

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

CoC Working Group on VMS and related
control systems in the GFCM Area

Tunis, Tunisia, 1-2 October 2013



General overview on Monitoring, Control and Surveillance with particular reference to the GFCM Area, including the role of controls in small- scale fisheries

by GFCM Secretariat



VMS institutional framework

- VMS: the use of satellite communications and navigation to follow the movements of fishing vessels
- 2003 “Declaration of the Ministerial Conference for the Sustainable Development of Fisheries in the Mediterranean” mandated the GFCM to elaborate guidelines for control scheme
- 2005 “General guidelines for a GFCM Control and Enforcement Scheme” identified the establishment of a VMS as a priority
- Rec. GFCM/33/2009/7 “Concerning minimum standards for the establishment of a Vessel Monitoring System in the GFCM Area”
 - Objective of the rec.: contribute to the long-term conservation and management of living marine resources in the GFCM Area through the establishment of VMS
 - Application and satellite tracking devices requirements: Ability to collect and transmit data (e.g. position expressed in latitude and longitude, date, time, speed and course of vessel) to FMC or equivalent authority of flag state at pre-determined intervals of minimum 2 hours
 - Duties of masters, owners or licensees of fishing vessels
 - Role of GFCM Members/GFCM Secretariat

Control of small-scale fisheries: Guidelines for a technical cooperation programme in the monitoring of fishing vessels in the GFCM Area

- *“Members will determine the most suitable approach for monitoring their small-scale and artisanal fisheries. This exercise will take into account variables such as required data sets and desired reporting frequency. In addition it will address the question of required vessel reporting equipment based upon criteria such as power supply, geographical coverage, required initial investment and operating costs. Issues such as the use of terrestrial communications systems, like VHF radio, wireless networks, cellular telephony and data transfer in port, will be given attention in due time”*
- The following should be taken into account to develop a control system for artisanal vessels:
 - Problems of technology and infrastructure that do not arise with larger, professional vessels
 - Questions of power supply, size and emplacement of equipment and, given the large numbers of artisanal vessels
 - Issues such as original investment, cost of maintenance/ reporting
 - Particularities of artisanal vessels (this means that each fishery must be analysed for the optimal technical and economic solution)

7th Session of the GFCM Compliance Committee (May 2013, Split, Croatia)

- GFCM Members under the obligation to establish VMS in conformity with other instruments have already developed VMS operational capacity.
- The following categories have been identified when analyzing the status of implementation of VMS in GFCM Members:
 - GFCM Members which are EU Member States;
 - GFCM Members which are ICCAT Members, with the exception of EU Member States;
 - GFCM Members which are not ICCAT Members;
- *“The implementation of Rec. GFCM/33/2009/07 could pose problems to less than the half of the GFCM membership, mostly the developing coastal States”*
- At the GFCM *“Reflection Day on Small Scale Fisheries and Controls”* (Tunis, 22/6/2013) willingness to continue providing technical and legal assistance to support developing coastal States was indicated, including through pilot studies to test alternative to VMS WG to examine whether a centralized VMS system should be established within GFCM and how (modular approach)

Vessel Monitoring System Requirements (1/3)

SatCom Provider (Argos, Inmarsat, Iridium, etc.)



National vessels



Foreign vessels

1



INTERNET

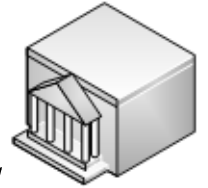
Foreign FMCs



https

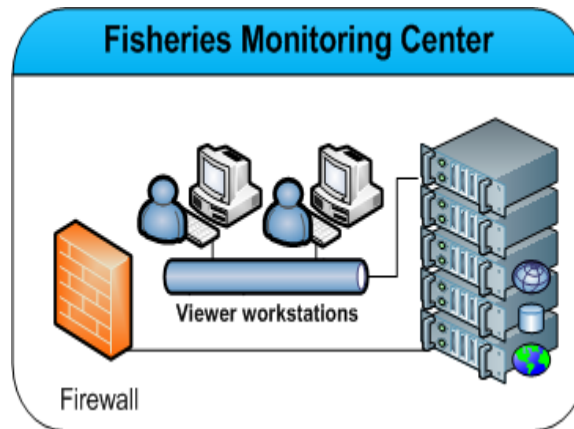
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2

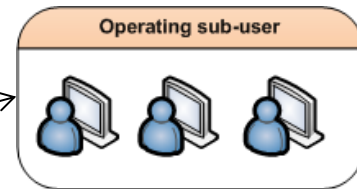
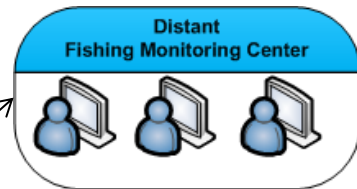


Regional Fishery Management Organizations

https



3



Web



Vessel Monitoring System Requirements (2/3)

- VMS requirements: shipboard equipment, communications infrastructure for transmission of data, ability to receive, store, display and process data, (i.e. fisheries monitoring centre - FMC)
- On-board equipment: transmitter or transmitter-receiver for maritime applications, integrated navigation system typically "GPS", global positioning system (either a component of the vessel's communications system, or a completely independent unit)
- Means of communication: two key elements:
 - From ship to shore
 - Terrestrial network to fisheries monitoring centre
- Until now, only satellite systems have been used for communications from vessels toward the shore, but others are possible
- Transmission to the FMC can be accomplished by virtually any available means (e.g. Internet, ADSL), telephone (fixed or portable) or satellite link
- FMC: data storage and processing through PC based equipment, including communications module providing interface with means of transmission, database providing means of storing and processing data and graphic-geographic software providing visual interface for operators

Vessel Monitoring System Requirements (3/3)

- Shipboard equipment creates data packets at predetermined intervals which is transmitted to the FMC
- FMC makes data available to authorities for their proper use as well as for and required distribution
- This data is legitimately subject to commercial confidentiality
- As a minimum, collected data provide us with a historical view of the movements of all vessels and the ability to deduce certain details on the fishing activity of the vessel
- Most common case of VMS data analysis based on latitude/longitude:
 - Estimation of fishing effort, measured in days at sea
 - Determine ports of landing
 - Control of passage through sensitive fishing zones
- With addition of speed and course:
 - Detection of probability of fishing activity based upon vessel speed
 - Detection of fishing activity, with near certainty, based upon “fishing fingerprint”
 - Planning of follow-up activities
 - Fishing control and conformity (i.e. effort, protected areas, landing)
 - Preventive measures in attributing quotas and limits of fishing effort

**Thank you for your
attention !**

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