

The North Sea Regional Advisory Council



**Spatial Planning Working Group
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VMS DATA : A NOTE

North Sea RAC Objective

1) to formulate a proposal for a pilot study on the provision of data, including VMS data and electronic log books, to identify priority areas of fishery interest and to support and protect fisheries interests in the context of spatial planning. A scoping study to determine the feasibility of collecting fishing activity data would first be carried out by this steering group which would report to the Spatial Planning WG.

Purpose

This note, prepared by Simon Jennings and Joe Horwood of Cefas, provides some background and context about VMS data which may facilitate the Working Group's activities.

What is VMS?

The satellite-based Vessel Monitoring System (VMS) is used for fisheries control and enforcement. The VMS provides information on the position and identity of EU fishing vessels.

From 30 June 1998, the VMS was introduced for vessels exceeding 24 m overall length that operated on the high seas, or vessels that caught fish for reduction to meal and oil. It was extended to all EU vessels exceeding 24 m overall length from 1 Jan 2000, with the long-term intention of increasing coverage of smaller vessels.

Currently, every EU fishing vessel over 15 m in length is tracked by the VMS, which records the position of the vessel at a regular time interval. Positional information is then transmitted to the Fisheries Monitoring Centre of the flag state which retransmits it to the relevant coastal state (for activities within their waters). By 1 January 2006, the system should also record and transmit speed and course. The time interval between transmissions depends on the Member State and location of the vessel, and on the system used, but it is normally between one and two hours.

Since the VMS data describe the positions of individual vessels through time, VMS data provide a potentially valuable source information on spatial and temporal patterns of fishing

activity at all scales. However, VMS data do not indicate whether a vessel is fishing when its position is reported.

Further research is needed to be able to identify whether vessels are fishing or not.

How can VMS data be used?

VMS data can be used for three principal purposes.

To assess fishing activity in relation to control activities such as the distribution of regulatory areas (e.g. closed areas, fishing limits, cold water coral reefs).

To describe the fishing grounds used by individual vessels and fleets and the frequency with which they are used.

To support scientific research on the interactions between fisheries and the environment.

For the fishing industry, VMS data provide an important record of the use of fishing grounds, and the relative importance of those grounds to different fleets, and might be used to establish a 'track record' in relation to marine spatial planning.

For scientific research, many analyses of the interactions between fisheries and the environment require information on fishing activity at much smaller scales than has been required for stock assessment purposes. Vulnerable habitat features, for example, may extend over areas of a few km² rather than entire ICES rectangles. VMS data have enabled small-scale analyses of fishing-environment interactions to be conducted. For example, when assessing the effects of effort redistribution on benthic communities following the 2001 cod box closure.

Data access issues

When using VMS data to assess the use of fishing grounds by fishing fleets, the interactions between fisheries and the marine environment, and compliance with regulations, data for all vessels operating in any area of interest need to be available.

Coastal states have access to all records of fishing activity by EU vessels in their waters and to records for their own flagged vessels in other EU and international waters. This means that individual states cannot compile complete records of fishing activity in areas where they may have fishing interests and thus international co-operation will be required to compile truly 'international' data sets.

The absence of international data sets hampers the assessment of interactions among fleets and between fisheries and the environment. At present the VMS data from the fleets of some EU Member States are freely available to researchers, while data from other Member States are not.

For the scientists to fully benefit from VMS data, position and time data need be linked to data on the size and power of the vessels as well as the gears used. For some studies, such as those of fleet behaviour, it is desirable to know the identity of individual vessels, but mechanisms for anonymous reporting of processed data need to be agreed.

The use of VMS data will be improved when it can be are combined with catch information coming from electronic logbooks.