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NSAC Advice on vessel tracking and monitoring systems
(VMS/AIS)

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1 Background

In recent years a debate had been spurred amongst the fishers, scientists¹ and policy-makers²³ on the applicability and alternate usage of fisheries vessels' tracking systems, namely the VMS and AIS—a monitoring devices. The NSAC took it upon itself to comment on and add to the discussion with the experience and observations of its members, the fisheries sector and the Other Interest Groups. We thank again the Commission for its comprehensive legislative proposal on the revision of Control regulation 1224/2009, including provisions on the vessels' monitoring systems. Being fully aware of the procedural circumstances, we thank the policy-makers, including the European Parliament and the Council, for their attention to below considerations brought to light by the members of the NSAC Skagerrak & Kattegat Working Group and further contemplated by the NSAC Demersal Working Group and NSAC Executive Committee.

2 Legislative basis

Since May 2014, fishing vessels have been equipped with both, a satellite-based tracking and monitoring system i.e. Vessel Monitoring System (VMS) and a Very High Frequency (radio) based system i.e. Automatic Identification System (AIS-a), so as to comply with the Council

¹ Lambert et. al. Implications of using alternative methods of vessel monitoring system (VMS) data analysis to describe fishing activities and impacts. ICES Journal of Marine Science (2012), 69(4), 682 –693. Accessible at: <https://academic.oup.com/icesjms/article/69/4/682/633432>

² PECH Committee Workshop on electronic technologies for fisheries. 2021. Accessible at: [https://www.europarl.europa.eu/RegData/etudes/STUD/2021/652254/IPOL_STU\(2021\)652254_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2021/652254/IPOL_STU(2021)652254_EN.pdf)

³ Taconet, M., Kroodsmas, D., & Fernandes, J.A. 2019. Global Atlas of AIS-based fishing activity - Challenges and opportunities. Rome, FAO. (also available at www.fao.org/3/ca7012en/ca7012en.pdf).



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regulation 1224/2009⁴ establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, and meeting performance standards of the International Maritime Organisation (IMO, chapter V, Regulation 19, section 2.4.5 of the 1974 SOLAS Convention⁵). Both systems deliver data about the vessel's identity, type, geographical position, speed, and course, but meet different goals in relation to international maritime law on vessel safety and the EU CFP control and enforcement.

The AIS-a was designed to increase maritime safety and as a tool to reduce vessel collision and is required for vessels over a certain size by international law and some smaller vessels according to certain national regulations. AIS emits a public signal which is electronically exchanged with other nearby ships and authorities, and it cannot be turned off unless there is a legitimate reason (such as operating in areas with high levels of piracy). The VMS is a fisheries management system (control feature) regulated at the EU and national level. The VMS is considered the standard monitoring tool in accordance with the general provisions regarding Vessel Monitoring Systems in Article 9 of the Control regulation (Council regulation 1224/2009). The provisions state that Member States shall operate a satellite-based vessel monitoring system for effective monitoring of fishing activities of the fishing vessels flying their flag wherever those vessels may be and of fishing activities in the Member States' waters.

In order to comply with the IMO SOLAS Convention for the safety of life at sea, the Control regulation 1224/2009 includes a provision on integration of AIS-a system for vessels of 15 metres of length or larger, in addition to the satellite-based VMS. AIS-a and VMS are two distinct but complementary systems that could be used together.

3 General considerations

3.1 Technical considerations

Under the upcoming Control Regulation, all fishing vessels above 15 m should have both systems installed. At national level, however, fisheries authorities are only using VMS as the fisheries monitoring equipment in relation to the control regulation. If an inspector identifies an infringement by a vessel thanks to the information in the AIS signal, this information does not have any legal validity and public officials cannot initiate any infringement on the basis of this AIS signal.

In recent years the fishers observed that the AIS has proven an accurate fisheries management tool. Whereas VMS sends data in longer intervals (once or twice per hour), AIS can transmit position regularly in short (2 second – 3 minute⁶) intervals. There is however no legislation that regulates the technical specifications for AIS for fisheries purposes: what type of AIS system should a specific fishing vessel have installed, the frequency for the signal to be transmitted, etc.

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R1224&from=EN>

⁵ http://library.arcticportal.org/1696/1/SOLAS_consolidated_edition2004.pdf

⁶ https://www.researchgate.net/publication/338178405_Global_Atlas_of_AIS-based_fishing_activity

The current EU technical specifications for the satellite-based VMS allow for a position error of 500 meters, which is mis-adapted to the most recent global navigational satellite system's (GNSS) capacity with a standard position error of less than 50 meters. Ensuring the use of AIS-a signal for fisheries management purposes could help overcome these problems. National authorities should start cross-checking AIS-a and VMS signals.

3.2 Financial considerations

Apart from the apparent technical elements, there is also a financial element, which should be considered when it comes to promoting AIS-a as an official fisheries monitoring tool in the EU. According to EU legislation, a fishing vessel is prohibited to leave port if VMS is not functioning. In many cases fishers have been financially compromised by non-functioning VMS. In addition, the AIS as an open-source technology is available to all seafarers cost-free after its initial installation fee. There is a significant difference in the price structure of the two systems. Costs related to transmission of data through VMS is imposed on the user through a subscription. Costs increase at more frequent usage of the system in marine protected areas. The AIS, on the other hand, does only incur costs upon acquisition, after which it is free to use without additional charges. Economic support for the installation and transmission of VMS data should be promoted through the EMFAF.

It is a common assumption that the AIS-a is less consistent, and does not provide world-wide coverage due to the use of VHF, which in some case does not cover all positions at sea. In fact, AIS-a can and often does use satellites when transmitting data to land. In practice this means that AIS-a can meet the necessary requirements in the control regulation as a reliable and solid means of a vessel monitoring system, as stated in Article 9 of the 1224/2009 Control regulation.

4 Advice

Given the above observations and the experience of the NSAC members, the NSAC calls upon the Commission, The Council of the EU and the European Parliament to include AIS-a in the revision of Control Regulation, Article 9, as complementary fisheries management tool to VMS. We recommend the following:

- Ensure that AIS-a data provides a reliable source of information. In the context of recent revision of Control Regulation, the EU should allow MS to develop the necessary technical specifications to ensure that AIS-a could be used by a MS as a system that provides reliable and solid data for fisheries, as stated in Article 9 of the 2009 Regulation.
- Given the high-technological developments of global navigational satellite system, the EU should adapt the current vessel monitoring systems' technical specificities (i.e. emission time) to the maximum available capability of the data collecting and

transmitting technologies in order to harness the full potential of technological developments in traditional vessel monitoring systems.

- Take a coordinated approach to ensure vessels of all sizes, and their limitations, are taken into consideration when it comes to rolling out tracking technologies.
- Keep ensuring compliance with privacy policy of collected data for control purposes regardless of technological means used. Therefore, and because these data are not confidential and as protected as VMS data, Member States have to be very careful with the use of AIS as a control tool, in order to comply to the article 113 of the regulation N°1224/2009. If this protection cannot be assured, AIS should not be used as control tool.
- Ensure/monitor proper implementation of Article 109/2a and b on cross-checking data.
- Provide inspectors with the appropriate tools to ensure they can use the information from AIS signals to initiate investigations and infringement procedures.