPRFMO-CLS June meeting in Wellington, CLS raised the issue of the currently high annual inflation rates that were not envisioned when the initial agreement was entered into in 2017. Article 4.4 “Annual revision of Annual Maintenance Fees” provides for an automatic fixed annual increase for inflation. CLS Oceania is proposing an amendment to the Service Contract to increase the fixed annual maintenance fee by 1.5%. This would result in a revised rate of 3.5%, fixed for the next 3 years.

In August 2024 CLS Oceania emailed this amendment for an increase in the rate to the Executive Secretary, for inclusion for consideration at the Annual Meeting. It is noted that SPRFMO budget has an ongoing contingency fund of \$10,000 available for unanticipated VMS issues. It is suggested that CTC consider the proposed increase and provide guidance to the FAC/COMM on whether the Executive Secretary should be directed to amend the existing contract.

11. Summary

In summary, much has been done or is in progress, to improve the accuracy, efficiency, and functionality of the Commission VMS, particularly with respect to the day-to-day monitoring. Emphasis for 2025 and beyond will continue to focus on enhancing VMS data analysis and cross-referencing capabilities. This will leverage the extraction of VMS data from THEMIS to the SPRFMO database and build the linkages to carry out, to the extent possible, automated reporting and analysis to support compliance with VMS CMM requirements and other CMMs. This component part of a broader workplan for the enhancement of the new SPRFMO database.



ANNEX 1: VMS - UNIQUE VESSELS REPORT (01 Oct 2023 – 30 Sept 2024)

Australia	China	China	China
ANTARCTIC DISCOVERY	FU YUAN YU7617	FUYUANYUYUN992	HANYI717
DIANA	FU YUAN YU7618	GANG TAI 1	HANYI76
PETUNA ENDEAVOUR	FU YUAN YU7619	GANG TAI 8	HANYI78
Belize	FU YUAN YU7870	GUOHONG5	HANYI799
XIANG HAI	FU YUAN YU7871	HAI DE LI 703	HANYI805
Chile	FU YUAN YU7872	HAI DE LI 708	HANYI838
ANGAMOS 9	FU YUAN YU7873	HAI FENG 1	HANYI86
PUERTO BALLENA	FU YUAN YU7888	HAI FENG 3	HANYI877
China	FU YUAN YU7889	HAI FENG LONG 1	HANYI885
CHANG SHUN 6	FU YUAN YU7892	HAI FENG LONG 2	HE BEI 8588
CHANG SHUN 7	FU YUAN YU7893	HAI FENG LONG 6	HE BEI 8589
CHANG SHUN 8	FUYUANYU7631	HAI LI 18	HEBEI 8590
CHANG SHUN 9	FUYUANYU7632	HAI LI 28	HEBEI 8598
CHANG TAI 801	FUYUANYU7633	HAI LI 38	HEBEI 8599
CHANG TAI 802	FUYUANYU7634	HAI LI 8	HENG HONG 11
CHANG TAI 806	FUYUANYU7635	HAI XING 1	HENGXIN1
CHANG TAI 809	FUYUANYU7636	HAI ZHI XING 801	HENGXIN11
CHANG TAI 810	FUYUANYU7637	HAIDELI709	HENGXIN15
CHANG TAI 811	FUYUANYU7638	HAIFENGLONG 5	HENGXIN16
CHANG TAI 812	FUYUANYU7639	HAIFENGLONG7	HENGXIN7
DAPINGYUYUN99	FUYUANYU7640	HAIFENGLONG8	HENGXIN78
DONG YU 1529	FUYUANYU7641	HAN YI 21	HONG DA 18
DONG ZHOU 21	FUYUANYU7642	HAN YI 3	HONG DA 2
DONG ZHOU 22	FUYUANYU7643	HAN YI 6	HONG PU 1
DONGZHOU17	FUYUANYU7644	HAN YI 611	HONG PU 2
FENG CHENG 103	FUYUANYU7645	HAN YI 7	HONG PU 37
FENGHUI 9	FUYUANYU7646	HAN YI 788	HONG PU 5
FU XIN	FUYUANYU7647	HAN YI 8	HONG PU 57
FU YUAN YU 7601	FUYUANYU7648	HAN YI 899	HONG PU 6
FU YUAN YU 7602	FUYUANYU7649	HANYI 22	HONG PU 88
FU YUAN YU 7603	FUYUANYU7650	HANYI15	HONG RUN 1
FU YUAN YU 7604	FUYUANYU7655	HANYI16	HONG RUN 11
FU YUAN YU 7605	FUYUANYU7656	HANYI18	HONG RUN 16
FU YUAN YU 7606	FUYUANYU7670	HANYI19	HONG RUN 18
FU YUAN YU 7882	FUYUANYU7671	HANYI23	HONG RUN 2
FU YUAN YU 7883	FUYUANYU7700	HANYI27	HONG RUN 3
FU YUAN YU 7886	FUYUANYU7701	HANYI277	HONG RUN 55
FU YUAN YU 7887	FUYUANYU7703	HANYI55	HONG RUN 57
FU YUAN YU YUN 995	FUYUANYU7704	HANYI57	HONG RUN 6
FU YUAN YU7611	FUYUANYU7706	HANYI58	HONG RUN 668
FU YUAN YU7612	FUYUANYU7711	HANYI62	HONG RUN 68
FU YUAN YU7613	FUYUANYU7713	HANYI66	HONG RUN 75
FU YUAN YU7614	FUYUANYUYUN877	HANYI67	HONGPU12
FU YUAN YU7615	FUYUANYUYUN878	HANYI68	HONGPU16
FU YUAN YU7616	FUYUANYUYUN991	HANYI706	HONGPU17



China	China	China	China
HONGPU3	HUAYING77	JING YUAN 608	LURONGYUANYU833
HONGPU31	HUAYING821	JING YUAN 626	LURONGYUANYU835
HONGPU7	HUIZELENGYUN15	JING YUAN 628	LURONGYUANYUYUN 667
HONGPU701	JIA DE 1	JINHAI857	LURONGYUANYUYUN177
HONGPU778	JIA DE 17	JU LONG JIA YA 14	LURONGYUANYUYUN668
HONGPU779	JIA DE 18	JU LONG JIA YA 17	LURONGYUANYUYUN898
HONGPU9	JIA DE 21	JU LONG JIA YA 22	LUWEIYUANYUYUN 777
HONGRUN107	JIA DE 56	JU LONG JIA YA 28	MING WANG
HONGRUN108	JIA DE 6	JU RONG YU 11	MING XIANG 801
HONGRUN109	JIA DE 7	JU RONG YU 12	MING XIANG 807
HONGRUN17	JIA DE 8	JULONGJIAYA12	MING XIANG 816
HONGRUN27	JIAD 58	LIAO YU 8	MING XIANG 817
HONGRUN76	JIAD27	LIAO YU 9	MING XIANG 818
HONGRUNLENG1	JIAD55	LIAO YU ER HAO	MING XIANG 819
HUA LI 16	JIAD68	LIAO YU YI HAO	MING XIANG 857
HUA LI 17	JIAD76	LU HUANG YUAN YU 116	MING XIANG 868
HUA LI 18	JIN HAI 616	LU QING YUAN YU 161	MING XING
HUA LI 19	JIN HAI 688	LU QING YUAN YU 162	MING YUAN
HUA LI 28	JIN HAI 701	LU RONG YUAN YU 158	MING ZHOU 622
HUA LI 8	JIN HAI 709	LU RONG YUAN YU 607	MING ZHOU 8
HUA XIANG 801	JIN HAI 711	LU RONG YUAN YU 608	MING ZHOU 839
HUA YING 1	JIN HAI 715	LU RONG YUAN YU 609	MINGEN6
HUA YING 201	JIN HAI 716	LU RONG YUAN YU 610	MINGEN7
HUA YING 205	JIN HAI 717	LU RONG YUAN YU 668	MINGXIANG805
HUA YING 208	JIN HAI 718	LU RONG YUAN YU 678	MINGXIANG808
HUA YING 209	JIN HAI 728	LU RONG YUAN YU 688	MINGXIANG811
HUA YING 217	JIN HAI 758	LU RONG YUAN YU 779	MINGXIANG821
HUA YING 261	JIN HAI 767	LU RONG YUAN YU 808	MINGXIANG826
HUA YING 58	JIN HAI 771	LU RONG YUAN YU 809	MINGXIANG828
HUA YING 78	JIN HAI 777	LU RONG YUAN YU YUN 678	MINGXIANG858
HUA YING 803	JIN HAI 779	LU RONG YUAN YU YUN 789	MINGXIANG877
HUA YING 809	JIN HAI 788	LU YAN YUAN YU 017	MINGXIANG878
HUA YING 811	JIN HAI 824	LULANYUANYU058	MINGXIANG889
HUA YING 813	JIN HAI 829	LULANYUANYU059	MINGXIANG966
HUA YING 815	JIN HAI 856	LULANYUANYU068	MINGXIANG977
HUA YING 817	JIN HAI 858	LULANYUANYU069	NING TAI 1
HUA YING 818	JIN HAI 866	LULANYUANYU088	NING TAI 11
HUA YING 819	JIN HAI 868	LURONGYUANYU186	NING TAI 12
HUA YING 87	JIN HAI 878	LURONGYUANYU187	NING TAI 16
HUA YING NO.207	JIN HAI 886	LURONGYUANYU701	NING TAI 17
HUAHENG11	JIN HAI 888	LURONGYUANYU702	NING TAI 18
HUAXIANG8	JINFENG58	LURONGYUANYU708	NING TAI 19
HUAYING218	JINFENG767	LURONGYUANYU709	NING TAI 2
HUAYING66	JINFENG858	LURONGYUANYU831	NING TAI 21
HUAYING76	JING YUAN 601	LURONGYUANYU832	NING TAI 22



China	China	China	China
NING TAI 26	NINGTAI88	RONG YUAN YU 169	SHUNZE6
NING TAI 27	OU YA 1	RONG ZHOU	SHUNZE677
NING TAI 28	OU YA 17	RONGHUA23	SHUNZE68
NING TAI 35	OU YA 18	RONGHUA25	SHUNZE688
NING TAI 38	OU YA 19	RONGHUA26	SHUNZE689
NING TAI 5	OU YA 7	RONGHUA27	SHUNZE7
NING TAI 52	OU YA 8	RONGHUA28	SHUNZE72
NING TAI 55	OU YA 9	RONGHUA29	SHUNZE726
NING TAI 57	PU YUAN 707	RONGHUA30	SHUNZE728
NING TAI 58	PU YUAN 711	RUN DA 601	SHUNZE729
NING TAI 6	PU YUAN 713	RUN DA 602	SHUNZE75
NING TAI 61	PU YUAN 715	RUN DA 605	SHUNZE76
NING TAI 616	PU YUAN 716	RUN DA 607	SHUNZE77
NING TAI 617	PU YUAN 718	RUN DA 610	SHUNZE777
NING TAI 62	PU YUAN 719	RUN DA 617	SHUNZE801
NING TAI 65	PU YUAN 720	RUN DA 618	SHUNZE805
NING TAI 66	PU YUAN 721	RUN DA 677	SHUNZE806
NING TAI 69	PU YUAN 755	RUN DA 806	SHUNZE807
NING TAI 7	PU YUAN 768	RUN DA 9	SHUNZE811
NING TAI 71	PU YUAN 775	RUNDA 18	SHUNZE85
NING TAI 75	PU YUAN 777	RUNDA 216	SHUNZE86
NING TAI 76	PU YUAN 802	RUNDA 25	SHUNZE868
NING TAI 77	PU YUAN 803	RUNDA 603	SHUNZE87
NING TAI 78	PU YUAN 805	RUNDA 613	SHUNZE881
NING TAI 8	PU YUAN 807	RUNDA816	SHUNZE882
NING TAI 81	PU YUAN 808	SHEN GANG SHUN 6	SHUNZE9
NING TAI 83	PU YUAN 811	SHEN GANG SHUN 8	SHUNZE98
NING TAI 85	PU YUAN 816	SHUN XING 16	SHUNZELENGYUN5
NING TAI 86	PU YUAN 817	SHUN XING 17	SU YUAN YU 6
NING TAI 87	PU YUAN 818	SHUN XING 18	SU YUAN YU 9
NING TAI 89	PU YUAN 819	SHUN ZE 25	TAI XING 1
NING TAI 9	PU YUAN 820	SHUN ZE 815	TAO YUAN 605
NING TAI 97	PU YUAN 826	SHUN ZHOU 811	TAO YUAN 607
NING TAI LENG 5	PU YUAN 827	SHUN ZHOU 815	TIAN XIANG
NING TAI LENG 7	PU YUAN 835	SHUN ZHOU 817	TIAN XIANG 57
NING TAI LENG 8	PU YUAN 837	SHUNHANG68	TIAN XIANG 58
NINGFENLENG1	PU YUAN 838	SHUNHANG86	TIAN YUE 1
NINGTAI 15	PU YUAN 855	SHUNZE 958	WAN XIN 76
NINGTAI51	PU YUAN 856	SHUNZE1	WANXIN32
NINGTAI601	PU YUAN 868	SHUNZE17	WANXIN38
NINGTAI615	PU YUAN 885	SHUNZE18	WANXIN52
NINGTAI717	PU YUAN 887	SHUNZE23	WANXIN87
NINGTAI72	PU YUAN 898	SHUNZE27	WEI YU 19
NINGTAI727	PUYUAN886	SHUNZE5	XIN JI LI 15
NINGTAI815	RONG YUAN YU 168	SHUNZE58	XIN JI LI 16



China	China	Liberia	Panama
XIN JI LI 55	ZHOU YU 908	ACONCAGUA BAY	MABAH
XIN JI LI 56	ZHOU YU 915	EVEREST BAY	MYLO
XING BANG 999	ZHOU YU 916	HAI GONG YOU 309	NEW HARMONY
XING WANG 111	ZHOU YU ER HAO	HAI XING	NEW SMILE
XING WANG 222	ZHOU YU YI HAO	HE SHUN	NEW TAKATSUKI
XING WANG 333	ZHOUHONG YUAN 16	SANJIN 3025	NO. 2 POHAH
XINHAILENG1	ZHOUHONG YUAN 7	WEI NING	NO.1 POHAH
XINHAILENG2	ZHOUPU818	New Zealand	OCEAN CRYSTAL
YI FENG RUN 6	ZHOUYU917	AMALTAL MARINER	OCEAN SPLENDID
YING HAI 798	ZHOUYU918	JANAS	OCEAN STAR 86
YONG XING 1	ZHOUYU919	MARINE STAR II	PROSPERITY 12
YONGFA17	ZHOUYU920	SAN AOTEA II	RUI SHENG
YONGFA18	ZHOUYU921	SAN ASPIRING	RYOMA
YUAN SHENG 6	ZHOUYU922	SANTA MARIA	SALGIR
YUANJIA1	ZHOUYU925	TANGAROA	SAMBONG HERA
ZHE PU YUAN 37	ZHOUYU926	TASMAN VIKING	SHIN HO CHUN NO. 101
ZHE PU YUAN 58	ZHOUYU927	Panama	SHUN ZE LENG 6
ZHE PU YUAN 67	ZHOUYU928	ANGARA	SHUN ZE LENG 7
ZHE PU YUAN 68	ZHOUYU929	ANGEL 118	STAR COURAGE
ZHE PU YUAN 77	ZHOUYU930	ANGEL 38	TAI FU NO. 3
ZHE PU YUAN 98	ZHOUYU956	ANGEL NO.1	TAI JI
ZHEN FA 5	ZHOUYU957	ANGEL NO.2	TRITON REEFER
ZHEN FA 7	ZHOUYU958	AT GLORY	TUNA PRINCESA
ZHEPUYUANLENG7	ZHOUYU959	AT LUCKY	ULTRA ENERGY
ZHONG JU 18	ZHOUYU969	BAO LUCKY	ZHONG XIE 8
ZHONGJU1	ZHOUYU970	BOYANG BERING	ZHONG YU MARINE
ZHONGJU365	ZHOUYU971	BOYANG CAPELLA	Peru
ZHONGJU61	ZHOUYU972	CHIKUMA	ALESSANDRO
ZHONGJU7	ZHOUYU975	CONCORD BREEZE	ALEXANDRA I
ZHONGJU816	Cook Islands	CONCORD EXPRESS	ALEXANDRA II
ZHONGJU817	B PACIFIC	CONCORD SERENITY	ALEXANDRA III
ZHONGJU819	HAI SOON 61	DINOK	ALEXANDRA IV
ZHONGJU821	European Union	DON REEFER	ALEXANDRA V
ZHONGJU88	ALINA	FENG YU	ALEXANDRA VI
ZHOU HONG YUAN 1	ANNELIES ILENA	FRIO AEGEAN	ALEXANDRA VII
ZHOU HONG YUAN 2	MAARTJE THEADORA	FRIO HELLENIC	ALEXANDRA VIII
ZHOU HONG YUAN 9	MARGIRIS	FRIO LAS PALMAS	ALEXANDRA X
ZHOU PU 27	SIMONAS DAUKANTAS	FRIO PACIFIC	ASPE I
ZHOU PU 5	TRONIO	FRIO POSEIDON	BAMAR VIII
ZHOU PU 668	Korea	FULL KUO SHIN	CARACOL
ZHOU PU 806	JOCHOH	HAI GONG YOU 303	COSTA DEL SOL
ZHOU PU 98	MONONOK	HAI ZHI RUN 7	DANIEL
ZHOU YU 7	NO.2 JOCHOH	HARU	DON MOISES III
ZHOU YU 8	NO.5 DONG IL	HARVEST 62	EL CANDIRU I
ZHOU YU 901	NOEL	HE TAI	ESTRELLA DE DAVID 10
ZHOU YU 902	SEJONG	KAI DE	ESTRELLA DE DAVID 5
ZHOU YU 905	SOHOH	KHANA	GUIAME DIVINO CAUTIVO
ZHOU YU 906	<i>Left Blank</i>	LADY TUNA	HOBO I
ZHOU YU 907	<i>Left Blank</i>	LIAOYU REEFER 1	HOBO III



Peru	Peru	Russian Federation	Vanuatu
JESUCRISTO EL GALILEO	SAN MARTIN 10	ADMIRAL SHABALIN	HAI FENG 678
JESUS FRANCISCO	SAN MARTIN 12	KOMANDOR	HAI FENG 688
JORGE ANTONIO I	SAN MARTIN 3	MAIRONIS	HAI FENG 718
MANUELITO I	SAN MARTIN NRO 4	PAMYAT KIROVA	HAI FENG 728
MANUELITO II	SAN MARTIN NRO. 5	Chinese Taipei	HUA YANG
MANUELITO III	SAN MARTIN NRO. 6	SHENG HONG	MING HANG 5
MARIA FELIX I	SEBASTIAN	SHUN TIAN FA NO.168	MING HANG 7
MARIA FELIX III	SEBASTIAN 1	Vanuatu	QI HANG
MARIA FELIX IV	SEBASTIAN 2	ANGEL 101	RONG JIN ZHI LU
MARIA JOSE	SIEMPRE FORTUNA	ANGEL 106	SHEN JU
MEGAN	TERRIBLE III	ANGEL 22	YONG XIANG 9
MI FIEL AMIGO	VICTORIO	CHANG SHENG 36	HAI FENG 678
NEZARETH 1	VICTORIO I	HAI FENG 618	HAI FENG 688
SALOME II	WALTER DAVID	HAI FENG 658	End of Listing
SAN MARTIN	YOSSY I	HAI FENG 668	