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Establishing the location of fishing activities within Scottish inshore areas using AIS technology

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Scotland boasts a large (over 1,500 vessels under 12m) varied, and highly dispersed inshore fishing sector. A key obstacle to the effective management of such a fishery is accurately determining where fishing activity is taking place. Under the 2014/15 European Fisheries Fund funded project ‘Evidence Gathering in Support of Sustainable Scottish Inshore Fisheries’ 274 sub 12m inshore fishing vessels were recruited and installed with Class B Automatic Identification System (AIS) transponders. The objective of the trial was to assess the viability of utilising this technology to assist with managing the inshore fishing sector across Scotland, and in particular the West coast and islands where topography and the distribution of receivers may preclude the detection of AIS targets. A secondary objective was an investigation (post trial) of the perception of project participants to the use of such monitoring technology. AIS data was collated over a six month period and plotted spatially using open source software to produce monthly ‘heat maps’ of vessel activity. These maps displayed fishing vessel activity at extremely high spatial resolution and with further refinement could prove valuable in assisting fisheries managers in identifying locations under the greatest fishing pressure, as well as areas of potential gear conflict (i.e. mobile versus static gear users). With regard to the drivers motivating participating fishermen, these were determined to be primarily safety based, however the evidencing of fishing activity for marine spatial planning purposes also featured prominently.

Keywords: Scotland; inshore; Automatic Identification System; vessel activity

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