



## MAPPING & SURVEYS

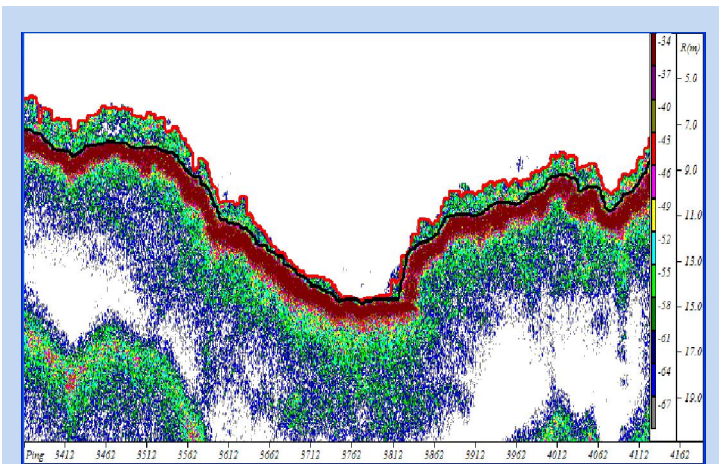
**Envision** is well-equipped with a wide range of equipment to undertake marine acoustic mapping survey, as well as benthic video survey and analysis, and standard environmental sampling techniques such as grabs and cores. **Envision** has been involved in developing standards and protocols on habitat mapping and modelling, including guidelines for video and stills analysis, in international programmes such as “Mapping European Seabed Habitats” (MESH). Envision has also recently updated guidelines for acoustic survey on aggregate extraction sites and developed quality control tests and procedures for underwater video analysis.



Swath Bathymetry Transducer Array

### Mapping marine plants:

**Envision** has used a high specification echosounder to research the viability of using acoustic techniques to map and assess marine plants. A project for the Marine Institute of Ireland has investigated how biomass can be mapped acoustically around Ireland, whilst in the UK Envision has worked with the Environment Agency to develop the use of acoustics in mapping subtidal seagrass beds to fulfil requirements of the Water Framework Directive (WFD).



Echosounder trace for Kelp

## Managing Changes in Marine Resources

In a project to address the impact of the tsunami, **Envision** gave support to communities of Laem Son in southwest Thailand to understand the effects of the tsunami on their local environment. This combined coastal management, education and training, and GIS and mapping elements, and helped the communities manage their marine and natural resources to their full potential whilst adopting an ecosystem approach to promote sustainable management of the area.



Understanding Natural Resources of Laem Son, Thailand