

# Marine Environmental Ecology



Providing leading marine ecology survey, consultancy and analysis services and information to developers and regulators in the marine environment.

## Marine Environmental Ecology

**Fugro EMU Limited's marine ecology survey group is a leading provider of offshore and coastal marine ecological survey and analysis services. Environmental sustainability is a key principle underpinning all marine development and a clear understanding of ecosystems is a prerequisite to achieving this.**

Our marine ecologists specialise in site characterisation, impact assessment and ecological monitoring activities, such that our clients and regulators fully understand both the potential and actual, spatial and temporal, effects of developments in the marine environment.

Our ecological services are relevant for those seeking technical support for developments in the coastal and offshore environment as well as those organisations committed to compliance monitoring and conservation of our natural resources.

With over 200 personnel providing a comprehensive suite of services we are often able to undertake all client requirements in-house, from project inception to project delivery.

Fugro EMU has worldwide experience and in many cases works closely with local Fugro offices around the world to provide invaluable local knowledge and support. We offer the following services.

## Ecology Services

- Subtidal benthic ecology survey
- Seabed video / imaging survey
- Ecology intertidal survey
- Scientific diving survey
- Habitat / biotope mapping
- Advisory service
- Commercial fisheries and fish ecology



*Shallow water macroalgae communities*



*Marine mammal and bird observations (Fulmar – Fulmarus glacialis)*



*Ross coral (Pentapora foliacea), Spiny starfish (Marthasterias glacialis) and Bloody Henry starfish (Henricia sp.)*

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## Subtidal Benthic Ecology Survey

Fugro EMU specialises in the quantitative sampling of benthic habitats and associated species using a variety of grabs as well as the collection of qualitative data on bottom dwelling fish and shellfish using scientific trawls. The focus of ecological surveys is the characterisation of seabed biological communities including their distribution and importance, to inform impact assessments, conservation assessments and, ultimately, the decision-making processes.

## Ecology Intertidal Survey

Fugro EMU has undertaken numerous intertidal ecology surveys within the UK, in overseas estuaries and coastal locations in support of baseline ecological and conservation assessments and condition monitoring.

## Seabed Video / Imaging Survey

Fugro EMU owns and maintains a range of underwater digital stills and video cameras each of which can be mounted on a variety of bespoke drop down and towed video frames to suit local conditions and study objectives. In addition, we have an extreme low visibility video system (ELViS), which is used during video surveys in areas of anticipated poor underwater visibility.

## Scientific Diving Survey

Fugro EMU's scientific dive group conduct surveys where conventional marine ecology survey methodology is not appropriate. We have extensive UK and overseas experience.

## Commercial Fisheries and Fish Ecology

Fugro EMU has undertaken a wide range of fisheries assessments, including long term studies investigating impacts of marine activities on commercial fish and shellfish populations.



## Habitat / Biotope Mapping

Habitat and biotope maps provide immediately accessible information regarding the extent and distribution of ecological resources and have particular use in informing decision making processes. Fugro EMU's marine ecologists have considerable experience of both subtidal and intertidal biotope classification and mapping, using GIS based integration of acoustic and ground truth data.

## Advisory Service

Fugro EMU employ a range of statistical procedures to characterise site conditions and quantify environmental change. Drawing upon these analyses, we advise on the presence of environmentally sensitive features to facilitate marine projects and provide recommendations to industry and regulators in relation monitoring campaigns.

### Fugro EMU Limited

Head Office, 1 Mill Court  
The Sawmills, Durley  
Southampton, SO32 2EJ  
Telephone : +44 (0)1489 860 050  
Email : [contact@fugroemu.com](mailto:contact@fugroemu.com)