



Oil and Gas

Cefas has been providing marine environmental services to the oil and gas sector for over 40 years. Our position at the centre of the UK regulatory framework, combined with our world class science and experience, ensures the highest quality service delivery.

From surveys to analytical services and from modelling to expert scientific advice, our integrated approach provides a fully comprehensive service.

Our capability

Offshore industry operations represent a potential to introduce marine environment pressures. As a well regulated and responsible industry, the offshore oil and gas sectors need access to a range of high quality science and survey services to ensure their operations are environmentally sound and compliant with the necessary regulations.

As the UK's most diverse centre for applied marine science Cefas provides an unrivalled breadth of services including:

- Marine surveys
 - Seabed mapping
 - Contaminants
 - Ecological and fisheries
 - Monitoring
- Oil and chemicals assessment
 - Analytical chemistry
 - Oil fingerprinting
 - Hazard & risk assessments
 - Ecotoxicology
 - Risk Based Approach
- Emergency Response
 - Spill modelling
 - Dispersants & spill treatment
 - Post-spill monitoring (Premium)
- Asset lifecycle support
 - New developments
 - Decommissioning/Recovery
- Research, advice and International services

Marine Surveys

The RV Cefas Endeavour is a multi-disciplinary research and survey vessel, providing an effective and economic platform for a wide range of commercial and scientific research surveys. At 74m in length and with up to 19 surveyors' berths, the vessel is a high quality survey platform available for charter. In addition to our own research vessel Cefas has access to a range of other charter vessels depending on survey requirements and offer expert survey planning or at sea expertise for a range of scientific survey types.



Seabed/Habitat mapping: Using a wide range of physical (grabs & dredges), acoustic and visual (camera & video) sampling and survey techniques, Cefas offers expertise in the categorisation and mapping of seabed habitats. Cefas' central involvement in the development of survey procedures required by the UK regulators and marine conservation agencies as part of the UK wide Marine Protected Area Programme (MPAs) ensures delivery in line with regulatory expectations.

Contaminants: Cefas provides expert capability in survey design and implementation to assess contaminants for the purposes of water/ sediment quality and residues in biota. Already responsible for contaminants analysis as part of the UK clean seas environmental monitoring programme (CSEMP) and various marine licensing consent procedures, Cefas also advises and delivers contaminant assessments internationally and combine our survey capability with full in-house analytical facilities.

Ecological/Fisheries: Cefas provides a full range of marine surveys designed to assess the status of a range of marine ecological compartments including meio/macro benthos, zoo- and phytoplankton right up to full scale fisheries assessments.

Monitoring & mapping: Cefas can advise on and conduct any range of surveys as part of a discrete or fully integrated monitoring programme. Whether to establish baselines or to assess impact and recovery, Cefas is a world leader in the design and implementation of bespoke marine monitoring programmes. Our extensive data access and GIS mapping capability ensures visual outputs of the highest quality.

Oil & Chemicals Assessment

Offshore Chemicals: Cefas' experience and expertise is second to none in the field of offshore chemicals hazard and risk assessment. Having been integral to its development Cefas has been responsible for the assessment and registration of offshore chemicals in the UK (and the Netherlands since 2010) since the inception of the Offshore Chemicals Notification Scheme (OCNS). This expertise is also available to offshore operators and chemical suppliers to help them in their product development and selection strategies. As well as the OCNS, Cefas can also provide assessment services in relation to REACH registration.

Analytical Chemistry: Cefas can analyse a wide range of environmental matrices, including sediment, biota and produced water, for trace and ultra-trace levels of metals, hydrocarbons and organic compounds, such as dioxins and PCBs. We are accredited to ISO 17025, and demonstrate the consistency of our high quality analysis through participation in the QUASIMEME marine proficiency scheme. Our services include oil fingerprinting, passive sampling, analytical support for GLP studies and the development and optimisation of new analytical techniques.

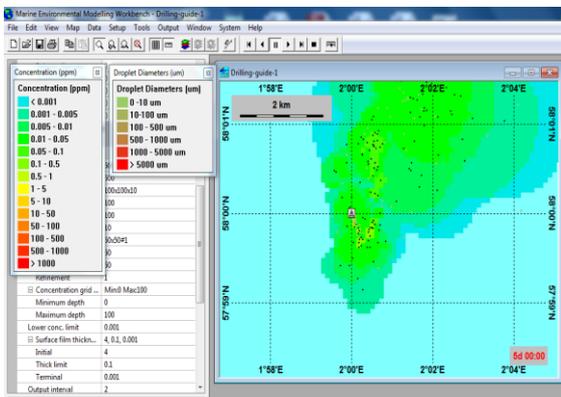
Ecotoxicology: Cefas maintains GLP certified ecotoxicology facilities at both our main laboratories. Our capabilities include assessing aquatic and sediment toxicity to a wide range of marine and freshwater algae, invertebrate and fish species. We follow international test guidelines and use our expertise to develop bespoke testing strategies when required. Additionally, we perform biodegradation, bioaccumulation, metabolism and residue depletion studies. Whether generating a full suite of results to support OCNS chemical registration or conducting ecotoxicological investigations to support operations or an EIA, we have the expertise to help.

Risk Based Approach: Combining our capabilities in analytical chemistry, ecotoxicology and risk modelling (e.g. DREAM), Cefas offers a fully integrated service for assessing operational risks and to support industry obligations under the Risk Based Approach (RBA) for the management of produced water discharges.

Emergency Response

Cefas has been providing authoritative environmental impact and mitigation advice to UK government departments and agencies in the event of marine spills and accidents for decades. This expertise is now also available to the offshore sector in the preparation of OPEPs (Oil Pollution Emergency Plans) and other preparedness and contingency planning.

Spill Modelling: Cefas maintains a full suite of spill models (e.g. OSCAR, Chemmap, Cefas Spill) to help predict the fate and effects of oil, chemical and subsea releases as part of response or scenario planning activities. Cefas' in depth understanding of model parameterisation and output interpretation ensures these important tools are used effectively.



Dispersants & spill treatment: The reassurance that effective, environmentally acceptable oil spill treatment options (e.g. chemical dispersants) are available in the event of an offshore accident is important to all offshore operators. Cefas operates a unique oil spill treatment testing facility that enables the assessment of product toxicity and efficiency on a range of oils. Cefas has developed and conduct the toxicity assessments that are an integral part of the UK oil spill treatment product approval scheme which result in the MMO list of approved products and referred to on a global basis. We can help ensure that emergency procedures for specific assets/scenarios are effective.

Post-spill monitoring (Premium): As leaders in the field of post-spill environmental monitoring Cefas has been instrumental in driving forward best practice under the Premium (Pollution Response in Emergencies: Marine Impact Assessment and Monitoring) initiative – see www.cefas.co.uk/premium. Under Cefas' leadership Premium is now referred to by all key stakeholders and in the UK National Contingency Plan. Therefore working with Cefas can ensure a high level of preparedness for any post-spill environmental monitoring needs.

Asset Lifecycle Support

If an offshore asset in its developmental/planning phase, requires modification during operation or is entering its decommissioning phase, Cefas' scientific advice and support is available to meet customer needs.

New Developments: As part of the planning and Environmental Impact Assessment (EIA) process for the development of new assets and operations Cefas' expertise can help ensure environmental impacts and options for mitigation are fully assessed. Engagement with Cefas at an early stage of planning for installations, pipelines or coastal infrastructure can help ensure you meet all permitting requirements, as well as allow opportunities for unique research to be investigated.

Decommissioning: As plans for decommissioning much of the UK offshore infrastructure progress, Cefas can offer valuable support in terms of expert advice, impact assessment and monitoring services. The potential impacts of noise generation are of particular concern and Cefas' capability in the modelling and mapping of noise propagation as well as field survey and bioacoustics monitoring can help to understand and mitigate any risks. Operators also need to establish baseline, impacts and recovery monitoring as part of their decommissioning plans. Cefas can deliver these requirements as a leader in the design and implementation of monitoring programmes and are also advisors to the national conservation authorities in this respect.



Research, advice and international services

Research and advice: Cefas has a strong track record in the provision of applied scientific solutions to meet our customer needs. In addition, working with Cefas offers the assurance and credibility of knowing that our advisory services are underpinned by the best science and a capability to undertake bespoke, practical research across the breadth of marine disciplines. Our scientists not only deliver advice and practical analysis, they also produce around 200 high quality research papers each year, demonstrating their commitment to high quality, state of the art science.

International services: Cefas has undertaken projects across the globe in over 40 countries. With a permanent base in the Middle East and strong links in SE Asia, Cefas' international reputation, capability and trusted status as a UK government institution can also help in the delivery of international projects, whatever the challenges.



Cefas offers a combination of high quality scientific delivery, and in depth understanding of the physical and biological marine environment. Our understanding of key national and international regulations and an ability to bring together multi-disciplinary teams ensures we can adapt our services to meet customer requirements. As well as a growing track record in the oil and gas area we bring decades of experience from working across all aspects of the marine sector. Cefas would welcome the opportunity to apply our expertise to meet your specific needs.

Enquiries

For further information on the breadth of services Cefas offers to the Oil & Gas sector or to discuss your marine science needs, please contact Mark Kirby on +44(0)1502 527796, +44(0) 7818 015329 or mark.kirby@cefas.co.uk

