

Mooring acoustic receivers to track the real-time movements of marine fish around wave energy converters.

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Wave Hub is the world's first large-scale offshore wave energy farm, located 18 km off the north coast of Cornwall, UK. It will provide a central facility for four Wave Device Developers to connect to the mainland electricity grid and test devices, producing 20 MW of electricity. In parallel, the South West Regional Development Agency has set up PRIMaRE, a joint centre of expertise between the Universities of Plymouth and Exeter, to meet the research needs of the marine renewable sector. A major part of PRIMaRE's capacity is monitoring and researching the impact of Wave Hub and individual wave energy devices on marine biodiversity 'from worms to whales' and the accompanying poster presents our integrated programme. Amongst the five key biodiversity components, the population structure, distribution and movements of marine fish and shellfish associated with the Wave Hub is being assessed at three spatial and temporal scales; using number tagging, G5 Data Storage Tags and the UK's first deployment of an array of 20 Vemco VR3 receivers coupled with V9 long life pingers, which are being aimed at organisms with the highest commercial, conservation and ecological importance. We would primarily like to discuss practical measures to best ensure the devices survive their deployments and remain upright in the water to function optimally both at both a trial site on the south coast near Plymouth and later at the Wave Hub site itself. The moorings must also be acoustically quiet, simple and cost effective to deploy and retrieve. Secondly we would like to learn about the current status and future direction of licensing under the Coastal Protection Act (1949) and constraints within the Food and Environment Protection Act (1985).