21st November 2022

Devon and Severn IFCA News

Successful Trial of Remote Electronic Monitoring (REM)

Devon & Severn Inshore Fisheries & Conservation Authority announces highly successful trial of enhanced Remote Electronic Monitoring Equipment – "Gear in – Gear Out"

Left photo showing wheelhouse mounted cameras, right hand photos show sensors mounted to the towing plates on the scallop gear.

Devon & Severn Inshore Fisheries & Conservation Authority (D&S IFCA) has reported on a 12-month trial on the use of enhanced Remote Electronic Monitoring (REM) equipment. On 13th October 2022, the REM Project was presented to Members of the Authority and to the Inshore Potting Agreement Committee on 19th October 2022.

The owners and crew of a scallop dredging vessel assisted in the trial work which involved the installation and testing of a system of cameras and sensors to capture images and data when fishing gear was deployed and recovered from the sea. Similar systems are already widely used in the haulage sector and Marine Scotland will require all scallop dredging vessels operating in Scottish waters to have similar REM technologies on board by the end of 2022.

What were the aims of the project?

- To evaluate how technologies and can improve management through enhanced monitoring of fishing activities.
- To demonstrate how technologies can improve access to fisheries by changing management measures.
- To demonstrate how much data can be generated from on board technologies.
- To demonstrate the cost and monitoring effectiveness of technologies compared to the current approach.
- To demonstrate opportunities for vessel owners when their vessels are at sea.

How does the system work?

Two high-definition on-board cameras work in combination with sensors fixed to the fishing gear and linked to the vessel monitoring system (VMS). The VMS continuously records the vessel's position, course, and speed; and sensors detect when fishing gear (scallop dredges were the gear type used in the trial) have been deployed. When the sensors detect the use of the fishing gear, three-minute videos of the activity on deck are uploaded from the cameras.

The videos are only uploaded if the vessel triggers an alert. In the case of the trial, the alerts, were either when the vessel was operating in an area simulating a Marine Protected Area or when it was operating in D&S IFCA's District with towing bars that exceed the maximum permitted length of 5.18m metres under D&S IFCA's Mobile Fishing Permit Byelaw (Category One Permit Conditions).

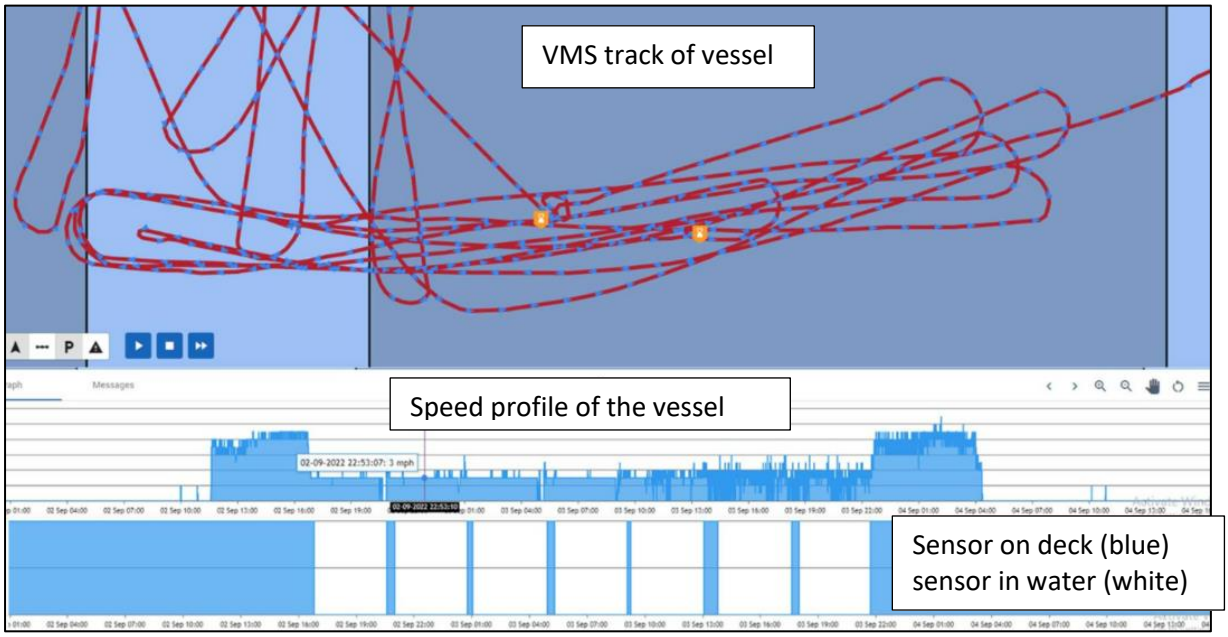

Image above demonstrating compliance with six dredges aside

What about data protection and privacy?

Users can have different access permissions, so the owners of the fishing vessels can see everything that they want to and can add up to six additional cameras (engine room, full deck etc), but D&S IFCA would be restricted to only accessing the uploaded videos from the two cameras focussed on the fishing gear.

The uploaded data is stored securely by the company providing the cameras. The camera company maintains an access log which records each time D&S IFCA accesses the video footage. Under Data Protection Regulations, fishers (data subject) can request a copy of what information has been viewed by D&S IFCA.

The advantages of REM

There are significant benefits for vessel owners, masters, and regulators such as D&S IFCA.

The introduction of technologies can change the way regulators approach fisheries management providing benefits to the fishing sectors as demonstrated in the trial.

Vessel Owners can install additional cameras to improve the safety of the crew and vessels and use the data to improve traceability of their catches.

Currently less than half of D&S IFCA's investigations into MPA incursions meet the evidential standard required to prosecute. The REM technologies will strengthen the evidence available to both regulators and fishers and improve the regulators' intelligence led approach to enforcement.

REM is likely to increase compliance and reduce the likelihood of challenges to the regulators' evidence. The additional evidence will lead to improved reputation of the regulators and improve relationships with the fishing sector.

REM can be used to increase the effective protection of MPAs and will potentially reduce the financial losses incurred by the static gear fleet when illegal activity results in their pots and nets being towed away or damaged.

How much does the system cost and who is going to pay?

Each REM system will cost around £3,000 to purchase and install and will cost approximately £650 a year to maintain the equipment (under warranty) and support the automated monitoring of the onboard systems.

D&S IFCA is looking to secure funding to cover the cost of the purchase and installation of the REM technologies. In addition, D&S IFCA is looking at how it can support the cost of maintaining the REM systems post installation and remove the cost burden on the vessel owners. The cost of monitoring and maintaining REM on the current 57 scallop vessels active in the Authority's District is comparable to the cost to the Authority of employing one enforcement officer.

Next steps

D&S IFCA intends to extend the REM project to continue to assess the reliability of the technologies. If you would like to participate in the extended trial, then please get in touch.

More information about D&S IFCA

Our website includes a range of display pages and an interactive publication scheme (Resource Library). Contact Us or find out more About Us and Our Work.