

## Trials of gear in gear out sensors

### Background

One of the proposed management requirements for the fixed net fishery in Salcombe was that all nets used in the fishery would be tagged with gear in gear out sensors. The purpose of the tags would be to log the positions where the nets are shot and recovered and monitor how long the nets were deployed for.

The two suppliers of Inshore Vessel Monitoring System (IVMS) devices for the national IVMS project have both confirmed that they would be able to provide suitable gear in gear out sensors if required. D&S IFCA's RIB *Enforcer* already had a IVMS device fitted that was on loan from Northumberland IFCA. The intention was to use this device for the trials. Succorfish, the suppliers of the IVMS device, advised that it would be better to trial the gear in gear out sensors with the latest generation of IVMS device being fitted as part of the national project.

### Trials of gear in gear out sensors

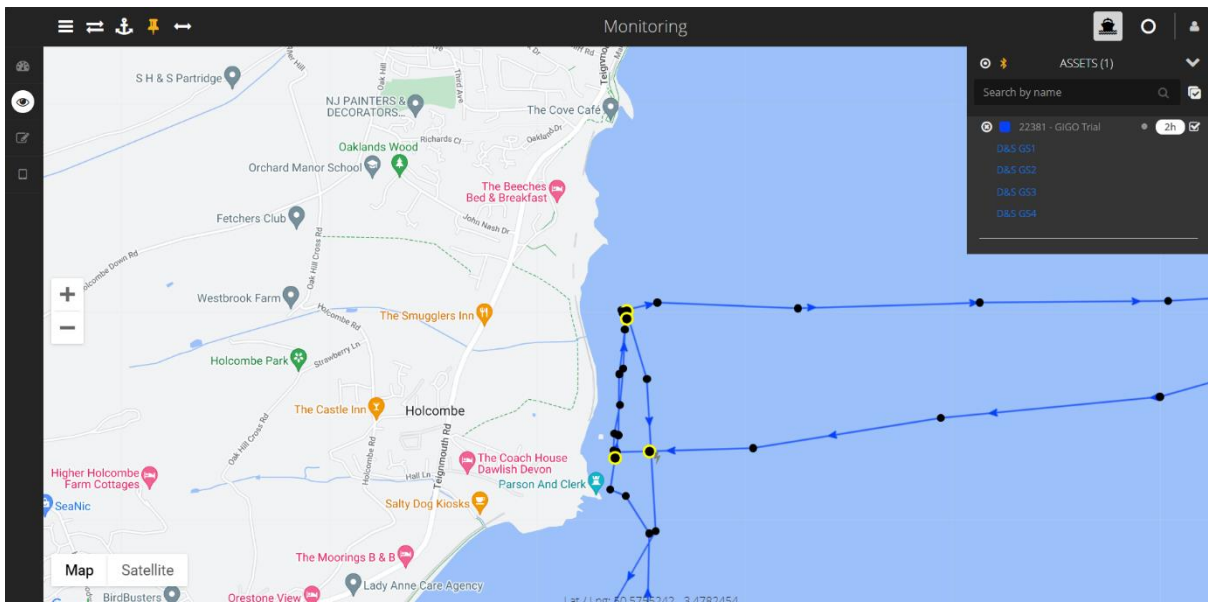



Prior to the sea trials undertaken on 2<sup>nd</sup> February 2024, Officers fitted the new Succorfish IVMS device that had already been paired to the four gear in gear out sensors. The sensors are only paired to one device and would not be detected if used on another vessel with a different IVMS device.

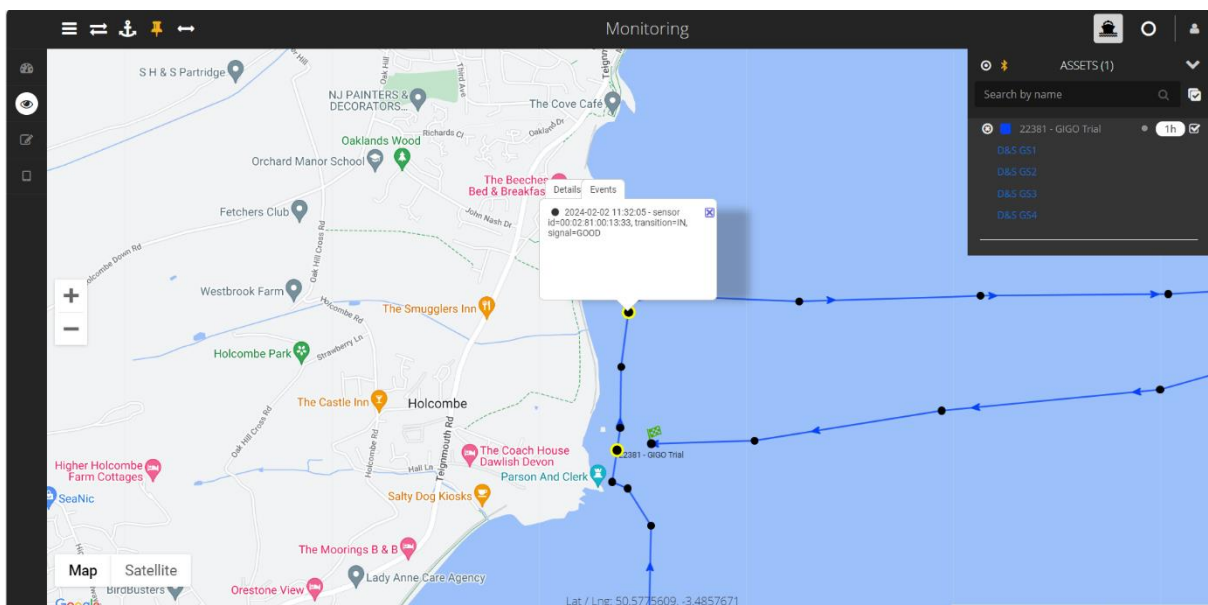
The application of the technology is simple. The sensors are detected by the IVMS sensors through short-range radio frequencies (blue tooth). Whilst in range, for example, when the nets are in board and the vessel is transiting to the fishing area, the gear in gear out sensors are detectable by the IVMS device. Once the gear in gear out sensors are deployed into the water the signal is broken and the IVMS device records the sensor as 'IN'.

### Results of the trials

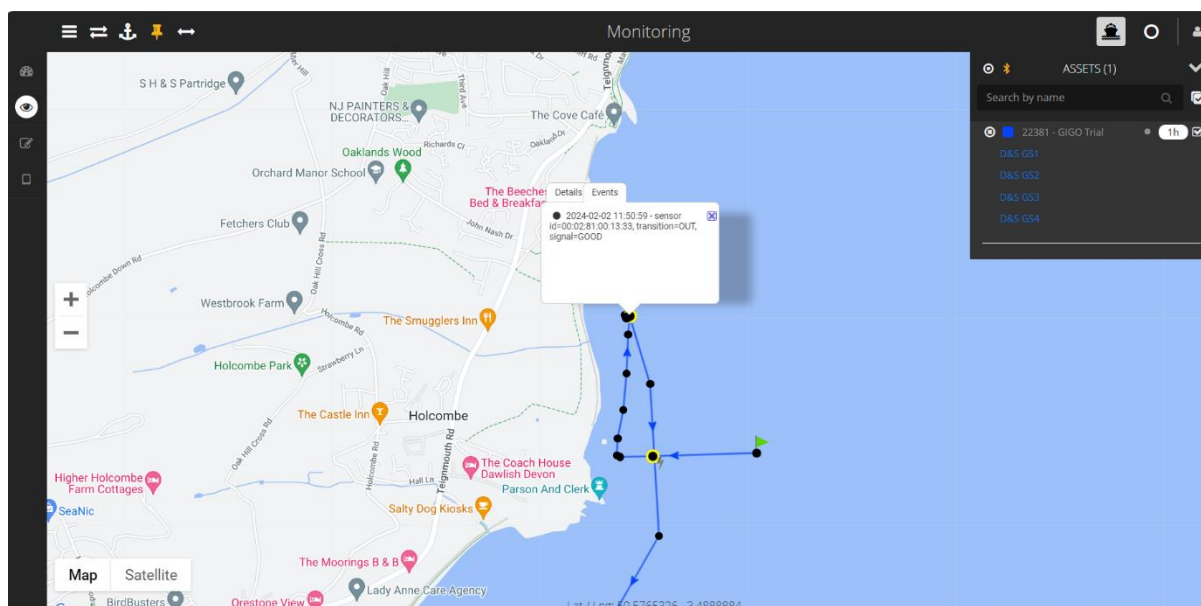
The screenshot below shows the track of *Enforcer* and the deployment and recovery of two gear sensors. The sensors were deployed a few minutes apart to replicate how a net would be shot.



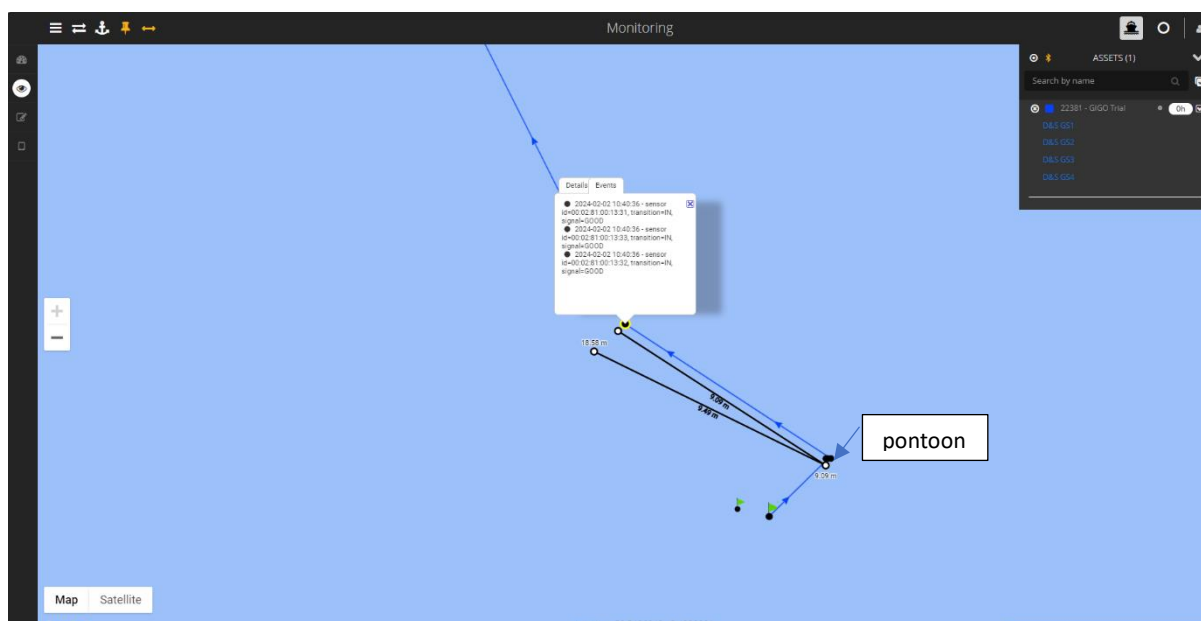
 notification that gear in gear out sensor is deployed, recovered or out of range.



Screen shot above shows Enforcer travelling north and deploying the two gear in gear out sensors, the pop up information records the northern most sensor as 'IN' at 1132hrs.



The screen shot shows that the northern most sensor was retrieved at 1151hrs. The pop-up information records the sensor as 'OUT' at 1151hrs



Screen shot shows that the signal is lost approximately 9 metres away from where the beacons were left on a pontoon located in the River Teign. The pop-up records that the sensors are 'IN'.

### Conclusion

The system shows if the nets with sensors are taken ashore or stored in a location. The loss of signal will occur within approximately 30m so the recorded position of the sensors will be close to the actual position of the nets. If the sensors are deployed in the water the signal is lost immediately and the position of the nets is more accurate.

The gear in gear out trials show that gear in gear out technology can support D&S IFCA's monitoring of the proposed net fishery if all the nets are fitted with sensors. It would be important to tag both ends of the net to record the position of the whole net and total soak times.