

**Conservation Measure 10-04 (2018)**  
**Automated satellite-linked Vessel Monitoring Systems (VMS)**

Species	all
Area	all
Season	all
Gear	all

The Commission,

Recognising that in order to promote the objectives of the Convention and further improve compliance with the relevant conservation measures,

Convinced that illegal, unreported and unregulated (IUU) fishing compromises the objective of the Convention,

Recalling that Contracting Parties are required to cooperate in taking appropriate action to deter any fishing activities which are not consistent with the objective of the Convention,

Mindful of the rights and obligations of Flag States and Port States to promote the effectiveness of conservation measures,

Wanting to reinforce the conservation measures already adopted by the Commission,

Recognising the obligations and responsibilities of Contracting Parties under the Catch Documentation Scheme for *Dissostichus* spp. (CDS),

Recalling provisions as made under Article XXIV of the Convention,

Committed to take steps, consistent with international law, to identify the origins of *Dissostichus* spp. entering the markets of Contracting Parties and to determine whether *Dissostichus* spp. harvested in the Convention Area that is imported into their territories was caught in a manner consistent with CCAMLR conservation measures,

hereby adopts the following conservation measure in accordance with Article IX of the Convention:

1. The following definitions apply to this conservation measure, including its annexes:
  - (i) Automatic location communicator (ALC<sup>1</sup>): means a satellite position transmitter that is capable of continuously, automatically and independently of any intervention of the vessel, transmitting the vessel monitoring system (VMS) data referred to in (v) hereunder.
  - (ii) Fisheries monitoring centre (FMC): means the government authority or agency of a Flag State responsible for managing VMS for its flagged fishing vessels.
  - (iii) Manual reporting: means the transmission via email or facsimile of the geographical position (latitude and longitude) of a fishing vessel when an ALC fails to transmit VMS data.
  - (iv) VMS: means a satellite-based monitoring system which, at regular intervals, provides VMS data. CCAMLR's VMS consists of:
    - (a) an ALC;

- (b) a transmission medium; and
  - (c) hardware and software used by FMCs and the Secretariat to monitor fishing vessel locations.
- (v) VMS data include:
- (a) the ALC unique identifier;
  - (b) the current geographical position (latitude and longitude) of the vessel;
  - (c) the date and time (expressed in Coordinated Universal Time (UTC)) of the fixing of the position of the vessel in paragraph 1(v)(b);
  - (d) the vessel's speed (calculated based on paragraphs 1(v)(b) and (c));
  - (e) the vessel's course (derived from paragraphs 1(v)(b) and (c)).
2. Each Contracting Party shall ensure that its fishing vessels, licensed<sup>2</sup> in accordance with Conservation Measure 10-02, are equipped with an ALC that meets the minimum standards contained in Annex 10-04/C. For finfish fisheries, commencing 1 December 2015, the ALC must transmit VMS data every hour while the fishing vessel is operating in the Convention Area. For all other fisheries, the ALC must transmit VMS data every four hours, with this requirement to change to every hour commencing 1 December 2019.
3. In the event that a Contracting Party obtains information that indicates an ALC does not meet the requirements of Annex 10-04/C, or there is evidence that the ALC has been tampered with, it shall immediately notify the Secretariat and the fishing vessel's Flag State.
4. Each Contracting Party shall ensure that its FMC can automatically receive and transmit VMS data from ALCs. Each Contracting Party is responsible for providing backup and recovery procedures in case of system failures.
5. Each Flag State shall provide the Secretariat with the name, address, email, telephone and facsimile numbers of the relevant authorities of its FMC. Each Flag State shall promptly notify the Secretariat of any changes to these details.
6. Fishing vessel masters, owners or their authorised representatives whose fishing vessel is subject to this conservation measure, shall ensure that the ALC on board their fishing vessel transmits VMS data in accordance with paragraph 2, to the Flag State while the vessel is in the Convention Area. Fishing vessel masters, owners or their authorised representatives shall ensure that:
- (i) the ALC is not tampered with in any way;
  - (ii) VMS data are not altered in any way;
  - (iii) the antennae connected to the ALC is not obstructed in any way;
  - (iv) the power supply of the ALC is not interrupted in any way; and
  - (v) the ALC is not removed from the vessel except for the purposes of paragraph 9.

7. ALCs are not required to transmit VMS data when the fishing vessel is in port for a period of more than one week, subject to prior notification to the Flag State and, if the Flag State requires, to the Secretariat. An ALC must be transmitting VMS data before the fishing vessel moves from the last geographic position transmitted by the vessel's ALC in port. If a vessel's ALC stops transmitting VMS data while in port, the vessel must remain in the same geographical position until the ALC on board starts transmitting VMS data again.
8. If an ALC fails to transmit VMS data, the fishing vessel master, owner or their authorised representative shall provide manual reporting every four hours to the Flag State. The Flag State may transmit this manual reporting to the Secretariat and/or require that the fishing vessel transmit this manual reporting to the Secretariat.
9. Fishing vessels with an ALC that fails to transmit VMS data shall have the ALC repaired or replaced as soon as possible and, in any event, within two months of the VMS data transmission failure. If the fishing vessel returns to port following an ALC VMS data transmission failure, the Flag State shall not permit the vessel to undertake fishing in the Convention Area until the ALC has been replaced in accordance with Annex 10-04/C, or is repaired and is able to transmit VMS data.
10. If a Flag State finds that an ALC has failed to transmit VMS data for twelve hours, the Flag State will notify the fishing vessel master, owner or authorised representative of this. If this situation occurs more than two times within a period of one year, the Flag State of the fishing vessel shall investigate the matter, including having an authorised official examine the ALC in question, in order to establish whether the ALC has been tampered with. The outcome of this investigation shall be forwarded to the Secretariat within 30 days of its completion.
- 11.<sup>3,4</sup> Each Contracting Party shall forward VMS reports and messages received, pursuant to paragraphs 2 and 4, to the CCAMLR Secretariat as soon as possible:
  - (i) but not later than one hour after receipt for those exploratory longline fisheries subject to conservation measures adopted at CCAMLR-XXIII; or
  - (ii) but not later than 10 working days following departure from the Convention Area for all other fisheries.
12. Without prejudice to its responsibilities as a Flag State, a Contracting Party may require its fishing vessels to transmit VMS data directly to the Secretariat, in accordance with paragraph 2, in lieu of the requirements of paragraph 11.
13. Flag States shall notify, by email or other means, the Secretariat within 24 hours of each entry to, exit from and movement between subareas and divisions of the Convention Area by each of its fishing vessels in the format outlined in Annex 10-04/A. When a fishing vessel intends to enter a closed area, or an area for which it is not licensed to fish, the Flag State shall provide prior notification to the Secretariat of the vessel's intentions. The Flag State may permit or direct that such notifications be provided by the fishing vessel directly to the Secretariat.

14. The Secretariat will provide a list of all fishing vessels operating in the Convention Area that includes, without indicating their exact position, their movements between areas, subareas and divisions of the Convention Area to Contracting Parties via the password-protected section of the CCAMLR website.
15. When the Secretariat has not received VMS data pursuant to paragraphs 11 or 12 for 48 consecutive hours, it shall notify the Flag State of the fishing vessel. The Flag State will provide an explanation for the VMS data transmission failure within seven working days. The Secretariat shall advise the Commission if the missing VMS data and the Flag State's explanation are not received from the Contracting Party within seven working days.
16. If VMS data received by the Secretariat indicates the presence of a fishing vessel in an area, subarea or division for which no licence details have been provided by the Flag State to the Secretariat as required by Conservation Measure 10-02, or in any subarea or division for which the Flag State or fishing vessel has not provided prior notification as required by paragraph 13, then the Secretariat shall notify the Flag State. The Flag State will provide an explanation within seven working days to the Secretariat. The explanation shall be provided by the Secretariat to the Commission for consideration at its next annual meeting.
17. The Secretariat shall provide, upon request from a Contracting Party, VMS data without the permission of the Flag State for:
  - (i) planning for active surveillance operations and/or CCAMLR inspections to be undertaken by a Contracting Party in a specified CCAMLR subarea or division;
  - (ii) active surveillance operations and/or CCAMLR inspections undertaken by a Contracting Party in a specified CCAMLR subarea or division; or
  - (iii) supporting search and rescue activities undertaken by a competent Maritime Rescue Coordination Centre (MRCC) subject to the terms of an Arrangement between the Secretariat and the competent MRCC.
18. Contracting Parties that receive any VMS data from the Secretariat shall manage this VMS data in accordance with Annex 10-04/B and the Rules for Access and Use of CCAMLR Data.
19. VMS data shall only be provided by the Secretariat to a requesting Contracting Party for the purposes of paragraphs 17(i) and (ii), subject to the time frames set out in paragraph 11, where the requesting Contracting Party has designated inspectors, in accordance with CCAMLR's System of Inspection, and has carried out active surveillance and/or CCAMLR inspection activity.
20. Contracting Parties requesting the VMS data for the purposes of paragraph 17(i) shall provide the geographic area<sup>5</sup> of the planned surveillance and/or CCAMLR inspection activity. In this case, the Secretariat shall provide the most recent available VMS data for the identified geographic area at a specified point in time no more than 48 hours prior to the commencement of each surveillance and/or CCAMLR inspection activity. In the event that the planned surveillance and/or CCAMLR inspection activity does not proceed,

the Contracting Party will notify the Secretariat and destroy the data, and confirm the data destruction to the Secretariat in writing, without delay. Regardless of whether the planned surveillance and/or CCAMLR inspection activity were conducted or not, the Secretariat shall notify the Flag State(s) that the VMS data were provided to the Contracting Party no later than seven working days after the VMS data provision, and, if applicable, that they have received confirmation that the data have been destroyed.

21. For the purposes of paragraph 17(ii) the Secretariat shall provide VMS data from the previous 10 days, for vessels detected during surveillance, and/or CCAMLR inspection activity, by a Contracting Party, and VMS data for all vessels within 100 n miles of the surveillance and/or CCAMLR inspection activity location. The Secretariat shall provide regular updates of VMS data to the Contracting Party for the duration of the active surveillance, and/or CCAMLR inspection activity. The Flag State(s) concerned shall be provided by the Contracting Party conducting the active surveillance, and/or CCAMLR inspection activity, with a report including the name of the vessel or aircraft on active surveillance, and/or CCAMLR inspection activity, subject to the time frames set out in paragraph 11, and the full name(s) of the CCAMLR inspector(s) and their ID number(s). The Contracting Parties conducting active surveillance, and/or CCAMLR inspection activity, shall make this information available to the Flag State(s) without undue delay after the surveillance and/or CCAMLR inspection activities are completed.
22. Contracting Parties requesting the VMS data for the purposes of paragraph 17(iii) should follow the procedures set out in the Arrangement between the Secretariat and the competent MRCC, including in relation to the provision of VMS data to the requesting Party, and the protection and destruction of that data.
23. A Contracting Party may request the Secretariat to check VMS data from a fishing vessel against the claims on a *Dissostichus* Catch Document (DCD) in order to verify those claims. In doing so, the Secretariat will note when VMS data was submitted manually. A Contracting Party may also request the Secretariat to provide VMS data for a fishing vessel when verifying the claims on a DCD. The VMS data may only be provided by the Secretariat to the requesting Contracting Party in accordance with Annex 10-04/B and the Rules for Access and Use of CCAMLR Data.
24. Contracting Parties may request VMS data for their own flag vessels from the Secretariat.
25. The Secretariat shall report annually to the Commission on the implementation of, and compliance with, this conservation measure.

<sup>1</sup> ALC means any type of satellite position transmitter(s) that can meet the minimum standards for ALCs used in CCAMLR's VMS as outlined in Annex 10-04/C, including, but not limited to, INMARSAT-C, Argos, Iridium.

<sup>2</sup> Includes vessels licensed under French domestic law and vessels licensed under South African domestic law.

<sup>3</sup> This paragraph does not apply to vessels licensed under French domestic law in the EEZs surrounding Kerguelen and Crozet Islands.

<sup>4</sup> This paragraph does not apply to vessels licensed under South African domestic law in the EEZ surrounding Prince Edward Islands.

<sup>5</sup> The area of planned surveillance and/or inspection activity shall be identified by CCAMLR subarea, division, or SSRU, whichever is the smallest geographical scale applicable to this area.

**Information requirements for vessel  
entry, exit and movement reports**

---

Data element	Remarks
Radio call sign	International radio call sign of the vessel.
IMO number	IMO number of the vessel.
Vessel name	
Latitude	
Longitude	
Date	Date of entry, exit or movement.
Time	Time of entry, exit or movement in UTC.
Subarea or division	CCAMLR subarea or division being entered or exited or moved to.
Activity	Fishing for toothfish, fishing for krill, fishing for icefish, transiting or transshipping.

---

### Format for indirect Flag State reporting via email

Code	Code definition	Field contents	Example	Field contents explanation
SR	Start record	No data		No data
AD	Address	XCA	XCA	XCA = CCAMLR
SQ	Sequence number	XXX	123	Message sequence number
TM	Type of message	POS	POS	POS = position report, ENT = entry report, EXI = exit report
RC	Radio call sign	XXXXXXX	AB1234	Maximum of 8 characters
NA	Vessel name	XXXXXXXXXX	Vessel Name	Maximum of 30 characters
LT	Latitude	DD.ddd	-55.000	+/- numeral in GIS format. Must specify - for South and + for North.
LG	Longitude	DDD.ddd	-020.000	+/- numeral in GIS format. Must specify - for West and + for East.
DA	Record date	YYYYMMDD	20050114	8 characters only
TI	Record time	HHMM	0120	4 characters only, using 24-hour time format. Do not use separators or include seconds.
ER	End record	No data		No data

Sample string:

```
//SR//AD/XCA//SQ/001//TM/POS//RC/ABCD//NA/Vessel Name//LT/-55.000//LG/-020.000//DA/20050114//TI/0120//ER//
```

Notes:

- Do not include any other fields.
- Do not include separators (e.g. : . or /) in the date and time fields.
- Do not include seconds in the time fields.

**Provisions on secure and confidential treatment of VMS data  
transmitted pursuant to Conservation Measure 10-04**

1. Field of Application

- 1.1 The provisions set out below shall apply to all VMS data received pursuant to Conservation Measure 10-04.

2. General Provisions

- 2.1 The Secretariat and Contracting Parties transmitting and receiving VMS data shall take all necessary measures to comply with the security and confidentiality provisions set out in sections 3 and 4.
- 2.2 The Secretariat shall inform all Contracting Parties of the measures taken in the Secretariat to comply with these security and confidentiality provisions.
- 2.3 The Secretariat shall take all the necessary steps to ensure that the requirements pertaining to the deletion of VMS data handled by the Secretariat are complied with.
- 2.4 Each Contracting Party shall guarantee the Secretariat the right to obtain, as appropriate, the rectification of VMS data or the erasure of VMS data, the processing of which does not comply with the provisions of Conservation Measure 10-04.

3. Provisions on Confidentiality

- 3.1 All requests for VMS data must be made to the Secretariat in writing. Requests for VMS data must be made by the main Commission Contact or an alternative contact nominated by the main Commission Contact of the Contracting Party concerned. The Secretariat shall only provide VMS data to a secure email address specified at the time of making a request for data.
- 3.2 VMS data shall only be released and used for the purposes stipulated in paragraphs 17 and 23 of this conservation measure.
- 3.3 Where the Flag State chooses not to give permission for the release of VMS data pursuant to paragraph 23, the Flag State shall, in each instance, provide a written report within 10 working days to the Commission outlining the reasons why it chooses not to permit data to be released. The Secretariat shall circulate the report so provided, or notice that no report was received to all Contracting Parties.
- 3.4 For the purpose of implementing paragraphs 17(i) and (ii) each Contracting Party shall make available such VMS data only to their inspectors designated under the CCAMLR System of Inspection.



- 3.5 VMS data shall be transmitted to their inspectors no more than 48 hours prior to entry into the CCAMLR subarea or division where surveillance or inspection is to be conducted by the Contracting Party. Contracting Parties must ensure that VMS data are kept confidential by such inspectors.
- 3.6 Contracting Parties may retain VMS data provided by the Secretariat for the purposes of active surveillance presence, and/or inspections, until 24 hours after the vessels to which the VMS data pertain have departed from the CCAMLR subarea or division. Departure is deemed to have been effected six hours after the transmission of the intention to exit from the CCAMLR subarea or division.

#### 4. Provisions on Security

##### 4.1 Overview

4.1.1 Contracting Parties and the Secretariat shall ensure the secure treatment of VMS data in their respective electronic data processing facilities, in particular where the processing involves transmission over a network. Contracting Parties and the Secretariat must implement appropriate technical and organisational measures to protect VMS data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, and against all inappropriate forms of processing.

4.1.2 The following security issues must be addressed from the outset:

- System access control:  
The system has to withstand a break-in attempt from unauthorised persons.
- Authenticity and data access control:  
The system has to be able to limit the access of authorised parties to a predefined set of VMS data only.
- Communication security:  
It shall be guaranteed that VMS data are securely communicated.
- Data security:  
It has to be guaranteed that all VMS data that enter the system are securely stored for the required time and that they will not be tampered with.
- Security procedures:  
Security procedures shall be designed addressing access to the system (both hardware and software), system administration and maintenance, backup and general usage of the system.

4.1.3 Having regard to the state of the art and the cost of their implementation, such measures shall ensure a level of security appropriate to the risks represented by the processing of VMS data.

4.1.4 Security measures are described in more detail in the following paragraphs.

## 4.2 System Access Control

4.2.1 The following features are the mandatory requirements for the VMS installation located at the Secretariat:

- A stringent password and authentication system: each user of the system is assigned a unique user identification and associated password. Each time the user logs on to the system he/she has to provide the correct password. Even when successfully logged on, the user only has access to those and only those functions and data that he/she is configured to have access to. Only a privileged user has access to all the data.
- Physical access to the computer system is controlled.
- Auditing: selective recording of events for analysis and detection of security breaches.
- Time-based access control: access to the system can be specified in terms of times-of-day and days-of-week that each user is allowed to log on to the system.
- Terminal access control: specifying for each workstation which users are allowed to access.

## 4.3 Authenticity and Data Access Security

4.3.1 Communication between Contracting Parties and the Secretariat for the purpose of Conservation Measure 10-04 shall use secure Internet protocols SSL, DES or verified certificates obtained from the Secretariat.

## 4.4 Data Security

4.4.1 Access limitation to the data shall be secured via a flexible user identification and password mechanism. Each user shall be given access only to the data necessary for their task.

## 4.5 Security Procedures

4.5.1 Each Contracting Party and the Secretariat shall nominate a security system administrator. The security system administrator shall review the log files generated by the software for which they are responsible, properly maintain the system security for which they are responsible, restrict access to the system for which they are responsible as deemed needed and, in the case of Contracting Parties, also act as a liaison with the Secretariat in order to solve security matters.

**Minimum standards for Automatic Location Communicators (ALCs)  
used in CCAMLR's Vessel Monitoring System (VMS)**

1. The Automatic Location Communicator (ALC) shall automatically and independently of any intervention by the fishing vessel, communicate VMS data referred to in paragraph 1(v) of this conservation measure.
2. The data referred to in paragraph 1(v) shall be obtained from a satellite-based positioning system.
3. ALCs fitted to fishing vessels must be capable of transmitting data referred to in paragraph 1(v) at least every fifteen minutes, no later than 1 December 2019.
4. ALCs fitted to fishing vessels must be tamper-proof so as to preserve the security and integrity of data referred to in paragraph 1(v).
5. Storage of information within the ALC must be safe, secure and integrated within a single unit under normal operating conditions.
6. It must not be reasonably possible for anyone, other than the Fisheries Monitoring Centre (FMC), to alter any of the VMS data stored in the ALC, including the frequency of position reporting to the FMC.
7. Any features built into the ALC or terminal software to assist with servicing shall not allow unauthorised access to any areas of the ALC that could potentially compromise the operation of the VMS.
8. ALCs shall be installed on fishing vessels in accordance with the manufacturer's specifications and applicable standards.
9. Under normal satellite navigation operating conditions, positions derived from the data forwarded must be accurate to within 100 metres ( $2 \times$  Distance Root Mean Squared; 2DRMS), i.e. 98 per cent of the positions must be within this range no later than 1 December 2019.
10. The ALC and/or forwarding service provider must be able to support the ability for data to be sent to multiple independent destinations.
11. The satellite navigation decoder and transmitter shall be fully integrated and housed in the same tamper-proof physical enclosure.
12. In the case that the antenna is mounted separately from the physical enclosure, a single common antenna shall be used for both satellite navigation decoder and transmitter, and the physical enclosure shall be connected using a single length of unbroken cable to the antenna.

13. The ALC must have:
- (i) all components sealed by the manufacturer; or
  - (ii) official seals<sup>1</sup>, individually identified with unique serial numbers, applied to any bridge or antennae component that alone, or in conjunction with another component, transmits data.

The details of the ALC's compliance with this paragraph should be provided to the Secretariat in accordance with paragraph 3(xii) of Conservation Measure 10-02.

14. The protocol for ALC installation on fishing vessels should be forwarded by Contracting Parties to the Secretariat or made available upon request to support monitoring, control and surveillance (MCS) purposes. Where possible, the protocol should be accompanied by photos of a standard installation.
15. The ALC must have an alternate power unit, to act as a backup in case of failure of the main power, to enable the ALC to continue to meet the transmission requirements of paragraph 2 of this conservation measure.

<sup>1</sup> Official seals or other mechanisms must be of such a type to indicate whether the ALC has been accessed or tampered with. Port State Contracting Parties may issue such seals as requested by the Flag State. Contracting Parties are encouraged to cooperate for this purpose. All obligations under this conservation measure remain with the Flag State.