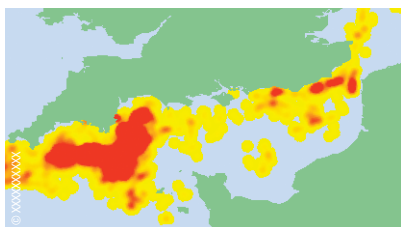




innovation in environmental management





technological solutions for successful management

management of natural resources Understanding the ecosystem processes at work in marine and coastal environments is key to their successful management. Increasingly this requires new and innovative approaches to gain unique insights into how our ecosystems operate, the impact of human activity and the options available for protecting them – over a range of timescales. CEFAS is at the forefront of developing novel and innovative technological solutions for understanding and managing the environment, such as our *in-situ* sampling systems providing real-time reports on water quality.

predicting impacts We develop scientific and technical systems, techniques and equipment for assessing and understanding a wide range of coastal and marine issues. These include aggregate extraction, dredging, offshore windfarm development, fishing, aquaculture, oil and gas production, effluent discharge and coastal development. Our experience assists governments, enforcement agencies and industries throughout the world to develop management strategies to support the sustainable development of coastal zones. Our advice is supported by our environmental and fisheries research, giving us a leading edge in understanding complex ecosystem processes and the impact of human activity, against a background of natural change.



innovation and understanding

innovative track record We are proud of our record of innovation in environmental management. We are at the forefront of marine monitoring technique development, supporting the establishment of regulatory measures in the UK in such fields as windfarms and renewable energy. We are the centre for radioactivity impact assessment in UK waters and the key provider for risk assessment of bacteria, viruses and biotoxins in seafood. Our main analytical systems are accredited to ISO standards to demonstrate a reliable service.

new approaches *In-situ* monitoring is a growing area for marine science, aimed at delivering real-time, high quality data at frequent spatial and temporal intervals. Deploying instruments provides a cost effective solution for our customers who need continuous data sets for assessing environmental conditions and change. We have an established reputation internationally for our expertise in designing and operating autonomous instrumentation and supporting software systems. Our integrated observational systems take high frequency measurements of physical, chemical and biological variables from the sea surface to the seabed. Our robust and reliable monitoring systems are designed to operate during extreme weather conditions and for several months without servicing.



autonomous sensing and sampling

application Our autonomous monitoring systems can be combined with real-time data transmission and interpretation tools, such as Geographical Information Systems (GIS). These provide our customers with up-to-date reports on water quality and environmental conditions. These data can be made available via the internet to maximise data sharing and aid management decision making. Our systems are used for a range of applications, such as: water quality assessment and forecasting, eutrophication studies, understanding coastal processes, contaminant behaviour and coastal protection.

modelling for the future Computer models are key to understanding how ecosystems function and predicting the combined impacts of multiple human activities. We continually invest in computer technology to develop increasingly complex, yet faster, models. We apply models to assess the effects of a range of influences, such as fishing, dredging, pollution and coastal constructions. We integrate GIS and remote-sensing techniques into the models to produce management tools for tackling specific current environmental issues, and long-term environmental protection. For example the National Marine Monitoring Programme provides spatial and temporal data used to assess long-term trends in the quality of the marine environment and the effectiveness of regulatory measures.



wider impacts

integrated studies We specialise in the application of a range of novel techniques to assess the wider impacts of human activity. One of our major strengths is the development and application of ecotoxicology to measure and predict the impact of pollutants on ecosystems, and to identify their source. We apply Environmental Effects Monitoring (EEM) to assess potential impacts of the offshore oil and gas industry on the surrounding environment. For activities that impinge on the seabed, such as aggregate extraction and fishing, we apply our acoustic surveying systems to produce high resolution habitat maps. These maps are used by our customers for sustainable resource management and nature conservation purposes. We also conduct baseline surveys and apply environmental indicators to monitor environmental change.

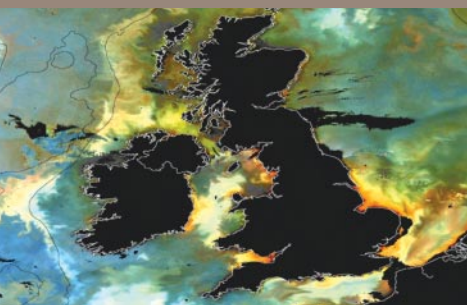
food related risk assessment Consumption of seafood contaminated by radionuclides, biotoxins, or micro-organisms can pose a public health risk. We assist our customers to reduce these risks by developing management strategies targeted at identifying sources of contamination and reducing contaminant levels in the environment. Our training courses develop the practical skills needed to manage and minimise health risks from contaminated seafood.



contact us

Mr Stephen Millward
Environment Business
Development Manager,
CEFAS Lowestoft, Pakefield Road,
Lowestoft, Suffolk NR33 0HT, UK

Tel +44 (0) 1502 527776
or +44 (0) 7786 171159
Fax +44 (0) 1502 524569
Email s.millward@cefas.co.uk
or marketing@cefas.co.uk



about us

CEFAS is a multi-disciplinary scientific research and consultancy centre providing a comprehensive range of services in fisheries management, environmental monitoring and assessment, and aquaculture to a large number of clients worldwide.

We have more than 500 staff, 3 laboratories and our own ocean-going research vessel, and over 100 years of fisheries experience.

We have a long and successful track record in delivering high quality services to clients in a confidential and impartial manner. (www.cefas.co.uk)

CEFAS Technology Limited (CTL) is a wholly owned subsidiary of CEFAS specialising in the application of CEFAS technology to specific customer needs in a cost effective and focussed manner.

CTL systems and services are developed by teams that are experienced in fisheries, environmental management and aquaculture, and in working closely with clients to ensure that their needs are fully met. (www.cefastechnology.co.uk)

customer focus

With our unique facilities and our breadth of expertise in environmental and fisheries management, we can rapidly put together a multi-disciplinary team of experienced specialists, fully supported by our comprehensive in-house resources.

Our existing customers are drawn from a broad spectrum with wide ranging interests. Clients include:

- international and UK government departments
- the European Commission
- the World Bank
- Food and Agriculture Organisation of the United Nations (FAO)
- oil, water, chemical, pharmaceutical, agro-chemical, aggregate and marine industries
- non-governmental and environmental organisations
- regulators and enforcement agencies
- local authorities and other public bodies

We also work successfully in partnership with other organisations, operate in international consortia and have several joint ventures commercialising our intellectual property.