

# Cefas Annual Report and Accounts 2008–09





# **Centre for Environment, Fisheries & Aquaculture Science (Cefas) Annual Report and Accounts 2008–09**

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# Management commentary



# Introduction

Cefas plays a central role in the UK's management of seas through the provision of applied marine science and vital evidence that helps government make informed decisions. Competing demands on our seas, a complex backdrop of international policy and serious challenges such as climate change mean that our science is becoming even more important.

This annual report outlines continued excellent progress against our strategy – which responds to our customers' needs, to significant changes in the way the UK's seas will be managed and to ever-increasing economic pressures.

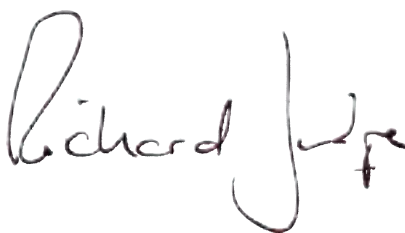
Our focus is firmly on making a difference for society, often working with others to achieve this. Examples include our work with the Joint Nature Conservation Committee to provide seabed habitat maps that enable the accurate designation of marine conservation zones; with the Food Standards Agency to deliver monitoring that ensures shellfish are safe to eat; and with the Environment Agency to provide "real time" data supporting coastal flood risk management. In parallel, our research prepares us for future challenges and ensures that our leading-edge capabilities are sustained.

Effective collaboration is integral to how we work. Our partnership agreement with the University of East Anglia, together with the appointment of a jointly funded lecturer, provides a tangible reaffirmation of our commitment to scientific collaboration. The Fisheries Science Partnership – a finalist for the prestigious national Civil Service Awards – powerfully illustrates the value added by our working closely with industry, including long-term benefits for resource management.

We continue to diversify our income streams, with income from non-Defra sources growing by £6.5 million. Aside from the financial benefits, this adds value by broadening both our relationships and experience. We also met all of our ministerial targets. These achievements are all the more remarkable given the successful relocation of our Burnham-on-Crouch laboratory during this year – directly affecting nearly 20% of our business.

Our successes are a reflection not just of our staff's talent, but also of their magnificent commitment and teamwork. I thank them all for their contribution and energy, and for creating such a stimulating and enjoyable working environment.

Taken together, our actions are delivering an enhanced customer focus and partnership ethos, greater business orientation, increased investment in our science base, and positive engagement from our staff. We are well equipped to meet the many challenges ahead, and to remain at the heart of government's sustainability and marine agendas for many years to come.



**Richard Judge**  
Chief Executive

# Our remit and strategic plans

Our vision is to make a difference for society as recognised leaders in marine and aquatic science. This timeless goal reflects our rich heritage and the positive impact we deliver through the application of our science.

## Principal activities

Our core remit is to provide advice and support to UK government and its agencies, to play a vital role in securing healthy marine and freshwater environments for everyone's well-being, health and prosperity.

Our work takes us from freshwater to the open ocean, and includes both wild and farmed fish. Our influence spans the full spectrum of issues, including:

- marine planning and environmental licensing
- sustainable fisheries management
- marine biodiversity and habitats
- fish and shellfish health and hygiene
- emergency response.

We deliver expertise that has been gained over 100 years of applying our science and research. We make an important contribution towards the sustainable use of freshwater and marine resources, in particular fish stocks, and conserve and enhance wider aquatic environments and ecosystems. We collect, manage and interpret a breadth of environmental, biodiversity and fisheries data to underpin decisions and support long-term monitoring. Through our work we protect society and the economy from the effects of aquatic contaminants and fish diseases. In addition, we provide leadership in understanding the challenges presented by climate change, and options for mitigation and adaptation.

Our activities directly support delivery of the aquatic-related aspects of the targets in Defra's public service agreement. The application of our expertise also maps closely to Defra's strategic objectives.

As the UK's largest and most diverse applied marine science laboratory, we provide leadership in many areas. We help to shape and implement policy through our internationally renowned science and through our collaborative relationships that span UK government, the EU, non-governmental organisations, research centres and industry.

To deliver our remit – and consistent with our vision of “making a difference for society” – our ability to integrate a broad capability is becoming increasingly important. This includes going beyond traditional scientific and policy boundaries, through alliances and partnerships, to draw in socio-economic and industry perspectives. We facilitate collaborative action.

We also have a remit to exploit growing opportunities in wider markets alongside our work for government. The margins generated from contracts allows us to reinvest in our business and science, and so maximise the value to the taxpayer of our unique knowledge and facilities.

## Our strategic plans

We deliver our science within a broad sustainability agenda. There is an increasing focus on integrated science to support ecosystem approaches, a growing need for monitoring, data management and risk-based assessments, and demand for our work to be set in a socio-economic context. Such breadth plays to our strengths.

Investment in the science, infrastructure and relationships that sustain our leadership position remains a priority. Supporting Defra through our strategic partnership is expected to account for over 60% of our income for the foreseeable future. We have strengthened our relationships across the Defra network, and increased income from non-Defra sources from



£12.2 to £18.7 million. This growing external focus is enabling us to respond to other opportunities resulting from UK and European legislation.

In addition, the “transformation agenda” that we have pursued since 2006 prepares us well for the challenges ahead. Recent investments have made us more effective, flexible and business-orientated. We have consolidated our laboratory sites and achieved over £1 million of annual efficiency improvements enabling us to deal with legacy issues and to invest in our business.

Although much has already been achieved, the increasingly challenging economic climate means that we will focus on activities that give us greater resilience. Our strategy is described in terms of the following themes:

**Business:** There will be a growing emphasis on partnerships, particularly across the Defra network. For example, a strong partnership with the Marine Management Organisation is of critical importance for us. We will continue to drive efficiency improvements, particularly

relating to contract delivery, alongside growing non-Defra income. And we will focus on raising our profile to gain widespread recognition for our activities.

**Science:** We will continue to invest in our science and technology, and to develop capabilities that enable us to address future customer needs and opportunities.

**People:** We will promote staff engagement, develop our resource planning to meet customers’ needs in flexible ways, and provide development opportunities for our people.

Through our actions, we will ensure that Cefas remains resilient in a tough economic climate, continues to deliver value to our partners and customers, and remains at the heart of the UK government’s sustainability and marine agendas.

The RV *Cefas Endeavour* passes under Tower Bridge on its way to an event held for ministers, lords and MPs. Photo by Neil Turner



# Managing delivery, meeting targets

## Governance arrangements

Cefas was created on 1 April 1997 from the former Directorate of Fisheries Research under the Next Steps programme. As an executive agency of the Department for Environment, Food and Rural Affairs (Defra), Cefas is fully accountable to Parliament through ministers.

Huw Irranca-Davies MP – Minister for the Natural and Marine Environment, Wildlife and Rural Affairs – has been empowered to act on behalf of the Secretary of State for Defra on all ownership matters relating to Cefas. He sets annual performance targets for the agency, agrees corporate business plans, and nominates a “Corporate Owner” within Defra to discharge his ownership responsibilities.

The Corporate Owner takes into account Cefas’ strategic fit with that of Defra’s own plans, agrees any Defra-funded investment decisions, and ensures that Cefas’ risk profile is acceptable to the department. Through a Statement on Internal Control, the Defra Management Board remain collectively responsible and are accountable to ministers for Cefas’ delivery.

Cefas’ Chief Executive and Accounting Officer is Dr Richard Judge. The Cefas Management

Board (CMB) support his governance of the agency. Apart from Cefas directors, the CMB comprises external non-executive advisory directors, and is advised by internal and external auditors.

Governance arrangements are described in more detail in the *Cefas Framework Document* (which is available to download from our website: [www.cefes.co.uk](http://www.cefes.co.uk)) and in the Statement on Internal Control.

## Our targets and standards

The Cefas business plan and associated ministerial targets are reviewed each year to ensure they continue to be relevant to the agency and support broader government objectives and agreements. Our targets are announced in the House of Commons and audited by Defra at the end of each financial year.

Our service standards and key policies are described on our website. This year, 100% of letters and emails had a response within 15 working days, and all visitors to our laboratories were met within ten minutes of their arrival. No complaints were received, relevant to the Cefas Charter, during the report period; and there are no data-related incidents to report this year.

Our WaveNet system provides “real-time” data to support storm and flood forecasting © C Winpenny



## Performance against ministerial targets

### Service delivery

#### Customer satisfaction to exceed 82%

To provide a high standard of services to the satisfaction of customers. Measured through the weighted average of customer response to a post-contract survey, which covers seven aspects of service quality.

2006–07 Target achieved

2007–08 Target achieved

**2008–09 Outturn: Target achieved – 89%**

#### Delivery of R&D milestones to exceed 90%

To fulfil R&D commitments on time, within budget and to agreed quality standards. Covers R&D milestones that support Defra's strategic objectives and intermediate outcomes. Performance is reported as a proportion of agreed outputs weighted by contract value.

2006–07 Target achieved

2007–08 Target achieved

**2008–09 Outturn: Target achieved – 93%**

#### Science quality indicators to exceed 75%

To enhance scientific capability and reputation using indicators grouped around research, wider dissemination and use of our science, and scientific capability. Measures include customer surveys, numbers of peer-reviewed scientific papers and investment in new science.

2006–07 Target achieved

2007–08 Target achieved

**2008–09 Outturn: Target achieved – 89%**

### Value for public money

#### Recover the full cost of our services

To demonstrate financial sustainability through sound operational financial management and appropriate investment in Cefas' future, including the delivery of our transformation plan. Measured through achieving an audited break-even result in 2008–09.

2006–07 Target achieved

2007–08 Target achieved

**2008–09 Outturn: Target achieved**

#### Efficiency savings to Laboratory Strategy Programme (LSP) plans

To operate with simple, reliable and effective processes in the support and delivery of customer projects. Performance against peer and competitor benchmarks will be used to monitor progress to deliver financial efficiency targets. These are set out in the re-phased LSP plans and include reducing administrative headcount and costs.

2006–07 Equivalent target achieved

2007–08 Equivalent target achieved

**2008–09 Outturn: Target achieved**

### Capacity and capability

#### Relocate Burnham-on-Crouch in 2008–09

To invest in transformation in line with Cefas' long-term strategy, with successful relocation of the Burnham-on-Crouch laboratory to Lowestoft during 2008–09 being a major milestone.

**2008–09 Outturn: Target achieved**

#### Staff satisfaction survey to exceed 65%

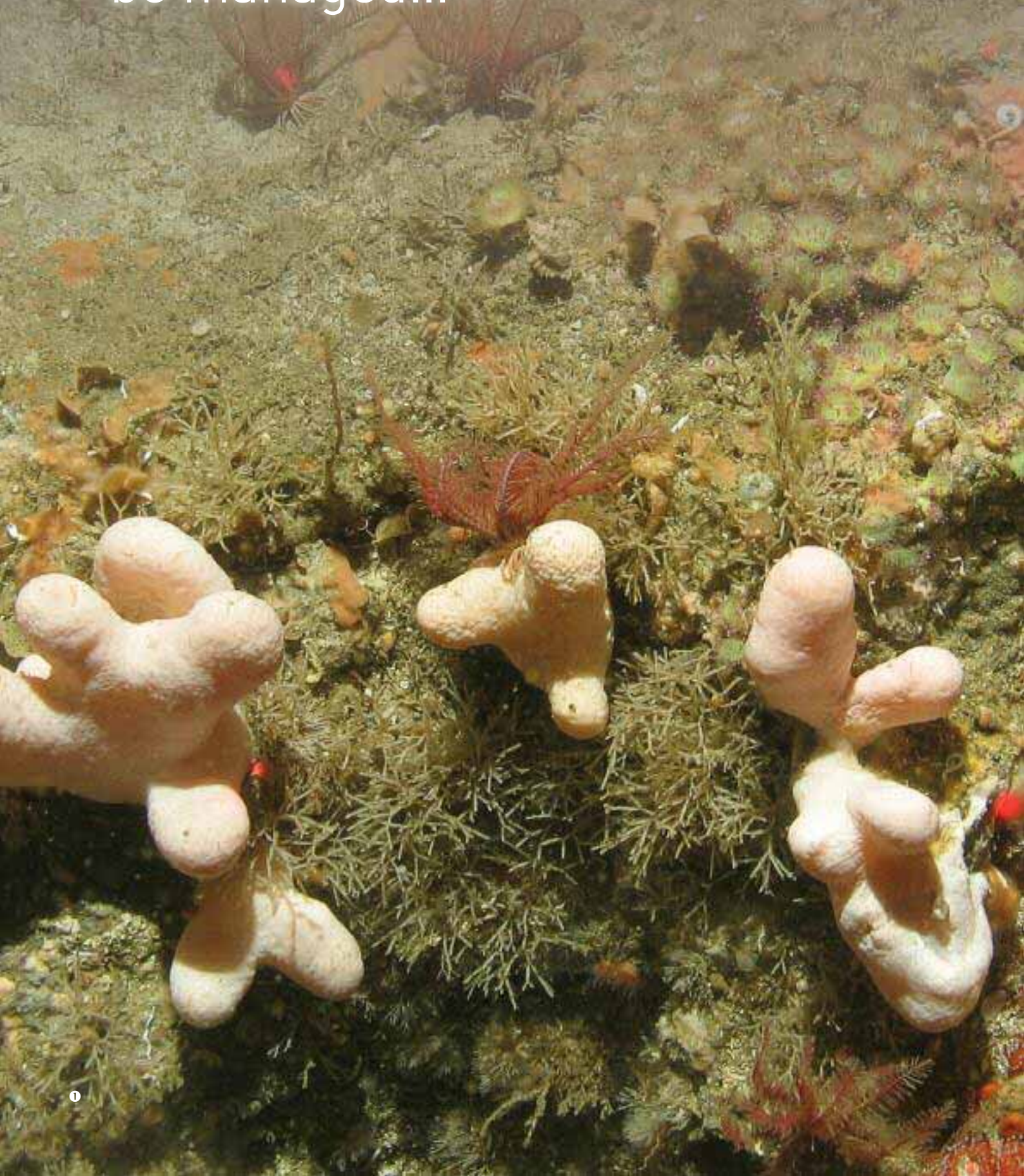
To respect and help the agency's people to develop. Measured by an annual questionnaire to staff, using a weighted scale for the eight survey categories.

2006–07 Target achieved

2007–08 Target achieved

**2008–09 Outturn: Target achieved – 69%**

▀▀ [There is] a major change in the way the marine environment will be managed... ▀▀



# Trusted science, integrated expertise

We collaborate with UK and international public bodies, industry and consortia to ensure society benefits from clean, safe, healthy, biologically diverse and productive seas.

The introduction of the Marine and Coastal Access Bill and the Climate Change Act to the UK Parliament in 2008 heralded a major change in the way the marine environment will be managed in the UK.

A new government body – the Marine Management Organisation (MMO) – will be created under the Marine and Coastal Access Bill and will be the government’s principal marine delivery body. It will rely on scientific evidence to support its planning and licensing roles so that it can reach decisions on issues such as the environmental impact of planning proposals or fisheries and the potential impact of oil or chemical spillages.

Cefas is uniquely placed to support the new MMO, given the breadth of our applied science and our long-established partnerships with government bodies.

To support Parliament’s clear understanding of various aspects of the Marine and Coastal Access Bill, Cefas scientists have provided written and oral advice to the cross-party Select Committee reviewing the Bill. We also gave presentations of habitat-mapping research to ministers and MPs at an All-Party Parliamentary Group meeting at the Houses of Parliament. There we showed a three-dimensional animation of the seabed and explained how habitat maps are a key tool for delivering integrated marine management.

A second driver of major change for marine management is the European Union’s (EU’s) Marine Strategy Framework Directive (MSFD). In July 2008, the UK formally adopted this far-reaching agreement to assess, monitor and

improve the status of the marine environment in European seas. The UK is one of the few European countries whose marine planning programme is in an advanced stage of preparation. This will be important for the future development of regional marine strategies under the MSFD.

Cefas is well placed to support the UK government in achieving “good environmental status”, which was agreed under the MSFD. We are active in the new expert working groups that have been put in place to develop the criteria the MSFD will use, and in international fora such as the OSPAR Commission (supporting the former Oslo and Paris Conventions; see [www.ospar.org](http://www.ospar.org)) and the International Council for the Exploration of the Sea (ICES; see [www.ices.dk](http://www.ices.dk)), where new science to support the MSFD will be generated.

- 1 Rocky reef community off Land’s End, Cornwall
- 2 MPs wearing 3D glasses at an All-Party Parliamentary Group meeting © Austin Mitchell MP



## Rising to the challenges ahead

Together, these changes have prompted reviews about the way the UK co-ordinates and delivers its scientific evidence base.

Parliament's Science and Technology Committee recommended (while "Investigating the Oceans") the need for a new co-ordinating body to develop and deliver marine science strategy for the UK. Cefas' Chief Scientific Adviser and ICES President, Dr Joe Horwood, is a founder member of this new Marine Science Co-ordination Committee. This committee will develop the UK's marine science strategy, which will help to deliver the evidence needed to fulfil the nation's marine objectives and other policy drivers.

This year Cefas scientists also chaired the steering committee for, and are collecting evidence and helping to draft, *Charting Progress 2* – the second integrated assessment of the state of UK seas. This publication will set out developments since the first report in 2005, including the pressures and impacts on the marine environment. The report will be a key tool to inform policy-makers throughout the UK and highlight priorities for the new MMO.

Our involvement in national and international fora is testament to the high quality of our science. Another is our EU and national "Reference Laboratory" status. This means, for example, that we provide advice and accredited methods to research and manage specific pathogens found in aquatic animals.

Yet we have challenged ourselves to do more. This year we established the Cefas Science Advisory Committee (CSAC) to bring in external challenge and advice on the conduct and direction of our science. Throughout the year the CSAC reviewed the work of each of our science divisions and considered better ways of mentoring and developing young scientists within the agency.

We are ensuring that our science and technology remains at the cutting edge, by fostering expertise and integrating interdisciplinary science and technology to deliver sustainable outcomes. Our QuEST programme (Quality and Excellence in Science and Technology) provides an overall framework to help us realise that ambition. We are developing QuEST to create a focus for the energy and passion that exists for science and technology across Cefas.

### Cefas Science Advisory Committee

The CSAC is a formal sub-committee of the Cefas Management Board. The remit of its entirely external membership is to challenge and advise on our science and technology quality, both to assure ourselves internally and for our customers. Other elements of this assurance include sustaining quality accreditations and keeping scientific publication rates high. Members of the CSAC include:

- Dr Joe Horwood: Cefas' non-executive Chief Scientific Adviser and President of ICES
- Professor John Shepherd, FRS: Professor of Earth System Science at the National Oceanography Centre
- Professor Andrew Watkinson: Director of the Tyndall Centre for Climate Change, University of East Anglia
- Professor Jon Rees: Natural Environment Research Council's theme leader of Natural Hazards
- Professor Kevin Chipman: Head of the School of Biosciences, University of Birmingham
- Professor Alexander Scott: Cefas Emeritus Fellow in fish endocrinology
- Dr Miles Parker, Defra's Director of Science.

## Investing in and exploiting our science

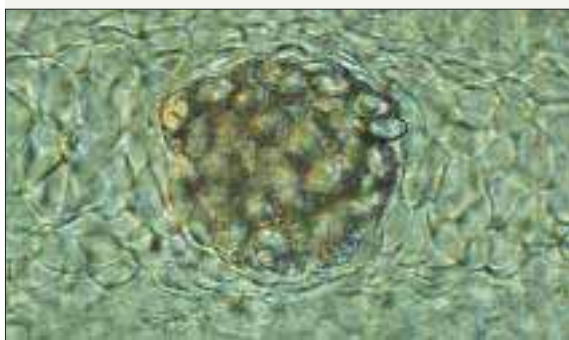
Through our “seedcorn” funds and other sources of investment, we maintain and develop capability and long-term business growth that fully exploits our technology, knowledge and information. Our investment is increasing and is broadly split between research (to support long-term capability) and development (which is focused on more immediate opportunities).

The research portfolio spans the molecular level to broad ecological science. New projects will bring a better understanding of the impacts of wave farms on coastal processes and strengthen our knowledge of climate change. To support these aspirations, we aim to increase our numbers of PhD students and to develop targeted links to centres of excellence across the UK.

The development projects focus on major opportunities. These include projects that consolidate our work on issues of marine-related climate change, modelling, and technical improvements to instrumentation. We expect to increase activity linked to data management. We also see the need to invest in capabilities to ensure that we harness our science effectively, for example in applied risk management and to relate our work more closely to socio-economic issues.

We are exploiting our intellectual property through the InterAct Forum, a unique partnership between Cefas and five other agencies. The aim is to enhance commercialisation of the partners’ intellectual property. We recently secured funding for two “proof of concept” projects in molecular biology and virology.

Parasite (*Myxobolus feisti*)



## Sharing and integrating expertise

We hosted several international workshops and conferences this year. In some cases, more than 100 delegates, originating from at least 30 different countries, visited our laboratories. The range of meetings included:

- the seventh workshop of the European National Reference Laboratories for monitoring bacteriological and viral contamination of bivalve molluscs
- the second Cefas histopathology workshop
- the first international workshop on shellfish sanitary surveys
- a major OSPAR meeting on the environmental impacts of human activities
- an ICES study group on the identification of biological characteristics for use as predictors of salmon abundance
- benthic ecology and Marine Environment Protection Fund meetings.

## Recognised success

This year, several colleagues were honoured in various ways for their achievements and professionalism. A few examples are:

- Professor Alexander (Sandy) Scott, Cefas Emeritus Fellow, was honoured with a lifetime achievement award during the Sixth International Symposium of Fish Endocrinology. The award is distinguished recognition of Sandy’s significant scientific contribution in this specific discipline.
- A parasite was renamed (now called *Myxobolus feisti*) to acknowledge Dr Stephen Feist’s contribution to the fields of fish pathology and myxozoan diseases (see *Acta Parasitologica*, **53** (4): 330–338).
- Dr John Hunt was presented with an Honorary Fellowship by the Society for Radiological Protection, in recognition of his significant contribution in obtaining the Society’s Royal Charter status.

▣▣ ...hygiene monitoring... ensures that shellfish sold to the public are safe to eat ▣▣



Mussel harvesting



# Protecting human and animal health

Our scientists monitor the food safety of fish and shellfish across Great Britain, undertaking sanitary surveys to ensure that consumers are protected. We also work with the Food Standards Agency (FSA) to provide emergency response cover for nuclear and marine accidents. Cefas is an international centre of excellence for the study of diseases in aquatic animals (fish, shellfish, crustaceans and amphibians). In addition, our Fish Health Inspectorate advises and inspects fish farms for compliance with national and international disease regulations. Cefas scientists also assess the impacts of environmental contaminants on the health of animals.

## Surveys protect consumers

This year we signed a three-year contract with the FSA in Scotland that delivers the official control-monitoring programme for algal toxins in bivalve shellfish, covering all shellfish-harvesting areas in Scotland.

Bivalve shellfish (oysters, mussels, clams, and so on) filter nutrients from the water in which they grow. As such, they can be vulnerable to contamination by sewage and agricultural effluents. So hygiene monitoring is important to ensure that shellfish sold to the public are safe to eat. This work not only protects the health of consumers, but it also ensures European regulations compliance.

We also look for radioactivity in food and the marine environment. Our risk assessment programme brings together data from across the UK and ensures that the regulatory regime for controlling wastes from nuclear and other industries is stringent and effective. We target high-risk groups to make sure that risk limits are not exceeded.

This year radioactive particles, found on UK beaches and the seabed, were removed when detected. In one instance seafood harvesting was also banned. So our expertise really helped to identify crucial safety and health-protection issues.

## Is small perfectly formed?

Nanotechnology is a rapidly developing field, attracting investment from industry and governments. Nanomaterials (NMs) comprise particles so small (1 millimetre = 1 million nanometres) that their environmental effects are largely unknown and little studied. Certainly, a nanoparticle's size means that its physico-chemical properties differ from those of other bulkier particles. It is important to understand the toxicity, fate and environmental risk of NMs before their use and subsequent release into the environment, not only as a precaution but also to ensure regulatory compliance.

Cefas scientists are developing a tiered testing approach. This involves an initial screen for cellular toxicity using cultured cells, followed by standardised ecotoxicology tests using invertebrates and fish. Because the potential toxicity pathways of NMs to aquatic organisms are largely unknown, we are looking at the way they regulate thousands of gene pathways.

Results suggest that NMs can alter gene expression in the brain and gills of fish; they can induce significant liver disease; and they can affect normal reproductive behaviour. Further experiments are planned to confirm these findings, which could point not only to effects on the environment but also help us to understand possible effects on human health.

## Excellence in disease diagnosis

European crustacean fisheries (crabs, lobsters, and so on) play an important role in the economic life of the eurozone. In addition, third-country imports into Europe of shrimps and prawns alone accounted for almost 800,000 tonnes in 2006 (within that total, the UK imported around 87,500 tonnes), with a first-sale market value of an estimated \$6 billion.\* So crustaceans are big business.

More and more species are intensively farmed and these, in turn, contribute to consumers' growing protein consumption. Increasing production and the movement of live and commodity products has led to the emergence of several important crustacean diseases, which significantly impact on farm production and the potential to meet growing global needs.

This business has the potential to touch millions of people. Crustacean viruses such as White Spot Syndrome and Taura Syndrome do not pose a threat to human health, but have been responsible for decimating farmed crustacean populations around the globe.

In 2008, our Weymouth laboratory was designated the European Community Reference Laboratory (CRL) for crustacean diseases ([www.crustaceancrl.eu](http://www.crustaceancrl.eu)). It is also recognised already as one of two National Reference Laboratories for this sector.

Samples are collected using well-defined standard operating procedures from field and laboratory trials. They are then allocated a unique identifier and processed for disease diagnostics using a range of techniques, such as histopathology, parasitology, electron microscopy and molecular biology. Diagnostic data are then made available to customers to pre-agreed service levels, focusing on the implementation of the EU Aquatic Animal Diseases Directive.

\* Source: Globefish, 2007

- ① Scallops, crabs and lobsters
- ② Working within our Weymouth laboratory



## Reducing animal experiments

We have been working, on behalf of the FSA, to limit and eventually replace the use of animal testing for shellfish toxicity in the UK. Our two-stage approach for chemically testing shellfish, using analytical chemistry methods, achieved a 77% reduction in the numbers of animals in 2006. Since then, our tests have been validated for a range of shellfish species, and we hope to eradicate the use of animals entirely by the end of 2009. A scientific poster explaining this work and our progress was presented at the House of Lords in March.

In addition, the Home Office-supported National Centre for the 3Rs (replacement, refinement and reduction; see [www.nc3rs.org.uk/](http://www.nc3rs.org.uk/)) has funded a project aiming to reduce the numbers of animals used in regulatory toxicological testing. Our scientists are working on a sexual development test that reduces the numbers of three-spined stickleback used, because of the ease of detecting this species' genetic sex. It is hoped that this work will lead to it becoming the preferred test for detecting endocrine-disrupting chemicals.

Cefas is leading this work, in collaboration with Brunel and Leicester universities. The resulting data will be submitted to a task force of the Organisation for Economic Co-operation and Development for their consideration and, it is hoped, eventual widespread adoption.



▀▀ We... ensure that day-to-day decision-making is supported by rigorous and independent science ▀▀



# Managing the seas

We continue to develop our understanding of the way ecosystems function and respond to change. The effects of human activities on the marine environment – such as constructions like offshore wind farms, seabed dredging and the disposal of material at sea, the extraction of aggregates, and the impacts of the energy and fishing sectors – all mean that sound scientific expertise and advice will be needed to balance competing concerns. Our integrated approach means that we are able to provide a clear overview so that appropriate decisions and actions can be taken.

## Marine licensing and planning

The Marine and Coastal Access Bill will introduce a marine planning system to UK waters for the first time. This will ensure that more efficient use is made of marine space and resources, and that licensing decisions are more consistent and based on good evidence.

We already work with the Marine and Fisheries Agency to ensure that day-to-day decision-making is supported by rigorous and independent science. For example, we have been closely involved in a project to create a new coastal habitat at Wallasea Island, making beneficial use of material from the Cross-Rail tunnel project. We were also able to identify a new offshore disposal site for dredged material from the extensive redevelopment at the port of Felixstowe.

Our scientists are actively involved internationally so that we can influence best

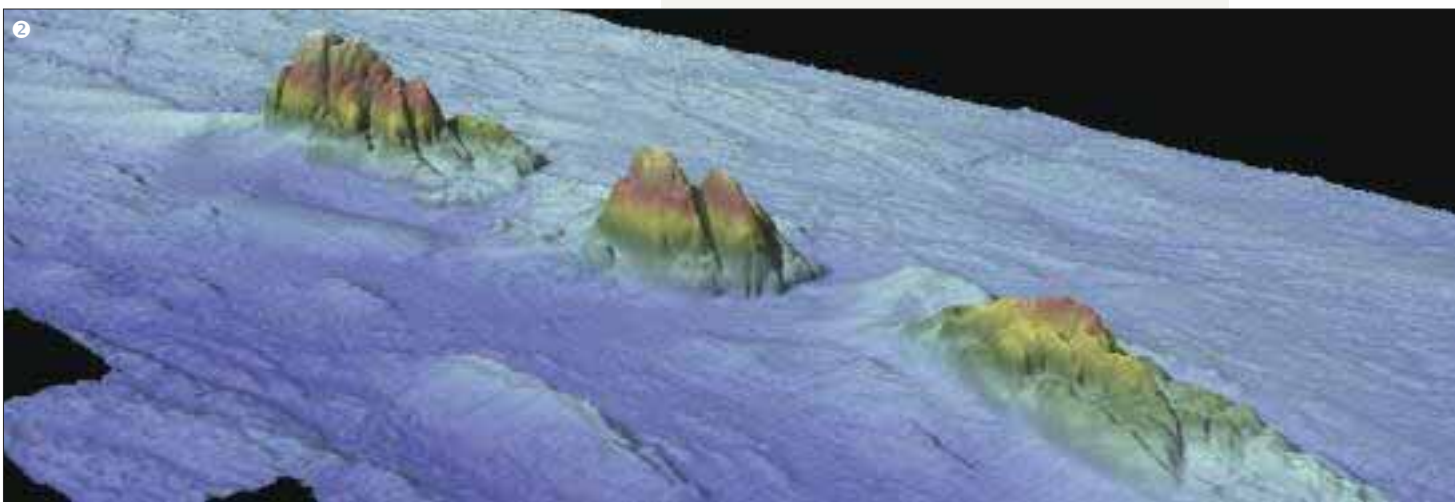
practice in licensing advice. Cefas chaired a technical group of the London Convention to draft a licensing framework for future global ocean fertilisation experiments. Applications to deposit iron in the sea to stimulate plankton growth are becoming increasingly frequent, but must be assessed with care.

During a recent international workshop – led by Cefas – technical experts, planners and regulators discussed the development of practical tools to support the planning requirements of the new MMO. Such tools will help marine planners to assess conflicting uses and the potential threat of cumulative impacts on the ecosystem.

We have also used our experience of practical marine sampling to identify key data needs, and we plan to take a leading role in the provision and management of such data.

- ① Wind turbines off the Norfolk coast © Mike Page
- ② Rock pinnacles on the seabed off Land's End, Cornwall. The middle pinnacle was not featured on Admiralty charts. Such images are effective in supporting marine planning.

2



## Adapting to climate change

The forthcoming Marine and Coastal Access Bill includes commitments to “look ahead at the predicted impacts of climate change, how marine activities contribute towards it, and also how they will be affected by it”.

One such example is two-way oceanic exchanges that connect the Arctic and Atlantic Oceans through the fringing seas immediately south of the Arctic Ocean. Cefas’ Emeritus Fellow Dr Bob Dickson, chair of the multinational “Arctic–Subarctic Ocean Fluxes” study (ASOF), notes that these “subarctic” seas are of fundamental importance to climate. Changes imposed on the Arctic Ocean could modulate the oceans’ “great conveyor” – which is central to determining the present state and future fate of the polar ice pack. The melting ice could, in turn, lead to wide-ranging impacts as shipping routes open and new geopolitical considerations come to the fore.

In another example, Cefas scientists found that not only have North Sea fish species moved northwards in response to long-term climate change, but also that many have moved into deeper, cooler waters. The whole assemblage is “deepening” at a rate of around 0.6 metres per decade.

As mitigation or avoidance measures could take decades before they are fully realised, activity is focusing increasingly on “adaptation” as the potential widespread impacts of climate change become more likely.

Cefas scientists are at the forefront of efforts to improve the knowledge base on the impacts of climate change in the oceans. For example, we provide the secretariat for the UK Marine Climate Change Impacts Partnership, which is supported by Defra and the devolved administrations. Recent surveys and workshops gathered together 400+ marine stakeholders to consider the potential threats and the need for innovative solutions to future climate change.

In addition, this year the ASOF community’s ideas about how the oceans’ variability in space and time are linked to climate were presented in a new book. The subtitle, “Defining the role of the northern seas in climate”, exactly describes its purpose.

- 1 Coastal ice © Jorgen Larrson/Nordic Photos/Getty Images
- 2 Shell BK gas platform being decommissioned in the southern North Sea © www.chpv.co.uk

1



## Web tools to understand more

There are many challenges posed by the MSFD, not least to provide marine scientific evidence in support of the ecosystem approach. (This approach considers the actions on every element of a system – in this instance, the marine environment – as all the elements are linked.) The scientific evidence will be based ultimately on numerous observations, from physics to fish, over wide time- and spatial scales. The European Marine Ecosystem Observatory ([www.emecogroup.org](http://www.emecogroup.org)) is a Cefas-led initiative that is developing a European consortia of agencies to deliver marine information and products. Initially, the observatory aims to deliver internationally agreed maps showing the productivity of phytoplankton in the North Sea. It will do this by integrating regional-scale data, derived from its partner organisations and made transparent using web-based tools. Such products will pave the way for internationally agreed assessments of good environmental status in European waters, as stipulated by the MSFD.

## Decommissioning energy installations safely

The UK offshore oil and gas industry has been highly productive for the past three decades, but its productivity is now entering its final phase. In the UK sector, over 250 offshore installations will require decommissioning within the next 30 years, at a cost of £10–20 billion.

The decommissioning process has the potential to release contaminants, re-suspend contaminated sediments and cause noise disturbance, as well as to affect fisheries and other resource uses. It is essential that decommissioning is designed and monitored to minimise any potential impact.

We already provide environmental advice to the UK government on the impacts of the offshore oil and gas industry. We are now working more closely with industry as decommissioning programmes are developed. For example, we are providing scientific advice, analytical chemistry, ecotoxicology and sample management to Shell as they prepare to decommission the Brent oilfield, the UK's largest.

2



▀▀ The Fisheries Science Partnership... was recognised at the highest level of the civil service... ▀▀





# Promoting productive seas

We monitor, assess and model marine fish and shellfish, eel and freshwater stocks, and study their responses to exploitation. This is supported through our close working relationships with a range of stakeholders, including the fishing industry. In the past year we have seen emerging opportunities linked to the social and economic aspects of fisheries management.

## Recognition at the highest level

The Fisheries Science Partnership (FSP), administered by Cefas for Defra, was recognised at the highest level of the civil service in 2008. With its focus on social and economic dimensions in the fishing industry, it was among more than 700 entries for the prestigious Civil Service Awards, sponsored by *Whitehall & Westminster World* on behalf of the Cabinet Office. It was one of three projects shortlisted for its category, which required proof of the use of science or technology in policy-making.

The ceremony was held at Lancaster House, London. Sir Gus O'Donnell – Cabinet Secretary and Head of the Home Civil Service – presented the awards. The Prime Minister, Gordon Brown MP, also made an appearance. Though not the overall winner in its category, the FSP team's achievement was acknowledged. The success of the scheme is now being copied by similar programmes being established in the UK, Europe and worldwide.

## Building trust for sustainable fisheries

A recent debate in the European Parliament highlighted the lack of mutual confidence and trust between fisheries' stakeholders and scientists, which has been contributing to difficulties in implementing the revised Common Fisheries Policy. For any fisheries plan to succeed, the involvement of fisheries stakeholders is essential. Building on the success of the FSP, Cefas is co-ordinating a similar project in Europe: the GAP1 project ([www.gap1.eu](http://www.gap1.eu)). This promotes the participation of stakeholders in scientific research as a way to help reduce tension and build collaborative working relationships. Such relationships have a better chance of yielding long-term benefits for resource management. One of those benefits is better-quality data for scientific assessments, upon which management advice, and the fishing industry, depends.



- ① Brixham harbour
- ② Members of the Fisheries Science Partnership team at the 2008 Civil Service Awards. CEO Richard Judge is second right, Sir Gus O'Donnell is at the far right © Paul Heartfield

## Following great migrations

The BBC's Natural History Unit covered two Cefas migration projects, which used sophisticated telemetry and satellite tags to follow mass migrations. The Radio 4 series *World on the Move* ([www.bbc.co.uk/radio4/worldonthemove/](http://www.bbc.co.uk/radio4/worldonthemove/)) captured these tagging projects for audiences worldwide. The podcasts and interactive website mean that the public can follow our work as these projects progress.

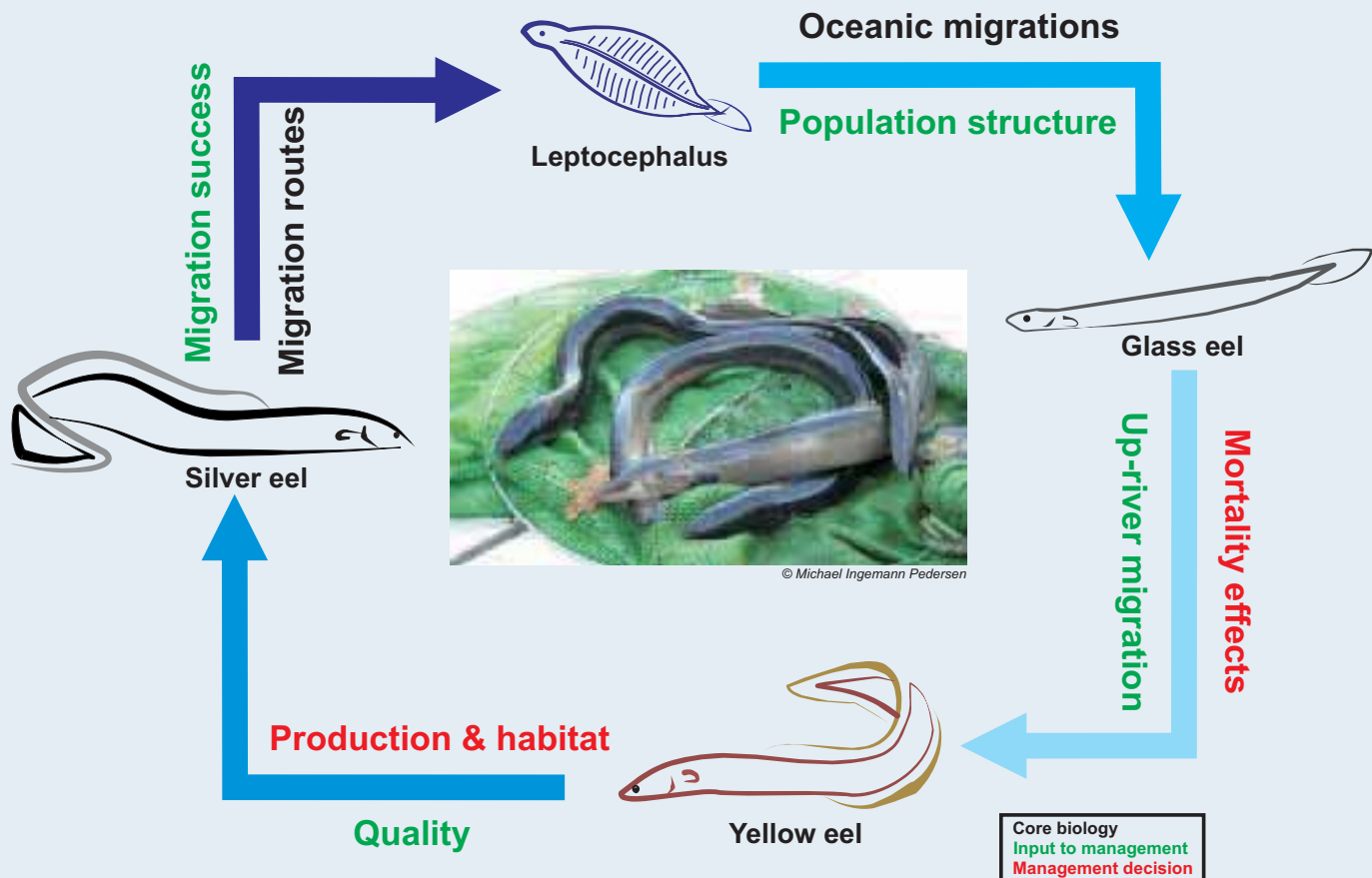
### An age-old mystery

The mysterious migrations of European eels are the focus of the Cefas-led and EU-funded collaborative project called *eeliad* ([www.eeliad.com/](http://www.eeliad.com/)). The four-year project began in 2008. It uses a revolutionary electronic tag that records the behaviour and migration of individual eels. These tags are designed to "pop off" the eels, ideally once they have

spawned and died. Floating on the sea's surface the tag transmits its information by satellites to scientists' computers. Scientists hope that the resulting evidence will enable them finally to solve the mystery of adult eel migrations that Aristotle first identified in 343 BC.

### Listening in on early migrants

This year exposed some secrets about juvenile Atlantic salmon. Our integrated field investigations and laboratory research revealed that juvenile salmon migrate downstream earlier than expected, in the autumn. At that stage they are not fully adapted to enter the sea. We used advanced telemetry and acoustic tags to follow the progress of juvenile salmon downstream and monitor their upstream return as adults. The subsequent detection of some early migrants suggests that tidal reaches should be designated as habitats used by juvenile salmon and managed accordingly.



## Collaborative fisheries management

In September 2008, Cefas hosted its second meeting with the twelve Sea Fisheries Committees, which are responsible for inshore fisheries management in England and Wales, and Channel Islands fisheries managers. This meeting emphasised the Sea Fisheries Committees' wider responsibilities once transformed into the Inshore Fisheries and Conservation Agencies, as stipulated in the Marine and Coastal Access Bill. The meeting covered the wider environmental issues surrounding seabed discrimination and habitat mapping, marine planning, the development of fisheries strategic environmental assessments, and the ecosystem effects of fishing. Cefas scientists will be collaborating with these new agencies to ensure scientific evidence supports management decisions.

## Advances in science published

*On the Dynamics of Exploited Fish Populations*, by Ray Beverton and Sidney Holt, which was published in 1957, told of the authors' original work at the Ministry of Agriculture, Fisheries and Food (a precursor of Cefas). Their book is one of the most respected and influential in fisheries science. In April 2008, a new book, *Advances in Fisheries Science: 50 years on from Beverton and Holt*, built on that important base and moved the science forward.

*Advances in Fisheries Science* draws on a range of international authors – many of whom are based at Cefas – and has a thought-provoking Foreword by Sidney Holt, now 81 and the guest of honour at the book's launch. It is hoped that the new volume will become equally respected and an important resource for future fisheries scientists.

- 1 Lifecycle of the European eel (*Anguilla anguilla*)
- 2 Cefas' Chief Scientific Adviser Dr Joe Horwood (right) presents a copy of *Advances in Fisheries Science* to Sidney Holt (left)

2



▀▀ Cefas... integrates a wide range of marine knowledge and expertise ▀▀



# Collect once, use many times

Cefas has a wealth of data and information generated by our programmes. We are using this rich data source in novel ways, driving efficiencies by deploying remote-measurement devices, and encouraging the increased use of our research vessel as a national asset.

## Bringing it all together

Cefas co-ordinates and integrates major, cross-cutting scientific programmes. In the past eighteen months we have been working closely with British Energy to establish, host and deliver the British Energy Estuarine and Marine Studies programme.

The programme is an integrated suite of marine environmental studies that provides authoritative scientific information on the marine and transitional waters in the vicinity of potential nuclear power stations. This information will be used to provide evidence-based scientific positions on the key local marine environmental issues relating to the construction and operation of any new-build stations. Cefas is co-ordinating the programme, working alongside several other scientific organisations, to integrate a wide range of marine knowledge and expertise. As part of our robust approach, and to ensure the

independence of evidence and advice, a panel of experts external to Cefas has been established to review activities and outputs.

## Major seabed surveys

Cefas is the primary delivery partner for the Marine Environment Protection Fund, a subset within the UK's Aggregate Levy Sustainability Fund. Our secretariat role was renewed for a further three years, with an increased budget of £12 million. Two major surveys are already underway to map and characterise the seabeds of England's east coast and the outer Humber. These projects will develop a broad understanding of seabed habitats, their biological communities, and potential historic environmental assets within each region – providing an insight into the processes that influence them.

- ① SmartBuoy being deployed at sea from the RV *Cefas Endeavour*
- ② Sizewell power station © Mike Page

②



## Early warning

Our WaveNet contract with the Environment Agency provides near real-time data about wave height for flood forecasting. The project has been extended for a further five years and we have increased our coverage with four additional device sites in Scottish waters. WaveNet helps the Environment Agency and the Scottish Environment Protection Agency to manage flood-risk issues and coastal defences. This work demonstrates our ability to combine operational oceanography with information technology for a reliable 24-7 service, 365 days a year.

## A national asset

Our research vessel the RV *Cefas Endeavour* lies at the heart of most of our marine-based programmes, supporting both research and development (R&D) and operational monitoring for fisheries and environmental projects. During a busy operational programme we delivered 273 sea-going days throughout the year. This ensured cost-effective utilisation of this important asset.

We also negotiated and signed a contract with a new vessel services partner this year, P&O Maritime Services Ltd, to drive forward operational improvements and take advantage of opportunities to extend the use of the vessel.

Teams from Cefas and P&O Maritime Services at the contract signing ceremony © Paul Peek Photography



## Real-time measurements

### Stand alone ...

The SmartBuoy programme has entered its ninth year of continuous operation within the UK Clean Seas Environment Monitoring Programme. It underpins OSPAR assessments of UK waters by providing near real-time data for physical and biological parameters. A new SmartBuoy was added to the network in January 2009, aimed at monitoring the freshwater plume emanating from the Humber and the Wash.

SmartBuoy technology has been a key component in the Defra-funded Ecosystems Connections R&D project. This provides high-resolution measurements throughout the water column to study the fate and impact of biomass on the cycling of carbon and nitrogen in the North Sea.

### ... on the move

In January 2009, an autonomous monitoring system (called a FerryBox) was installed on the RV *Cefas Endeavour*. This will provide scientists with near real-time spatial data of sea surface parameters such as salinity, temperature, chlorophyll fluorescence and dissolved oxygen.

Additional uptake of SmartBuoy and FerryBox data includes the "ground truth" correction of satellite images, the validation of ecosystem models, and inclusion in the web-based European Marine Ecosystem Observatory and other programmes.

### ... and on fish

Our team of technicians and engineers develop and build bespoke equipment that enables scientists to obtain data from the marine environment. This year, two new data storage tag variations have been developed: one to monitor the feeding patterns of cod, the other to extend our tags' logging life. The Cefas range of data storage tags is marketed through our subsidiary company, Cefas Technology Limited. Sales across our range of tags reached approximately 800 during the year, an increase of 35% compared with 2007-08.

# Developing our science

Our seedcorn investment fund and QuEST initiative are helping to develop our pool of talent and scientific base. For example, Cefas supports 33 PhD students who conduct research on topics ranging from fishermen's behaviour to climate impacts. They have the opportunity to develop their scientific skills and benefit from our unique data sets, analytical and aquarium facilities, and research vessel.

Our students frequently lead research papers, and they make a significant and valued contribution to scientific innovation at Cefas. An annual event provides the students with the opportunity to present their results and interact more widely with staff. Through students we keep our links with universities active, and the positive experience engendered while studying with us means that many former students have come back to work with us after graduation.

## UEA strategic alliance

Cefas has enjoyed a strong and long-standing relationship with the University of East Anglia (UEA). We have collaborated on many projects, and Cefas scientists teach at the university and contribute to research. Seven of our current PhD students are registered at UEA.

Despite these strong links, there was the potential to do even more. We forged an even stronger alliance – which promises to bring new scientific and business opportunities for each partner – in April 2008 with the School of

Environmental Sciences. The school is a natural partner for Cefas, with an outstanding reputation for high-quality, influential science. Further, the school excels in cross-disciplinary work, including the application of economic and social sciences in environmental science and management.

Working with the UEA we will have established an almost unique capability: to deliver top-quality research and advice on coastal systems. This capability will extend from physics and chemistry, through biology and ecology, to environmental economics and management.

To cement this strategic relationship further, we have appointed William Cheung as a joint Cefas–UEA lecturer in marine ecosystem services. William will facilitate long-term collaboration and highlight our growing expertise in applying socio-economic analyses in environmental management.

- 1 Scientist working in our Lowestoft plankton laboratory
- 2 Cefas' CEO Richard Judge and UEA Vice-Chancellor Professor Bill Macmillan shake hands after signing the Cefas–UEA alliance agreement © UEA



## Science Paper of the Year

Our Paper of the Year competition highlights the best of Cefas science and our commitment to scientific excellence. It also emphasises the importance of publishing and promoting the best science. Throughout the year, papers of the week appear on our intranet's front page, highlighting the diversity and strength of our science and sharing the papers across the agency. The strongest papers from the agency are then put forward for consideration as Paper of the Year.

Winning papers typically report the use of new, innovative or novel techniques to identify or to solve problems in environmental management. The reported, applied research is expected to make a real difference for society. Winning papers should also be examples of clear, concise and accurate scientific writing.

The paper on cold water strawberry disease, by David Verner-Jeffreys *et al.*, was chosen as the Paper of the Year for 2008. The other abstracts that follow below were the winners from two other divisions.

## An emerging disease affecting UK trout farming

Cold water strawberry disease, or red mark syndrome, is a severe dermatitis (skin disease) that first appeared in rainbow trout farms in England and Wales in 2005. Although the disease has limited effect on growth and mortality, the condition causes severe losses to farmers, both in treatment costs and the downgrading of affected fish at harvest. Cefas epidemiologists demonstrated that the condition was infectious, with the introduction and spread of the disease linked to movements of live fish between farms, typically when temperatures are low (less than 15 °C). The disease agent has yet to be isolated and identified but, importantly, we have conducted laboratory tests that confirm its infectious nature. As well as continuing to search for the cause of the disease, we are working closely with those affected to develop practical control measures.

Verner-Jeffreys, D.W.; Pond, M.J.; Peeler, E.J.; Rimmer, G.S.E.; Oidtmann, B.; Way, K.; Mewett, J.; Jeffrey, K.; Bateman, K.; Reese, R.A. and Feist, S.W. "Emergence of cold water strawberry disease of rainbow trout *Oncorhynchus mykiss* in England and Wales: outbreak investigations and transmission studies" in *Diseases of Aquatic Organisms*, **79**: 207-218.





## Environmental effects on cod stocks recovery

Fishing and environmental factors influence the abundance of cod stocks. In the North Sea, changes in the abundance of the copepod zooplankton that are eaten by cod larvae may have led to lower growth and survival of young cod. It has been suggested that this is inhibiting stock recovery, despite reductions in fishing.

We investigated how changes in sea temperature and zooplankton availability affect cod larvae during their first 40 days of life. The results suggested that changes in zooplankton had less impact on cod larvae than previously suggested. Thus stock recovery, at least in the short term, should not be hindered by the effects of climate change on early larval growth. Further research is needed to assess the possible impacts of climate on older cod larvae.

Pitois, S.G. and Fox, C.J. "Empirically modelling the potential effects of changes in temperature and prey availability on the growth of cod larvae in UK shelf seas" in the *ICES Journal of Marine Science*, **65**: 1559–1572.

## Modelling transport of fish eggs and larvae

Free-floating eggs and larvae of many marine species can travel large distances in marine currents. Predicting the distance and direction of travel is important for the design of effective management measures, including the siting of marine protected areas. We used a computer model to simulate the potential dispersal of eggs and larvae of cod, plaice, witch, sprat and pogue in the Irish Sea. These species have different reproductive habits, timing, growth and behaviour that affect their transport. Modelled larval distributions and settlement areas compared well with observations from field sampling. Eggs and larvae typically remained within 160 km of their spawning origin, although a minority travelled up to 300 km. Our results emphasised the challenge of using spatial management to protect all the life stages of marine species, and the need to take account of differences in early life history and behaviour.

van der Molen, J.; Rogers, S.I.; Ellis, J.R.; Fox, C.J. and McCloghrie, P. "Dispersal patterns of the eggs and larvae of spring-spawning fish in the Irish Sea, UK" in the *Journal of Sea Research*, **58**: 313–330.

- 1 Trout showing signs of cold water strawberry disease
- 2 Harpacticoid copepod, eaten by cod larvae

2



# Making our mark

Our profile and reputation continue to grow. Key broadcast programmes helped us to share our science with a wider audience than ever before.

The TV Link Europe website offers high-quality videos to broadcasters on a range of EU-sponsored stories. For example, our specialist on elasmobranchs (cartilaginous fish that include skates, rays and sharks), Dr Jim Ellis, was interviewed about the perilous state of shark and ray stocks (see [www.tvlink.org/vnr.cfm?vidID=311](http://www.tvlink.org/vnr.cfm?vidID=311)). Radio 4's *World on the Move* series covered our tagging programmes. Cefas scientists were interviewed live at the Hay-on-Wye Festival, and provided audio diaries throughout the year so that listeners could follow progress online (at [www.bbc.co.uk/radio4/worldonthemove/](http://www.bbc.co.uk/radio4/worldonthemove/)). In addition, regional BBC TV programmes such as *Inside Out* and *Open Country* covered our work.

News items about us were published in the broadsheet newspapers (the *Daily Telegraph*, the *Guardian* and others); coverage in regional print outlets like the *Eastern Daily Press*, the *Yorkshire Post* and the *Western Morning News*; and features in stakeholder magazines like *Angling Times* and *Anglers Mail*, also helped us to connect with diverse audiences. Science publications such as *Nature*, *Science* and *New Scientist* included papers on fisheries and biodiversity, and more specialist outlets like *Marine Scientist* and the *ENDS Report* (covering oceanography and chemistry) continue to bring our work to the attention of fellow scientists and policy-makers.

## Reaching out to the community

This year, we have been reaching out to the community in a variety of ways. We took part in the Science Museum's "sustainable living and food" event at its Dana Centre in March 2009. The Centre hosts evenings that look at the biggest issues in science today, and we shared insight into the assessment of fish stocks and how our advice supports policy decisions.

We raised awareness about the marine environment through activities such as:

- aggregate extraction workshops ("Dredging for Gold: Olympics 2012" at the BA Festival of Science in September 2008)
- "Seabed Quest" workshops for students at Key Stages 1 and 2 in local schools.

In addition, gifted and talented children from Suffolk visited our Lowestoft laboratory as part of a wider study into how science and mathematics are used in the workplace. The pupils interviewed our plankton team and filmed the results themselves, for their careers fair.

Three people were offered permanent employment at our Weymouth laboratory as a result of taking part in the "Abilities" project, a continuous work-placement programme for those experiencing difficulty returning to work.

Staff participated in the Marine Conservation Society's quarterly surveys and litter clean-ups of the beach near our Lowestoft laboratory.

Finally, several health-related charities were the focus of staff generosity and enthusiasm.



Dr Julian Metcalfe (left) during the recording of BBC Radio 4's *World on the Move* series, at the Hay-on-Wye Festival

# Sustainable development

We are committed to supporting Defra's departmental strategic objectives, which reflect the need to deliver environmental, economic and social sustainability. Our Sustainable Development Action Plan 2007–2009 progress report (available to download from our website) shows continuing progress in embedding sustainability at the core of our work. Cefas' continuing certification to ISO14001 supports the Action Plan.

## Science that promotes sustainability

The government's sustainable development strategy (*Securing the Future*) sets out a number of priority goals, of which "natural resource protection and environmental enhancement" and "climate change and energy" are directly related to the work that we do. Specific examples of how our work supports these priorities and the three pillars of sustainability – environmental, economic and social – include:

- environmental impact assessments for potential new sites for nuclear power stations
- advice to Defra on the vessel-recycling process, after the *MSC Napoli* incident
- proficiency tests to help importing and exporting countries to verify that crustaceans are disease-free and safe for consumption

- our contribution to the European agreement on fishing quotas, achieved at the Fisheries Council in December 2008
- the development of novel feeding attractants to support the worldwide advancement of sustainable aquaculture.

## Operations that reduce our impact

Operationally, Cefas' highest priority and greatest impact for long-term sustainability are our new facilities, which are due to be built at Lowestoft (the Waveney Campus). These are set to achieve an "excellent" rating from the Building Research Establishment Environmental Assessment Method ([www.breeam.org](http://www.breeam.org)) for 75% of our total operations.

We continue to progress towards meeting our environmental targets and reducing our footprint. Installing a "power perfecter" unit at our Weymouth laboratory – without impacting our delivery – helped to reduce our electricity consumption by about 17%. (This percentage is for the period October to December 2008, compared to the same period in 2007.)

## Environmental management targets

	1999–2000	2007–08	2008–09	Target
Total carbon emissions (tonnes)	887	843	810	776
Percentage below 1999–2000 levels	–	5%	9%	12.5% by 2010–11 relative to 1999–2000
Tonnes per £1 million turnover	31.3	17.7	14.2	
Percentage of electricity from renewable sources	–	12%	6%	10% by March 2008
Percentage of recycling	–	23%*	25%* (estimated)	40% of waste arisings by 2010

\* Excludes waste recovered for energy use

# Working together

## Relocation success

Staff at all levels of the agency pulled together to successfully deliver the relocation of our Burnham-on-Crouch operations prior to that site's closure in December 2008.

The project involved:

- supporting the relocation of around 50% of staff and their families
- minimising disruption to contract delivery while moving seven business units
- managing redundancies and severance issues
- securing new recruits, 40 of whom joined us in 2008.

The Lowestoft site also underwent major building works, creating new labs and offices to accommodate relocating and new staff.

Individuals and teams were involved in key decisions throughout, and team meetings and an intranet site kept people informed about progress. Empowering people at all levels meant that staff development was an additional outcome from the process.

Formal events marking the Burnham site's closure, after 55 years of operation, and welcoming relocating staff and new recruits helped to acknowledge the solid and impressive achievement of all concerned.

Delivered within budget and to an advanced timescale, the project proved to be a useful trial for the planned relocation of our headquarters in 2011.

## Positive staff survey results

There was a very healthy 80% return on our annual staff survey this year, and we beat our own ministerial target by 4% (with an overall survey result of 69%, compared to the 65% target). There were some very positive results, particularly around:

- the improving performance of leadership across Cefas
- communications
- perceptions and pride in the agency, and in health and safety.

Encouraging improvements in equality and diversity were seen, and there was an increasing sense that people saw personal growth opportunities.

There are also areas to explore further. Work-life balance issues remain a concern, despite our desire to reverse this situation. And the data revealed marked differences by division, length of service and grade. Divisional and Cefas-wide action plans will be developed to address any pressing concerns and pick up on locally diverse responses.

The staff survey is useful in shaping our actions and priorities, but it isn't the only way that communication occurs. Cascading messages through the management chain, during regular divisional and team meetings, through weekly management memos, occasional high-level intranet newsletters and announcements, corporate and divisional road shows, and informal "drop-in" sessions all contribute. The Cefas Staff Forum also encourages two-way communication and promotes staff involvement in decision-making.

## Developing leaders

We launched a leadership development programme in May 2008. An organisational rather than a personal development programme, it provides "action learning" opportunities (an approach that embeds behavioural change) as well as more traditional learning and development methodologies.

Leadership is a core competence for all senior staff, but it is also desirable at other levels. So far, 93 staff have taken BTEC courses, of whom 63 have now completed their course. Cefas is already benefiting as these people also "lead from the front" to help their teams manage change.

## Investing in health and safety

As part of our goals for improvement, we continued to invest in our health and safety procedures this year. A specialist senior manager was appointed to bring extra resource, expertise and direction for further improvements to our management systems and the ongoing development of a safety culture. We continually engaged staff at all levels to encourage sound practice. Our specific actions this year included:

- role-specific health and safety training for our staff
- an improved system for identifying and reviewing risks and developing assessments for the control of substances hazardous to health (COSHH; see [www.hse.gov.uk/coshh/](http://www.hse.gov.uk/coshh/))
- improvements to occupational health screening and surveillance
- improved analysis of key performance indicators and reporting to better monitor incident occurrence
- a “safe driving” initiative.

We encourage the reporting and evaluation of “near miss” events. The lessons learnt are helping us to improve our safety processes and performance.

A comprehensive programme of environmental/personal exposure monitoring for chemical risks – identified from our COSHH assessments – indicates that our current measures are controlling exposure to hazardous substances.

### Absence data

In 2008–09 the average number of days lost to absence per full-time equivalent employee was 6.2. This compares favourably to the 2007–08 average, which was 7.4 days.

## A diverse and equal business

Promoting diversity and equality of opportunity is integral to how we operate, both as an employer and as a business. The Single Equality Scheme demonstrates our commitment to these principles and supports our strategy and values. The Scheme’s principal document outlines how we are meeting our legal and statutory obligations in relation to disability, race and gender, as well as those related to age, sexual preference, religion and belief.

In addition to such formal schemes, the “Women in Cefas” group was established in 2008. This staff-run group is an informal focal point for initiatives to increase gender-equality awareness. The group drafted guidance about handling long-term absence; is developing a training module focusing on gender awareness; and continues to track and benchmark gender-related data. It has also established links with other gender-equality groups such as Resnet, a network for female scientists at the UEA.

Maintenance of micro-organism cultures in the laboratory



# Financial performance

Cefas has delivered another year of strong financial growth. We have once again worked on more than 500 customer projects and have “made a difference” to our own future by investing in changes to secure a sustainable future for the agency. Principally this year, we successfully relocated our Burnham-on-Crouch operations. We have also met the key ministerial targets set for financial performance and efficiency for the year ended 31 March 2009.

As an agency under the net accounting regime we have a continuing requirement to recover the full economic cost of the services Cefas provides. This was achieved and the overall net surplus of £37,000 (2007-08: £35,000) generated a total cost-recovery of 100%, which falls within the tolerances allowed and is an improvement on a budgeted break-even position. This surplus is after a one-off charge of £2,368,000, which arose from property losses incurred in relocating the Burnham-on-Crouch laboratory to Lowestoft and the continuing work to relocate the Lowestoft facility to the new Waveney Campus. Cefas was required to guarantee the sales price of 20 homes for relocating staff as an element of our relocation terms and conditions. The exceptionally rapid fall in the housing market

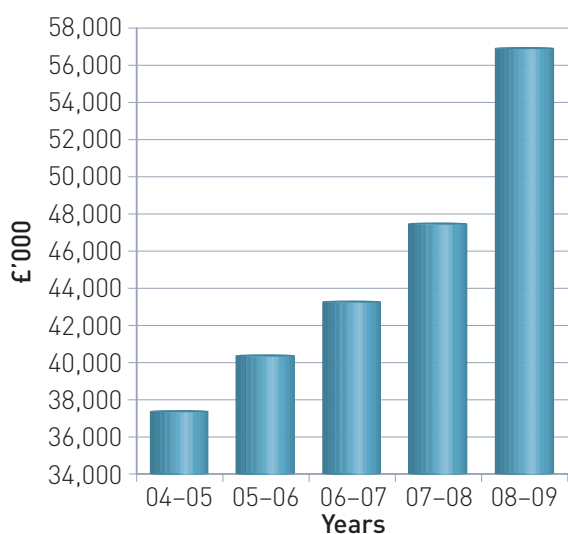
during autumn 2008 resulted in significant increases in provisions for these guarantees. At 31 March 2009 Cefas had guarantees remaining on 12 properties with current market valuations totalling £2,134,000. Further significant costs were taken against the future decommissioning of the Lowestoft facility.

Cefas was required to meet or exceed the efficiency levels set out in the Laboratory Strategy Programme (LSP) plan. This was exceeded, with Burnham-on-Crouch relocated one year ahead of plan, non-Defra income growth 30% ahead of plan and administrative efficiencies also running ahead of plan. The delivery of these combined actions has benefited Cefas by more than £2,500,000 in the year over the plan baseline year, 2005-06.



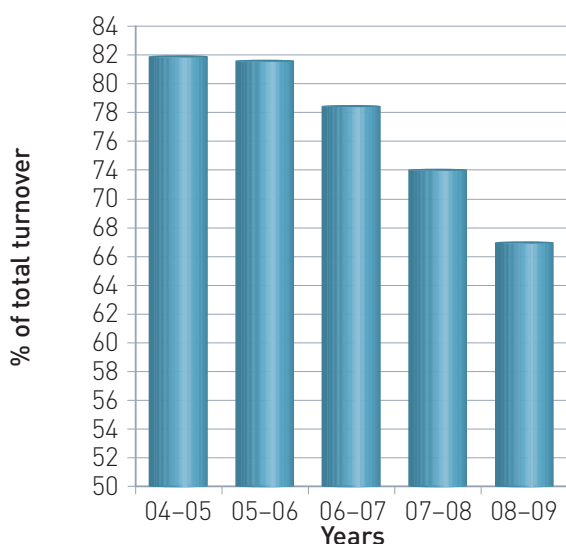
Turnover for the year was £57,100,000 a 20% increase on 2007–08 (£47,557,000). This strong, top-line growth is inflated by an increase in our programme management and integrated project business. We co-ordinate programmes, engaging many collaborators and contributors for such projects. We then integrate the results as required for the customer. This means sizable sums pass through Cefas to subcontractors.

**Turnover trend**



Turnover from Defra of £38,446,000 (2007–08: £35,375,000) accounted for 67% of our work (2007–08: 74%). Most of this is provided through the ten-year high-level agreement, signed in April 2007, which provides a commitment from Defra to Cefas of work to be commissioned through to 2016–17.

**Defra turnover**



The proportion of non-Defra turnover is above that planned within the LSP because of greater success in wider markets. This has now increased to 33% (2007–08: 26%).

Of this, £8,962,000 of turnover (2007–08: £6,203,000) came from other UK government departments, agencies and the wider public sector, where a continuation of the growth in the services we supply to the FSA was achieved. The FSA is our second largest customer, providing £5,112,000 of turnover (2007–08: £4,493,000). Continued growth in our work with the commercial sector saw turnover rise to £4,969,000 (2007–08: £3,247,000), predominately led by continuing success with customers in the energy sector. Significant growth of EU research work of £3,759,000 (2007–08: £1,915,000) demonstrates the increasing international collaboration of our work.

We were once again subjected to significant cost pressures in the year. However, despite this, we held typical price increases to customers at around 3% owing to productivity and cost savings. The most material increase in 2008–09 was staff pay, where the continuation of our pay-progression arrangements provided an average annual increase of 3.7% to staff.

Costs associated with estate maintenance continue to be a concern at the Lowestoft laboratory, where matters that do not affect health and safety are repaired as required rather than through pre-emptive maintenance. This can lead to unplanned costs, which exceeded planned budgets for the year by about £300,000 owing to boiler replacements, fire protection measures, quay works and other items.

There were no charitable donations greater than £200 made in the year (2007–08: Nil).

## Pension liabilities and entitlements

Pension liabilities arising from early retirement or other enhancements are accrued in total in the year in which the liability arises. These charges are paid either to the Principal Civil Service Pension Scheme, which is responsible for meeting future pension obligations on behalf of Cefas, or to employees' stakeholder-based arrangements. Further details are provided in Note 4(c) to the Accounts.

## Assets

Underlying capital charges relating to land, buildings and our research vessel rose in the year owing to the indexed increase in their values. However, the Lowestoft and Burnham-on-Crouch laboratories are not inflated. The significant downturn in the commercial property market has increased our impairment on these sites by £520,000 in the year.

Capital investment in the business of £1,558,000 (2007-08: £1,195,000) was principally incurred on scientific equipment, £898,000 (2007-08: £891,000), which is typically replaced at a rate close to that depreciated to maintain the asset base. An important investment of £308,000 in commissioning a new management information system is progressing, as well as other additions including IT equipment and enhancements to laboratory facilities.

Cefas acquired 100% of the share capital of Cefas Technology Limited (CTL) in 2001. CTL specialises in the exploitation of Cefas-generated intellectual property. Examples include electronic fish-tag production and fish-disease testing. In line with our accounting policy, CTL accounts are not consolidated into Cefas' statements of accounts. In 2008-09, CTL traded profitably, making £52,000 before tax on turnover of £400,000.

## Post-Balance-Sheet events

These accounts were authorised for issue by the Cefas Accounting Officer on 27 May 2009, and there are no known post-Balance-Sheet events to be reflected in the financial statements or to disclose up to this date.

- 1 Past and present staff assemble to mark the closing of the Burnham-on-Crouch laboratory © Edmund McManus
- 2 SmartBuoys being prepared for deployment





## Cash management

The business generated a positive operating cash flow of £8,870,000 (2007–08: £8,472,000) primarily because of the non-cash nature of depreciation, capital-charge interest and changes in working-capital management.

Working capital has decreased in the year, generating £1,047,000 of cash. An increase in debtors at the year-end was primarily due to the timing of payment of more than £2,000,000 from Defra. Working capital is expected to increase in the future as our non-Defra business expands and we maintain our policy of prompt payment of suppliers. This policy has been 30 days from receipt of invoice in the year and performance against this payment target was 92% (2007–08: 92%). From January 2009 we moved to a policy to pay suppliers within ten days of receipt of invoice in support of the government's support for the economy. By 31 March 2009, 83% of invoices were paid within ten days.

Having reviewed the cash requirements of the agency with Defra, we have repaid £5,000,000 (2007–08: £5,187,000) to them, which reduces the General Fund reserve balance. This leaves us in a sound cash position with sufficient liquid funds and customer contracts to meet all our expected obligations within the coming financial year.

## Financial risk

The primary financial instrument risk that we are exposed to is the receipt of payments from customers – 93% in pounds sterling and 7% in foreign currencies; and the payments of certain goods and services in foreign currencies. This risk is believed to be of a low level, and the policy is to accept net currency conversion risk of euros and US dollars or closely linked currencies. We manage our own collections risk and reduce our exposure to foreign currencies by netting receipts and payments in the same currencies before translating any remaining funds to pounds sterling.

Waveney District Council, as the future landlord of the Waveney Campus facility, has incurred costs relating to Cefas' involvement in the joint project of £1,597,000 as at 31 March 2009. If the project does not proceed to provide a facility that Cefas contracts from Waveney District Council (which is considered unlikely), these costs will be charged to Cefas. The level of this balance will continue to rise until a contract is signed between the partners to provide the facility from landlord to occupier.



## Auditors

Our external auditors are the National Audit Office, whose address is:

The Comptroller and Auditor General  
National Audit Office  
151 Buckingham Palace Road  
Victoria, London SW1W 9SS

The cost of work performed by the external auditors is £49,000. This included additional costs of £9,000 for other audit services, preparing for the move to International Financial Reporting Standards in 2009–10.



## Future plans

We are continuing to deliver the strategy set out in response to Defra's LSP review. This includes consolidating from three sites to two, which was achieved this year, building major new facilities at Lowestoft, and developing more effective and flexible ways of working that bring greater business orientation to our delivery. Supporting Defra through a strong, open and strategic partnership will continue to be an important aspect of our activities, with mutual commitments reflected in the 2007 high-level agreement. We also focus on growing income from sources other than core Defra, to enhance our capability and to mitigate flat Defra funding (a decrease in real terms).

Our proposed ministerial targets for 2009–10 reflect the considerable challenge of sustaining current levels of performance through the major changes that we will continue to deliver in the new year. Ensuring that our staff are fully engaged with this change is important. We have therefore increased our capability target, which is linked to the staff survey. We will also recognise the importance of sustainability to our values through a new, specific target.

We aim to break-even in 2009–10 and in subsequent years of our plans. This is in line with the original LSP projections.

The business plan is subject to significantly greater risk than usual operating levels owing to the current economic uncertainty.



# Remuneration report

The Cabinet Office, subject to HM Treasury remits, sets the remuneration of the CMB's executive directors. They are senior civil servants and their contract of employment is with Defra. Cefas, however, bears the cost of their employment. Up to 15% of their remuneration is performance-related and is reviewed by Defra against achievement of ministerial targets.

Dr Joe Horwood, Cefas' Chief Scientific Adviser, operates in a non-executive advisory capacity on the CMB. This is an advisory role and has no executive accountabilities or authorities.

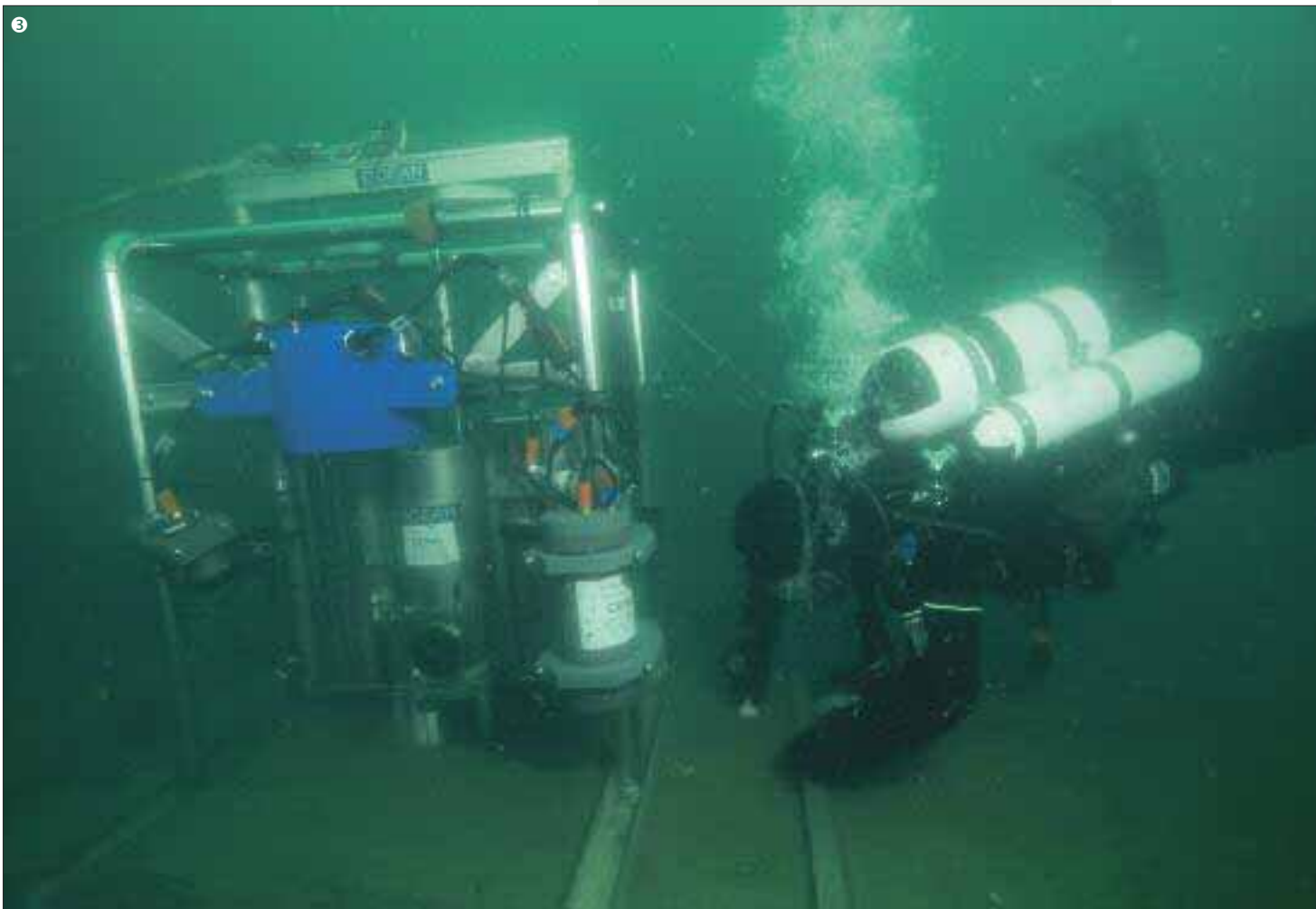
The remaining non-executive members are employed by Cefas on fixed-term contracts – their remuneration is contractual with the reimbursement of expenses.

Richard Judge, Chief Executive, is contracted with Defra for a fixed term to February 2010. All other executive directors and one non-executive director, Joe Horwood, are under permanent contracts of employment with

Defra. There is a maximum notice period of six months from Defra and a minimum of three months from the employee. The length of service, salary and age of the employee determine any termination payments payable. Non-executive directors, with the exception of Joe Horwood, are contracted by Cefas and have notice periods of three months, from either Cefas or the employee. No awards for early termination were made to existing or former directors in the year.

- 1 Molecular facilities at our Lowestoft laboratory
- 2 Dublin Bay prawns
- 3 Cefas' sediment profile imagery camera being tested underwater

3



## Remuneration of Cefas' directors (audited)

CMB executive directors	Salary for period		Performance bonus		Total remuneration	
	2008-09 £'000	2007-08 £'000	2008-09 £'000	2007-08 £'000	2008-09 £'000	2007-08 £'000
<b>Chief Executive</b>						
Richard Judge	115-120	110-115	15-20	0	135-140	110-115
<b>Operations Director</b>						
Mike Waldock	60-65	60-65	0-5	0-5	65-70	65-70
<b>Finance and Corporate Services Director</b>						
Tim Green	60-65	60-65	0-5	0-5	65-70	60-65
<i>To 1 June 2007 only</i>						
<b>Programme Director</b>						
Alex Kerr <sup>1</sup>	0	15-20	0	0	0	15-20
<i>To 12 June 2007 only<sup>2</sup></i>						
<b>Chief Scientific Adviser</b>						
Joe Horwood <sup>3</sup>	0	10-15	0	0	0	10-15
<b>Science Director</b>						
Stephen Malcolm	0	10-15	0	0-5	0	10-15
<b>Commercial Director</b>						
Brian Robinson	0	10-15	0	5-10	0	15-20
<b>Director of Staff Development</b>						
Diane Carter	0	10-15	0	0-5	0	10-15

Salaries include gross salaries, performance pay or bonuses, overtime, reserved rights to London weighting or London allowances, recruitment and retention allowances, private-office allowances and any other allowance to the extent that it is subject to UK taxation. No CMB executive directors were in receipt of any benefits in kind (2007-08: Nil); nor did they hold any company directorships or other significant interests that may have conflicted with their management responsibilities.

CMB non-executive directors	Fee band		Performance bonus		Total remuneration	
	2008-09 £'000	2007-08 £'000	2008-09 £'000	2007-08 £'000	2008-09 £'000	2007-08 £'000
Hugh Walker	10-15	5-10	0	0	10-15	5-10
Alex Tweedie	10-15	10-15	0	0	10-15	10-15
Joe Horwood <sup>3</sup>	0	0	0	0	0	0
Andrew Robinson <sup>4</sup>	0	0	0	0	0	0
Andrew Field <sup>5</sup>	5-10	0	0	0	5-10	0

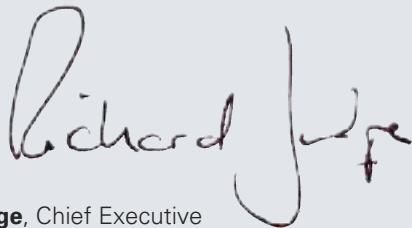
### Notes to tables on pages 42 and 43

- As from 1 June 2007 Alex Kerr was no longer employed by Cefas.
- The individuals following this note are still employed by Cefas but as from 12 June 2007 they were no longer executive directors of the CMB. Salary and pension details for these individuals up to 12 June 2007 are indicated here.
- Joe Horwood became a non-executive director on 13 June 2007. He remains employed by Cefas as Chief Scientific Adviser (under permanent contract with Defra). This is an advisory role, without executive responsibility. He is therefore no longer an executive director of the CMB. His salary during 2008-09 in this advisory role was in the band £75-80,000 (2007-08: £60-65,000) with a performance bonus in the range £5-10,000 (2007-08: £10-15,000).
- Andrew Robinson is employed by Defra, and therefore is not in receipt of any fees. From 1 April 2008 he was no longer a non-executive director.
- Andrew Field joined the CMB as a non-executive director on 1 May 2008.
- CETV: cash equivalent transfer value.
- The figures in this column may be different from the closing figures in last year's accounts. This is because CETV factors have been updated, to comply with the Occupational Pension Schemes (Transfer Values) (Amendment) Regulations 2008.

## Pension entitlements of Cefas' directors (audited)

	Real increase in pension and related lump sum at age 60 £'000	Total accrued pension and related lump sum at age 60 £'000	CETV <sup>6</sup> at 31 March 2009 £'000	CETV <sup>7</sup> at 31 March 2008 £'000	Real increase in CETV £'000
<b>CMB executive directors</b>					
<b>Chief Executive</b>					
Richard Judge	0–2.5 plus 0 lump sum	35–40 plus 0 lump sum	510	448	19
<b>Operations Director</b>					
Mike Waldock	2.5–5 plus 5–10 lump sum	20–25 plus 70–75 lump sum	521	433	53
<b>Finance and Corporate Services Director</b>					
Tim Green	0–2.5 plus 0 lump sum	2.5–5 plus 0 lump sum	44	27	12
<b>CMB non-executive director</b>					
<b>Chief Scientific Adviser</b>					
Joe Horwood <sup>3</sup>	0–2.5 plus 0–2.5 lump sum	40–45 plus 120–125 lump sum	953	898	(22)
Details of the presiding pension schemes are detailed in Note 4(c) to the Accounts.					

As far as I, the Accounting Officer, am aware, there is no relevant information of which the auditors are unaware. I have taken all the steps that ought to have been taken to make myself aware of any relevant audit information, and to establish that the auditors are aware of that information.



**Richard Judge**, Chief Executive  
21 May 2009

# Statements, certificate and report



# Statement of Accounting Officer's responsibilities

Under the Government Resources and Accounts Act 2000, HM Treasury has directed Cefas to prepare, for each financial year, accounts on an accruals basis that must give a true and fair view of the state of affairs of Cefas as at 31 March and of its net surplus/deficit, recognised gains and losses and cash flows for the financial year.

In preparing the accounts, the Accounting Officer is required to comply with the requirements of the *Government Financial Reporting Manual* and in particular to:

- observe the Accounts Direction issued by HM Treasury, including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis
- make judgments and estimates on a reasonable basis

- state whether applicable accounting standards as set out in the *Government Financial Reporting Manual* have been followed, and disclose and explain any material departures in the accounts and
- prepare the accounts on a going concern basis.

HM Treasury has appointed the Chief Executive as Accounting Officer of Cefas. The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping proper records and for safeguarding Cefas' assets, are set out in the Accounting Officers' Memorandum issued by HM Treasury and published in *Managing Public Money*.

# Statement on Internal Control

## Scope of responsibility

As Accounting Officer, I have responsibility for maintaining a sound system of internal control, which supports the achievement of Cefas' policies, aims and objectives while safeguarding the public funds and departmental assets for which I am personally responsible, in accordance with the responsibilities assigned to me in *Managing Public Money*.

I ensure that the Defra Permanent Secretary, the principal Accounting Officer for the department, is aware of the main risks managed by the agency through regular reporting of the top risks.

Additionally:

- the agency's business plans that are submitted to, and approved by, ministers include sections on risk
- I work with the Defra Corporate Owner and the Cefas Owners Advisory Board to assure governance and dovetail strategy
- I am responsible for the timely production of data required by Defra for in-year monitoring of its accounts. I ensure that Cefas observes any general guidance issued by HM Treasury or the Cabinet Office, and effects any recommendations of the Public Accounts Committee, other parliamentary Select Committees or other parliamentary authority insofar as government accepts them.

## The purpose of the system of internal control

I am responsible for commissioning the internal audit and management inspection services required to ensure the proper and efficient conduct of Cefas' affairs and to discharge my responsibilities. These services comply with the objectives, standards and practices laid down by HM Treasury.

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable, and not absolute, assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of Cefas' policies, aims and objectives; to evaluate

the likelihood of those risks being realised and the impact should they be realised; and to manage them efficiently, effectively and economically. The system of internal control has been in place for the year ended 31 March 2009 and up to the date of approval of the *Annual Report and Accounts*, and accords with HM Treasury guidance.

## Capacity to handle risk

As Chief Executive I am advised by the Cefas Management Board (CMB), which is the top level of management within the agency. The CMB supports me in delivering my responsibilities for providing overall direction and governance of Cefas' activities and managing risk. It provides a forum for planning strategy, setting policies, reviewing performance and making decisions that affect Cefas as a whole.

The CMB membership balances executive and non-executive directors. It includes myself, plus the following:

Tim Green	Finance and Corporate Services Director
Mike Waldock	Operations Director
Joe Horwood	Non-executive Advisory Director (Cefas, Science)
Hugh Walker	Non-executive Advisory Director (external)
Alex Tweedie	Non-executive Advisory Director (external)
Andrew Field	Non-executive Advisory Director (external)

The CMB's principal functions are to:

- determine Cefas' strategy (taking account of government needs and broader market dynamics), allocating resources accordingly and monitoring progress against strategy
- ensure effective corporate governance and managing business risks
- ensure continued growth in capability
- ensure appropriate focus on the external world and the context within which Cefas operates
- reinforce cultural change and Cefas' values through its own behaviour
- advise the Chief Executive
- approve Cefas policy on strategic matters at the discretion of the Chief Executive.



The CMB achieves its objectives through six board meetings per year and planning meetings for the executive, delegation to a series of committees and working groups, and close interaction with Cefas Divisional Directors. The CMB is presented with financial and management information designed to monitor performance and manage risk. Papers presented in a standard format support decisions. The Board actively communicates its activities and decisions to all Cefas staff.

The Audit and Risk Committee (ARC), described more fully below, is an entirely external, non-executive, subcommittee of the CMB, constituted to give advice on the adequacy of internal and external audit arrangements, and on the implications of the assurances provided for internal control and risk management.

A clear distinction is made between strategic management by the CMB and operational management, which is delivered through a divisional structure. The senior management team (SMT) provides an operational overview of day-to-day issues, and comprises the CMB executive members, Divisional Directors and the HR Director. The SMT meets monthly and covers a range of operational issues. These include a review of a monthly performance and a forecast pack. Divisional Directors carry responsibility for specific activities within their areas of operation, and report through the Operations Director to the CMB. Within the "Corporate Centre", individual managers are responsible for specific areas of operation (for example finance, commercial risks, governance, HR) and report through the Finance and Corporate Resource Director.

New staff are introduced to the system of internal control as part of a formal induction process. Further staff guidance is available in the Cefas risk management plan, provided on the local intranet and referred to in the Staff Handbook. Risk assessment is a requirement of the standard contract-tendering procedure to manage the risk inherent in this activity. Training for project managers includes advice on risk management. Cefas staff take advantage of the sharing of best practice provided by Defra and by local risk and project reviews.

## The risk and control framework

The top strategic risk priorities currently described in the Cefas risk register, with mitigating actions, concern the following:

- Defra commitments and wider income not sustained, or a major shift in the type of work needed
- the volatile economic climate resulting in failure to deliver
- non-Defra growth, or loss of major contracts
- wider-market development negatively impacting Cefas (for example failure to achieve a partnership agreement with the Marine Management Organisation)
- insufficient commercial acumen and sales skills impacting margins and wider-markets growth
- inadequate project management and estimating skills leading to losses
- Lowestoft estates – reactive maintenance
- Burnham-on-Crouch site and housing portfolio holding valuation risks
- the Waveney Campus project – significant delays or failure.

In Cefas, the main processes we have in place for identifying, evaluating and managing risk are the following:

- regular risk reviews undertaken by the CMB to identify, evaluate and update the risks facing Cefas. The Board sets the priorities for risk in key business areas by prioritising and delegating specific activity and requiring feedback as necessary before authorising consequent actions.
- a documented risk management plan
- a register of top Cefas risks assigned to and managed by individual managers and considered at each CMB meeting
- risk management plans by Divisional Directors and Corporate Centre Group Managers
- written statements from managers on the steps they are taking to manage risk in their areas of responsibility
- discussion at meetings in all levels of Cefas management
- a system of internal control based on a framework of regular management information, administrative procedures, management supervision and a system of delegation and accountability

- documented risk assessment procedures in support of tender activity for new business
- reporting Cefas' top risks to the Defra Corporate Owner.

Our management of risk is embedded in policy-making, planning and delivery by the following:

- an appointed risk co-ordinator who meets all members of senior management individually to discuss and embed risk management
- risk management at group and team meetings
- corporate risk-management documentation that is available to staff through an intranet site
- embedding risk management in mandatory business planning and tendering procedures
- the induction course for new entrants
- the operation of both a whistle-blowing and an anti-fraud policy, including an annual written declaration by senior managers.

## Information risk

Cefas has appointed an Information Security Officer and set in place a Security Forum that oversees control by assessing compliance with the Cabinet Office Security Policy Framework and Cefas Information Security Policy. This facilitates the management of all security matters and informs the CMB through the Corporate Secretary.

Guidance on information security is promulgated internally, generally and more specifically for information owners. This guidance will be supplemented with further training during 2009-10.

All databases have been reviewed for data risk. Where that risk exists, the information owners make a quarterly risk assessment and report through the Information Security Officer to Defra, as well as taking specific actions to reduce the risk.

Papers with security markings are disposed of using secure collection units supplied by a specialist contractor.

This year Cefas has had no data-related incidents to report.

## Communicating corporate values

Corporate values have been developed in consultation with staff. Policies are communicated to staff during regular briefings, in surgeries for staff by directors, managers and myself and,

generally, by using our intranet. A Cefas Staff Forum communicates with all staff (union and non-union). Communication and consultation with staff is made through numerous communication channels ranging from senior management "road shows", surgeries and drop-in sessions to formal and informal written notices.

Relevant contract or relationship managers consult and communicate with their customers individually or in teams shaped for the size and complexity of their projects.

## Strategy and planning

Cefas strategy is designed to align with Defra's requirements of the agency as customer and sponsor. The CMB works through me to understand the Defra ownership and customer requirements, and to respond to them appropriately. At other levels, planning and resourcing are set to meet the customer's requirements and commitments.

Strategic issues are identified by the CMB in consultation with management. Depending upon scale, the directors are then responsible for identifying and evaluating strategic options and presenting them to the CMB for decision-making. Analytical techniques include risk-management and HM Treasury financial-appraisal methodology. Specialist advice is sometimes contracted to supplement internal expertise. As appropriate, uncertainty is managed by risk review or assessment in Cefas' monthly performance report.

I agree prioritisation and ownership of objectives and targets with my directors. These are then communicated through management and tracked against their own personal objectives.

## Change management

To achieve longer-term business sustainability, Cefas has implemented a transformation programme designed to prioritise and manage the associated enabling projects systematically, including reporting progress to the CMB.

The CMB sets in place change-management processes to match our culture with strategic need. Training programmes are designed to develop competences and to manage change efficiently and effectively.

Change is embedded using communication, training and, where appropriate, through the appraisal and reward system.

## Review of effectiveness

As Accounting Officer, I have responsibility for reviewing the effectiveness of the system of internal control. My review of the effectiveness of the system of internal control is informed by the work of the internal auditors and the executive managers within the agency, who have responsibility for the development and maintenance of the internal control framework, and by comments made by the external auditors in their management letter and other reports.

The CMB meets six times per year to consider the plans and strategic direction of the agency. It reviews the Cefas risk register twice annually. Corporate risks are delegated to Board members to manage.

The Audit and Risk Committee (ARC) is a formally constituted committee of the CMB. The ARC is chaired by an external independent member and includes two further external independent members. Internal and external auditors and executives attend the meetings, with others as required by the Committee.

The ARC considers and provides advice on the following:

- **internal control and risk management:** reviews the establishment and maintenance of an effective system of internal control and risk management
- **internal audit:** oversees the appointment and effective operation of internal audit; ensures effective co-ordination between the internal and external auditor; reviews the internal audit programme and considers the major findings of internal audit coverage and management response
- **external audit:** enhances the effectiveness of the relationship with external audit; discusses with the external auditor, before the audit starts, the nature and scope of the audit and interaction with internal audit plans; reviews external audit reports
- **financial reporting:** reviews the annual financial statements before submission to the CMB, focusing particularly on changes in and compliance with accounting policies and practices, major judgmental areas, and significant adjustments resulting from the audit.

The ARC actively seeks to add value to Cefas as part of its work.

Meetings are held not less than four times per year, in accordance with an annual schedule that includes oversight of the drafting of the *Annual Report and Accounts*, the outcome of risk review and health and safety reporting, as well as routine review of audit reports.

Cefas receives regular reports by internal audit, to government audit standards, which include the Head of Internal Audit's independent opinion on the adequacy and effectiveness of the agency's system of governance, internal control and the system for risk management, with recommendations for improvement. PricewaterhouseCoopers LLP have provided the internal audit service. The work of internal audit is informed by an analysis of the risks to which Cefas is exposed, and annual audit plans are based on this analysis.

## Performance management

Cefas' performance is regularly measured against key objectives set by the CMB, creating a framework of management control to improve performance continuously. The key processes within that framework can be summarised as follows:

- **performance cycle:** the organisation's vision is clearly established and publicised. All subsequent strategy, business plans, set objectives and training plans are designed to support the vision.
- **business planning and prioritisation:** a five-year corporate plan and a more detailed annual budget are set before the start of each year. Performance against these and additional targets is reported to and reviewed monthly by the CMB.
- **key performance indicators:** progress is reported monthly. These link to the strategic aims and to the management of key risks. Such indicators are both robust – to ensure comparability; and flexible – to adapt to changing needs.
- **accountability for performance:** Cefas' objectives are embedded within the set objectives of appropriate CMB members, who in turn cascade these through the organisation.

- **rewarding performance:** good performance is celebrated within Cefas through internal publicity and appropriate reward. A corporate bonus reflects the contribution of all to Cefas' success, as measured by performance against ministerial targets. It is budgeted at 2.2% of base salary for eligible staff, and has scope for increase up to 3.5% according to growth in non-Defra income. Individual performance-related pay reflects personal contribution that is high relative to peers through the course of the year. It is allocated as a fixed "pot" by divisions and awarded at two levels: 8% and 4% of base salary for approximately 15% and 25% of staff, respectively. Assessment considers performance against objectives and behaviours relative to Cefas' values and competences, and is subject to divisional moderation processes.
- **improving performance:** plans, objectives and targets are regularly updated to improve performance. Surveys of customers and staff are conducted to inform this process.

## Programme and project management

Our acquisition and procurement projects are subject to Office of Government Commerce (OGC) reviews. The OGC requires that Defra provides an annual assurance on programme and project management controls in the Defra network. The OGC's mandatory programme and project management controls are in place and operating consistently and effectively in Cefas, for suitable projects.

All projects are governed using specific project-management processes and an IT system designed to monitor resource and performance.

## Significant internal control problems

There are no new issues to report.

Progress since last year's report is as follows:

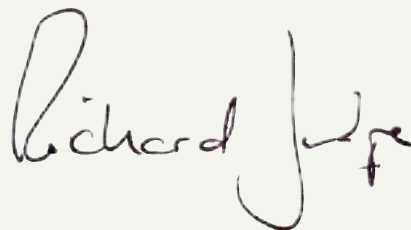
An action plan to remove weaknesses within our Applied Technology division and IT control environment, identified in previous years, has been completed.

Last year, I reported on two Crown Improvement Notices issued by the Health and Safety Executive (HSE). The improvement actions were carried out and have been assessed and signed-off by the HSE. In due course, the HSE will hold a hearing to consider Crown censure. This is an administrative procedure, whereby a Crown employer may be censured for a breach which, but for Crown immunity, would have led to prosecution.

Cefas takes health and safety very seriously. It is committed to sustaining and improving its systems and practices to ensure that its staff and contractors have a safe place to work. The agency has an annual safety plan, with associated actions, to embed a safety culture and continuously improve performance in this area.

## Advice and continuous improvement

The CMB and the ARC have advised me on the implications of the result of my review of the effectiveness of the system of internal control. A plan to address weaknesses and ensure continuous improvement of the system is in place.



**Richard Judge**, Chief Executive  
21 May 2009

# Certificate and report of the Comptroller and Auditor General to the House of Commons

I certify that I have audited the financial statements of the Centre for Environment, Fisheries and Aquaculture Science for the year ended 31 March 2009 under the Government Resources and Accounts Act 2000. These comprise the Income and Expenditure Account and Statement of Total Recognised Gains and Losses, the Balance Sheet, the Cash Flow Statement and the related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration Report that is described in that report as having been audited.

## Respective responsibilities of the Agency, the Chief Executive and auditor

The Agency and Chief Executive, as Accounting Officer, are responsible for preparing the *Annual Report*, which includes the Remuneration Report, and the financial statements in accordance with the Government Resources and Accounts Act 2000 and HM Treasury directions made thereunder and for ensuring the regularity of financial transactions. These responsibilities are set out in the Statement of Accounting Officer's Responsibilities.

My responsibility is to audit the financial statements and the part of the Remuneration Report to be audited in accordance with relevant legal and regulatory requirements, and with International Standards on Auditing (UK and Ireland).

I report to you my opinion as to whether the financial statements give a true and fair view and whether the financial statements and the part of the Remuneration Report to be audited have been properly prepared in accordance

with HM Treasury directions issued under the Government Resources and Accounts Act 2000. I report to you whether, in my opinion, the information, which comprises the following sections of the management commentary, included in the *Annual Report*:

- managing delivery, meeting targets
- sustainable development
- financial performance

is consistent with the financial statements. I also report whether in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities, which govern them.

In addition, I report to you if the Agency has not kept proper accounting records, if I have not received all the information and explanations I require for my audit, or if information specified by HM Treasury regarding remuneration and other transactions is not disclosed.

I review whether the Statement on Internal Control reflects the Agency's compliance with HM Treasury's guidance, and I report if it does not. I am not required to consider whether this statement covers all risks and controls, or to form an opinion on the effectiveness of the Agency's corporate governance procedures or its risk and control procedures.

I read the other information contained in the *Annual Report* and consider whether it is consistent with the audited financial statements.

I consider the implications for my report if I become aware of any apparent misstatements or material inconsistencies with the financial statements. My responsibilities do not extend to any other information.

## Basis of audit opinion

I conducted my audit in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board. My audit includes examination, on a test basis, of evidence relevant to the amounts, disclosures and regularity of financial transactions included in the financial statements and the part of the Remuneration Report to be audited. It also includes an assessment of the significant estimates and judgments made by the Agency and Chief Executive in the preparation of the financial statements, and of whether the accounting policies are most appropriate to the Agency's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations which I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements and the part of the Remuneration Report to be audited are free from material misstatement, whether caused by fraud or error, and that in all material respects the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them. In forming my opinion I also evaluated the overall adequacy of the presentation of information in the financial statements and the part of the Remuneration Report to be audited.

## Opinions

In my opinion:

- the financial statements give a true and fair view, in accordance with the Government Resources and Accounts Act 2000 and directions made thereunder by HM Treasury, of the state of the Agency's affairs as at 31 March 2009, and of the net surplus, total recognised gains and losses, and cash flows for the year then ended;
- the financial statements and the part of the Remuneration Report to be audited have been properly prepared in accordance with HM Treasury directions issued under the Government Resources and Accounts Act 2000; and
- information, which comprises three sections of the management commentary (managing delivery, meeting targets; sustainable development; and financial performance), included within the *Annual Report*, is consistent with the financial statements.

### Opinion on Regularity

In my opinion, in all material respects, the expenditure and income have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

### Report

I have no observations to make on these financial statements.

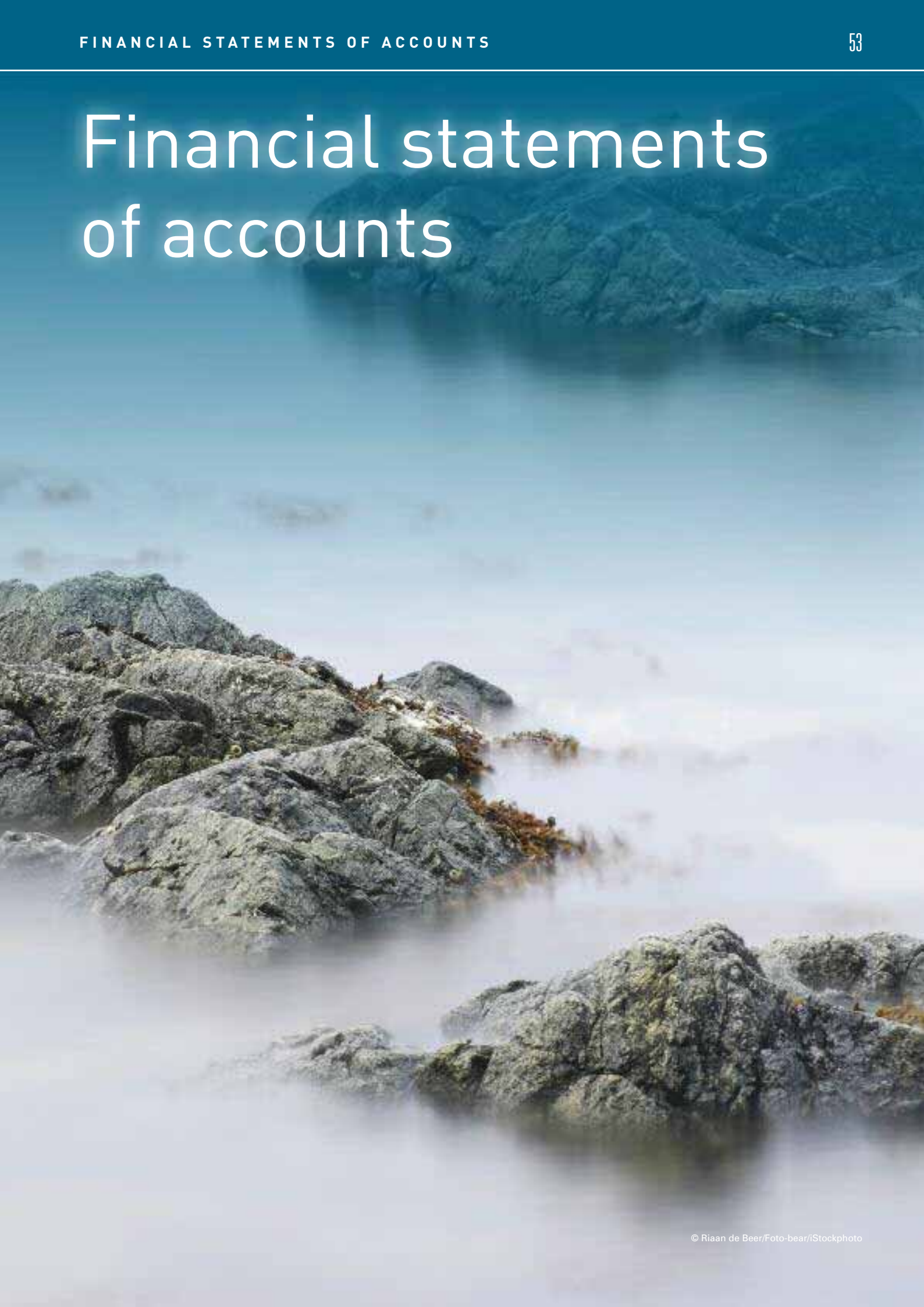
#### **T J Burr**

Comptroller and Auditor General

National Audit Office  
151 Buckingham Palace Road  
Victoria, London SW1W 9SS

27 May 2009

# Financial statements of accounts



## Income and expenditure account

For the year ended 31 March 2009

	Notes	2008-09 £'000	2007-08 £'000
<b>Turnover</b>	<b>2 and 3</b>	<b>57,100</b>	<b>47,557</b>
Cost of sales	<b>4 and 5</b>	(55,224)	(45,761)
<b>Operating surplus</b>		<b>1,876</b>	<b>1,796</b>
(Loss) on disposal of fixed assets		(81)	(52)
Notional interest payable	<b>26</b>	(1,758)	(1,709)
<b>Net surplus</b>	<b>14</b>	<b>37</b>	<b>35</b>
<b>Percentage total cost-recovery</b>		<b>100%</b>	<b>100%</b>

## Statement of total recognised gains and losses

For the year ended 31 March 2009

	2008-09 £'000	2007-08 £'000
Surplus for the year	37	35
(Loss)/gain on the indexation of fixed assets	(137)	2,960
<b>Total (losses)/gains recognised in year</b>	<b>(100)</b>	<b>2,995</b>

All operations are continuing

The notes on pages 57 to 71 form part of these accounts.

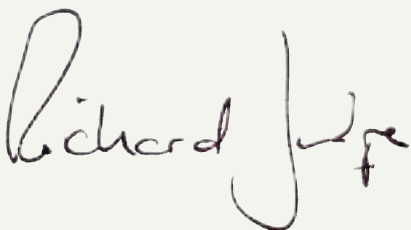


## Balance Sheet

As at 31 March 2009

	Notes	£'000	2008-09 £'000	2007-08 £'000
<b>Fixed assets</b>				
Tangible fixed assets	7		47,740	50,605
Investments	8		150	150
<b>Total fixed assets</b>			<b>47,890</b>	<b>50,755</b>
<b>Current assets</b>				
Debtors	9	8,439		6,174
Cash at bank and in hand	19	11,611		9,561
<b>Total current assets</b>		<b>20,050</b>		<b>15,735</b>
<b>Creditors</b>				
Amounts falling due within one year	10	(13,001)		(9,951)
<b>Net current assets</b>			<b>7,049</b>	<b>5,784</b>
<b>Total assets less current liabilities</b>			<b>54,939</b>	<b>56,539</b>
<b>Provisions for liabilities and charges</b>	13		<b>(4,922)</b>	<b>(3,230)</b>
<b>Total assets less liabilities</b>			<b>50,017</b>	<b>53,309</b>
<b>Taxpayers' equity</b>				
General Fund	14		38,160	41,315
Revaluation Reserve	14		11,857	11,994
<b>Total reserves as at 31 March</b>			<b>50,017</b>	<b>53,309</b>

The notes on pages 57 to 71 form part of these accounts.



**Richard Judge**

Chief Executive and Agency Accounting Officer

21 May 2009

## Cash flow statement

For the year ended 31 March 2009

	<b>Notes</b>	<b>2008-09 £'000</b>	<b>2007-08 £'000</b>
Net cash inflow from operating activities	<b>15</b>	8,870	8,472
Capital expenditure and financial investment	<b>16</b>	(1,820)	(867)
Financing	<b>17</b>	(5,000)	(5,187)
<b>Net cash inflow</b>	<b>18</b>	<b><u>2,050</u></b>	<b><u>2,418</u></b>

The notes on pages 57 to 71 form part of these accounts.

## Notes to the Accounts

### Note 1. Statement of accounting policies

#### 1.1 Statement of accounting policies

These financial statements have been prepared in accordance with the *Financial Reporting Manual* issued by HM Treasury. The particular accounting policies adopted by Cefas are described below. The accounting policies used in preparing the accounts are consistent with those used last year.

#### 1.2 Accounting convention

These accounts have been prepared under the historical cost convention, modified to include the revaluation of fixed assets at their value to Cefas by reference to their current costs.

#### 1.3 Tangible fixed assets

Asset values are modified annually by the use of indices for current cost accounting as supplied by the Office for National Statistics.

##### 1.3.1 Land and buildings

Land and buildings are professionally valued at intervals of no greater than five years. The lives given to the buildings fall in the range of four to 41 years.

The title to the freehold land and buildings occupied by Cefas is held by Defra.

##### 1.3.2 Other fixed assets

The capitalisation threshold for fixed assets is £3,000. Asset pools exist for items of IT equipment with individual values ranging from £500 to £3,000. As from September 2003, computers costing less than £3,000 have not been capitalised.

##### 1.3.3 Depreciation of tangible fixed assets

Depreciation is provided on all fixed assets, with the exception of land, at rates calculated to write off the valuation of each asset on a straight-line basis over its expected useful economic life.

Asset lives are as follows:

<b>Buildings</b>	<b>4 – 41 years</b>
<b>Information technology</b>	<b>2 – 7 years</b>
<b>Scientific and general equipment</b>	<b>5 – 10 years</b>
<b>Vessels</b>	<b>15 – 30 years</b>
<b>Vehicles</b>	<b>6 – 8 years</b>
<b>Fixtures and fittings</b>	<b>3 – 30 years</b>

#### 1.4 Investments

Investments are reported at market value or at cost where market value cannot be readily ascertained. In accordance with the *Financial Reporting Manual*, the fixed-asset investment has not been consolidated as it is outside the departmental boundary.

#### 1.5 Research and development (R&D)

Expenditure on R&D (seedcorn projects) is treated as an operating cost in the year in which it is incurred and taken to the income and expenditure account. Fixed assets, which are acquired for use in R&D, are depreciated over their useful economic life.

#### 1.6 Government grants

Grants are recognised in the same period as their related expenditure. Grants towards fixed-asset purchases are treated as a deferred creditor and recognised as income over the useful life of the asset.

#### 1.7 Operating income (turnover)

Operating income (turnover) is shown net of value added tax (VAT) and comprises fees and charges for services provided to core Defra, external customers, other government agencies and public-sector repayment work receipts from the EU.

Turnover is recognised over the term of the individual contract in line with work done.

#### 1.8 Notional interest

A notional charge, reflecting the cost of capital used by Cefas, is included in the income and expenditure account. The charge is calculated at the government standard rate on the average value of all assets excluding cash held at the Office of the Paymaster General, less liabilities and excluding donated assets.

## Notes to the Accounts

### 1.9 Taxation

No taxation is payable on the surplus generated by Cefas.

Cefas is included under the VAT registration of Defra. Irrecoverable VAT, excluding that on capital purchases, is charged to the income and expenditure account in the year in which it is incurred.

### 1.10 Foreign exchange

Monetary assets and liabilities denominated in foreign currencies are translated using the rate of exchange at the Balance Sheet date. Transactions in foreign currencies are translated using the rate of exchange at the date of each transaction; all differences are charged/(credited) to the income and expenditure account.

### 1.11 Notional charges

The following notional costs borne on the income and expenditure account are credited to the General Fund:

- audit fee
- interest.

### 1.12 Insurance

Cefas, in common with other government bodies, does not insure the majority of its assets. Losses and compensations are charged to the income and expenditure account.

### 1.13 Pensions

Pension benefits are provided through the civil service pension (CSP) arrangements. From 30 July 2007, civil servants may be in one of four defined-benefit schemes: either "final salary" schemes (Classic, Premium or Classic Plus); or a "whole career" scheme (Nuvos). These statutory arrangements are unfunded, with the cost of benefits met by monies voted by Parliament each year. Pensions payable under Classic, Premium, Classic Plus and Nuvos are increased annually in line with changes in the Retail Prices Index.

Although these schemes are defined-benefit schemes, the Principal Civil Service Pension Scheme (PCSPS) is liable for the payment of future benefits. Cefas meets the cost of pension cover provided for the staff they employ by payment of charges calculated on an accruing basis. There is a separate scheme statement for the PCSPS as a whole.

Members who joined from October 2002 could opt for either the appropriate defined-benefit arrangement or a good-quality "money purchase" stakeholder pension with a significant employer contribution (the Partnership Pension Account).

### 1.14 Provisions

Provisions are included where a present obligation exists at the Balance Sheet date as a result of past events, and the amounts involved are uncertain as to timing or amount. The amount provided is discounted using the standard government rate of 2.2% where material.

### 1.15 Leases

Cefas holds no lease where substantially all the risks and rewards of the leased asset are borne by the agency. Other leases are regarded as operating leases and the rentals are charged to the income and expenditure account on a straight-line basis over the terms of the lease.

### 1.16 Going concern

These accounts have been prepared on the basis that Cefas is a going concern.

### 1.17 Significant estimates and judgments

The preparation of financial statements requires Management to make estimates and assumptions in certain circumstances that affect reported amounts. The most sensitive estimates affecting the financial statements are in the areas of assessing the impairment of property, the recoverability of receivables, and the cost and liability for legal claims.

## Note 2. UK government income

	<b>2008–09</b> <b>£'000</b>	<b>2007–08</b> <b>£'000</b>
Defra	38,251	34,392
Defra agencies	195	983
Other government departments	7,580	5,534
<b>Total UK government income</b>	<b>46,026</b>	<b>40,909</b>

## Note 3. Non-UK government income

	<b>2008–09</b> <b>£'000</b>	<b>2007–08</b> <b>£'000</b>
UK public sector	1,382	669
UK private sector	4,969	3,247
European Union	3,759	1,915
Other non-UK government	964	817
<b>Total non-UK government income</b>	<b>11,074</b>	<b>6,648</b>

## Note 4. Staff-related expenditure

## (a) Staff costs

	<b>Employed staff</b> <b>£'000</b>	<b>Others</b> <b>£'000</b>	<b>2008–09</b> <b>Total</b> <b>£'000</b>	<b>2007–08</b> <b>Total</b> <b>£'000</b>
Wages and salaries	15,746	777	16,523	15,752
Social Security costs	1,165	0	1,165	1,153
Superannuation	2,855	0	2,855	2,777
<b>Total staff expenditure</b>	<b>19,766</b>	<b>777</b>	<b>20,543</b>	<b>19,682</b>

## (b) The average number of persons employed by Cefas during the year was:

	<b>Employed staff</b> <b>No.</b>	<b>Others</b> <b>No.</b>	<b>2008–09</b> <b>Total</b> <b>No.</b>	<b>2007–08</b> <b>Total</b> <b>No.</b>
Staff resource	522	12	534	523
<b>Total</b>	<b>522</b>	<b>12</b>	<b>534</b>	<b>523</b>

## Notes to the Accounts

### Note 4. (continued)

#### (c) Pension benefits

The Principal Civil Service Pension Scheme (PCSPS) is an unfunded multi-employer defined-benefit scheme. As such Cefas is unable to identify its share of the underlying assets and liabilities. The scheme's actuary valued the scheme at 31 March 2007. Details are in the resource accounts of the Cabinet Office: Civil Superannuation, which can be found at [www.civilservice-pensions.gov.uk](http://www.civilservice-pensions.gov.uk).

From 30 July 2007, civil servants may be in one of four defined-benefit schemes: either "final salary" schemes (Classic, Premium or Classic Plus), or a "whole career" scheme (Nuvos). Pensions payable under Classic, Premium, Classic Plus and Nuvos are increased annually in line with changes in the Retail Prices Index. Members who joined from October 2002 could opt for either the appropriate defined-benefit arrangement or a good-quality "money purchase" stakeholder pension with a significant employer contribution (the Partnership Pension Account).

Employee contributions are set at the rate of 1.5% of pensionable earnings for Classic and 3.5% for Premium, Classic Plus and Nuvos. Benefits in Classic accrue at the rate of 1/80th of pensionable earnings for each year of service. In addition, a lump-sum equivalent to three years' pension is payable on retirement. For Premium, benefits accrue at the rate of 1/60th of pensionable earnings for each year of service. Unlike Classic, there is no automatic lump sum. Classic Plus is essentially a hybrid, with benefits for service before 1 October 2002 calculated broadly as per Classic and benefits for service from October 2002 worked out as in Premium. In Nuvos, members build up pensions based on pensionable earnings during their period of scheme membership. At the end of the scheme year (31 March) members' earned pension accounts are credited with 2.3% of their pensionable earnings in that scheme year and, immediately after the scheme year-end, the accrued pension is increased in line with the Retail Prices Index. In all cases, members may

opt to give up (commute) pension for a lump sum, up to the limits set by the Finance Act 2004.

For 2008-09, employers' contributions of £2,854,000 were payable to the PCSPS (2007-08: £2,775,000) at one of four rates in the range 17.1% to 25.5% of pensionable pay, based on salary bands. The scheme's actuary reviews employer contributions usually every four years, following a full scheme valuation. From 2009-10, the rates will be in the range 16.7% to 24.3%. The contribution rates are set to meet the cost of the benefits accruing during 2008-09, to be paid when members retire and not the benefits paid to existing pensioners during this period.

Employees can opt to open a Partnership Pension Account, a stakeholder pension with an employer contribution. Employers' contributions of £1,000 (2007-08: £2,000) were paid to one or more of the panel of three appointed stakeholder-pension providers. Employer contributions are age-related and range from 3% to 12.5% of pensionable pay. Employers also match employee contributions up to 3% of pensionable pay.

The accrued pension quoted is the pension members are entitled to receive when they reach pension age or immediately on ceasing to be active members of the scheme, if they are already at or over pension age. The pension age is 60 for members of Classic, Premium and Classic Plus and 65 for members of Nuvos.

A cash equivalent transfer value (CETV) is the actuarially assessed capitalised value of the pension-scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme. A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another pension scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their total membership of the pension scheme, not just

their service in a senior capacity to which disclosure applies. The figures include the value of any pension benefit in another scheme or arrangement, which the individual has transferred to the CSP arrangements. They also include any additional pension benefit accrued to the member as a result of their buying additional pension benefits at their own cost.

CETVs are calculated in accordance with the Occupational Pension Schemes (Transfer Values) (Amendment) Regulations and do not take account of any actual or potential reduction to

benefits resulting from Lifetime Allowance Tax, which may be due when pension benefits are taken.

The real increase in CETV is funded by the employer. It does not include the increase in accrued pension due to inflation, contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement) and uses common market valuation factors for the start and end of the period.

## Note 5. Other expenditure

	2008-09 £'000	Restated <sup>1</sup> 2007-08 £'000
Laboratory consumables	2,974	2,232
Laboratory – outsourced work	7,721	5,432
Depreciation	3,685	3,581
Impairment	520	611
Vessels and charters	4,170	3,551
Accommodation <sup>2</sup>	7,397	4,042
Travel and subsistence	1,821	1,616
Professional charges and fees	1,104	482
Internal audit	28	57
External audit (non-cash)	40	38
External auditors – other audit services (non-cash)	9	0
Recruitment and training	715	626
IT costs	1,406	1,061
Defra management overheads	41	135
Telecommunications	138	132
Postage, stationery, printing and library	626	526
Other movements in provisions	841	30
Doubtful debt provision	95	(84)
Early departure costs	85	149
Relocation and severance expenses	1,170	1,801
Exchange gains	(145)	(53)
Other expenditure	240	114
<b>Total expenditure</b>	<b>34,681</b>	<b>26,079</b>

<sup>1</sup> The restatement of prior-year numbers only reflects an alternative allocation between Laboratory consumables and Laboratory – outsourced work.

<sup>2</sup> Accommodation costs include provisions for impairment.

## Notes to the Accounts

### Note 6. Segmental report

	2008-09			2007-08		
	Government bodies £'000	Other £'000	Total £'000	Government bodies £'000	Other £'000	Total £'000
Turnover	46,026	11,074	57,100	40,909	6,648	47,557
Cost of sales	(44,601)	(10,623)	(55,224)	(39,737)	(6,024)	(45,761)
<b>Operating surplus for the year</b>	<b>1,425</b>	<b>451</b>	<b>1,876</b>	<b>1,172</b>	<b>624</b>	<b>1,796</b>

### Note 7. Tangible fixed assets

	Land and buildings	Vessels	Information technology	Scientific equipment	General equipment	Assets in course of construction	Total
Cost or valuation	£'000	£'000	£'000	£'000	£'000	£'000	£'000
<b>At 1 April 2008</b>	32,525	31,411	3,912	11,585	886	81	80,400
Indexation	0	(417)	61	259	20	0	(77)
Additions	67	0	160	898	125	308	1,558
Disposals	0	0	(460)	(299)	(31)	0	(790)
<b>At 31 March 2009</b>	<b>32,592</b>	<b>30,994</b>	<b>3,673</b>	<b>12,443</b>	<b>1,000</b>	<b>389</b>	<b>81,091</b>
<b>Depreciation</b>							
<b>At 1 April 2008</b>	(12,828)	(5,215)	(3,064)	(7,888)	(800)	0	(29,795)
Indexation	0	68	(24)	(96)	(8)	0	(60)
Provided in-year	(1,388)	(1,032)	(263)	(924)	(78)	0	(3,685)
Impairment	(520)	0	0	0	0	0	(520)
Disposals	0	0	387	291	31	0	709
<b>At 31 March 2009</b>	<b>(14,736)</b>	<b>(6,179)</b>	<b>(2,964)</b>	<b>(8,617)</b>	<b>(855)</b>	<b>0</b>	<b>(33,351)</b>
<b>Net book value</b>							
<b>At 31 March 2009</b>	<b>17,856</b>	<b>24,815</b>	<b>709</b>	<b>3,826</b>	<b>145</b>	<b>389</b>	<b>47,740</b>
<b>At 31 March 2008</b>	<b>19,697</b>	<b>26,196</b>	<b>848</b>	<b>3,697</b>	<b>86</b>	<b>81</b>	<b>50,605</b>

Land and buildings were revalued with effect from 1 April 2005 by the Valuation Office Agency, 50 Frederick Street, Edinburgh. The assets were revalued on an "existing use" basis. This valuation and, where applicable, management judgments of impairment have been used in preparing the accounts up to 31 March 2009.

An amount of £520,000 has been charged in respect of the impairment of the Lowestoft and Burnham-on-Crouch laboratories as a consequence of Cefas' decision to relocate.

General equipment includes vehicles and fixtures and fittings.



## Note 8. Fixed-asset investments

	<b>£'000</b>
<b>Cost</b>	
At 1 April 2008	150
Additions	0
Disposals	0
<b>At 31 March 2009</b>	<b>150</b>
<b>Provisions</b>	
At 1 April 2008	0
Movement	0
<b>At 31 March 2009</b>	<b>0</b>
<b>Net book value</b>	
<b>At 31 March 2009</b>	<b>150</b>
<b>At 31 March 2008</b>	<b>150</b>

In 2001 Cefas purchased the entire share capital of Cefas Technology Limited (CTL) for £150,000.

The Cefas Management Board has considered the value of the investment and has recorded the investment at cost. This will be reviewed on a regular basis and provision made for any impairment in value.

In accordance with the *Financial Reporting Manual*, the fixed-asset investment has not been consolidated as it is outside the departmental boundary.

Cefas' pre-audited share of the net assets and results of the above investment are as follows:

	<b>2008-09</b>	<b>Restated*</b>
	<b>£'000</b>	<b>2007-08</b>
		<b>£'000</b>
Net assets at 31 March	920	882
Turnover	400	646
Profit (before tax) for the year	52	92

\* The restatement reflects audited results.

## Notes to the Accounts

### Note 9. Debtors

	<b>2008-09</b> <b>£'000</b>	<b>2007-08</b> <b>£'000</b>
Trade debtors	2,947	3,267
VAT	137	62
Defra	2,157	702
Prepayments and accrued income	3,189	2,131
Sundry debtors	9	12
<b>Total debtors</b>	<b>8,439</b>	<b>6,174</b>

### Note 10. Creditors

	<b>2008-09</b> <b>£'000</b>	<b>2007-08</b> <b>£'000</b>
<b>Amounts falling due within one year</b>		
Trade creditors	2,633	283
Other taxation and Social Security	371	363
Accruals	4,224	4,171
Defra	271	123
Other creditors	279	259
Deferred income	1,988	2,030
Deferred income, Defra	3,235	2,722
<b>Total creditors</b>	<b>13,001</b>	<b>9,951</b>

Other creditors include employee pension contributions as at 31 March 2009 totalling £278,000 (2007-08: £257,000).

## Note 11. Intra-government balances

	<b>Debtors: Amounts falling due within one year</b>	<b>Creditors: Amounts falling due within one year</b>
	<b>£'000</b>	<b>£'000</b>
Other central government bodies	3,946	4,575
Local authorities	65	4
Public corporations and trading funds	0	8
Bodies external to government	4,428	8,414
<b>Balance at 31 March 2009</b>	<b><u>8,439</u></b>	<b><u>13,001</u></b>
Other central government bodies	2,162	3,208
Local authorities	0	0
Public corporations and trading funds	0	0
Bodies external to government	4,012	6,743
<b>Balance at 31 March 2008</b>	<b><u>6,174</u></b>	<b><u>9,951</u></b>

## Notes to the Accounts

### Note 12. Financial instruments

As the majority of the cash requirements of Cefas are met through the Defra high-level agreement, financial instruments play a more limited role in creating and managing risk than would apply to a non-public-sector body. The majority of financial instruments relate to contracts to buy non-financial items in line with Cefas' expected purchase and usage requirements, so Cefas is therefore exposed to little credit, liquidity or market risk.

	<b>Financial assets – receivables</b>	<b>Other financial liabilities</b>
	<b>£'000</b>	<b>£'000</b>
<b>Balance at 31 March 2009</b>		
Cash and cash equivalents	11,611	0
Trade and other receivables	5,241	0
Trade and other payables	0	(7,778)
	<u><b>16,852</b></u>	<u><b>(7,778)</b></u>
	<b>£'000</b>	<b>£'000</b>
<b>Balance at 31 March 2008</b>		
Cash and cash equivalents	9,561	0
Trade and other receivables	4,031	0
Trade and other payables	0	(5,199)
	<u><b>13,592</b></u>	<u><b>(5,199)</b></u>

**Cash:** Represents money with government and UK commercial banks, the majority being held with government to minimise risk.

**Trade and other receivables:** Represents contracts for monies or services due. Less than 35% of this total is a non-government credit risk. This amount is net of a doubtful debt provision of £175,000 representing specific debts.

**Foreign exchange risk:** Around 7% of receipts from customers are in foreign currencies, and certain goods and services are purchased in foreign currencies. This is believed to be a low-level risk, and the policy is to accept the net currency conversion risk of euros and US dollars, or closely linked currencies. We manage our own collections risk and reduce our exposure to foreign currencies by netting receipts and payments in the same currencies before translating any remaining funds to pounds sterling.

## Note 13. Provisions for liabilities and charges

	Balance at 1 April 2008	Provided in the year	Utilised in the year	Transfers/ releases	Change in discounted amount	Balance at 31 March 2009
	£'000	£'000	£'000	£'000	£'000	£'000
Early retirement	408	224	(180)	281	11	744
Severance/relocation	1,679	1,141	(1,152)	(300)	0	1,368
Estate dilapidations	615	1,576	0	0	0	2,191
Contract provisions/losses	393	150	(208)	0	0	335
Legal claims	135	219	(70)	0	0	284
<b>Total</b>	<b>3,230</b>	<b>3,310</b>	<b>(1,610)</b>	<b>(19)</b>	<b>11</b>	<b>4,922</b>

**Early retirement:** The provision relates to early-retirement and pension commitments, to provide for the cost of future pension payments to staff who have retired before their 60th birthday. The timing and amounts payable are reviewed annually by the Pay and Personnel Agency.

**Severance / relocation:** Cefas has planned for the relocation and consolidation of the Burnham-on-Crouch and Lowestoft sites. A voluntary early severance scheme was offered to a limited number of Burnham and Lowestoft staff as part of Cefas' transformation plans. Further, Cefas was required to guarantee the sales price of homes for relocating staff. The exceptionally rapid fall in the housing market during autumn 2008 resulted in increased provisions against these guarantees.

**Estate dilapidations:** Leases on stores at Pinbush Road, Lowestoft, and an unused site at Headcorn, Kent, includes terms that require Cefas to make good the respective sites back to the state in which the leases were entered into. Further amounts are also provided to maintain the suitability of the Lowestoft site, and to prepare for the decommissioning of the site prior to relocation.

**Contract provisions / losses:** This includes a provision for losses that are reasonably likely to be incurred in respect of ongoing contracts.

**Legal claims:** This represents legal claims levied against Cefas and the expected liabilities arising as a result.

No reimbursement is expected in relation to any of the amounts provided for.

## Note 14. Movement on reserves

	General Fund	Revaluation Reserve	Total
	£'000	£'000	£'000
<b>Balance at 1 April 2008</b>	41,315	11,994	53,309
Notional charges	49	0	49
Notional interest	1,759	0	1,759
Revaluation	0	(137)	(137)
Income and expenditure account	37	0	37
Excess cash funding repayable to Defra	(5,000)	0	(5,000)
<b>Balance at 31 March 2009</b>	<b>38,160</b>	<b>11,857</b>	<b>50,017</b>

## Notes to the Accounts

Note 15. Reconciliation of net surplus to net cash flow from operating activities

	<b>£'000</b>	<b>2008-09 £'000</b>	<b>£'000</b>	<b>2007-08 £'000</b>
Net surplus		37		35
<b>Adjustments for non-cash transactions</b>				
Depreciation charges	3,685		3,581	
Impairment	520		611	
Notional charges	1,808		1,882	
Loss on disposal	81		52	
Provisions	3,302		2,580	
		<u>9,396</u>		<u>8,706</u>
<b>Adjustments for movements in working capital other than cash</b>				
(Increase) in debtors	(2,265)		(1,934)	
Increase in creditors	3,312		2,169	
		<u>1,047</u>		<u>235</u>
<b>Use of provisions</b>		(1,610)		(504)
<b>Net cash inflow from operating activities</b>		<u><b>8,870</b></u>		<u><b>8,472</b></u>

Note 16. Capital expenditure and financial investment

	<b>2008-09 £'000</b>	<b>2007-08 £'000</b>
Payments to acquire tangible fixed assets	(1,820)	(867)
Receipts from sale of tangible fixed assets	0	0
	<u><b>(1,820)</b></u>	<u><b>(867)</b></u>

Note 17. Financing

	<b>2008-09 £'000</b>	<b>2007-08 £'000</b>
Excess cash funding repaid to Defra	(5,000)	(5,187)
	<u><b>(5,000)</b></u>	<u><b>(5,187)</b></u>

## Note 18. Analysis of changes in cash during the year

	<b>2008-09</b> <b>£'000</b>	<b>2007-08</b> <b>£'000</b>
Balance at 1 April	9,561	7,143
Net cash flow	2,050	2,418
<b>Balance at 31 March</b>	<b>11,611</b>	<b>9,561</b>

## Note 19. Cash at bank and in hand

	<b>2008-09</b> <b>£'000</b>	<b>2007-08</b> <b>£'000</b>
Commercial banks	778	311
Office of the Paymaster General	10,831	9,248
Cash in hand	2	2
<b>Total cash at bank and in hand</b>	<b>11,611</b>	<b>9,561</b>

The balance at 31 March 2009 comprised amounts issued from the Consolidated Fund for supply but not spent at year-end.

## Note 20. Capital commitments

Cefas had at 31 March 2009 capital commitments totalling £171,057 (2007-08: £227,000).

## Note 21. Post-Balance-Sheet events

There are no post-Balance-Sheet events to report.

## Note 22. Contingent liabilities

Management consider specific risks exist relating to potential personal injury claims. The range of these contingent liabilities is currently believed to be between no claim and £150,000.

Guaranteed Sales Price commitments exist and represent financial guarantees over residential property sales prices to relocating employees. At 31 March 2009, the market value of these properties totalled £2,134,000 and provisions have been made to reflect decreases in value to that date. Cefas is exposed to any further increases and decreases in these property values, but increases are capped at £2,615,000.

## Notes to the Accounts

### Note 23. Operating leases

Rentals under operating leases are charged to the income and expenditure account on a straight-line basis over the terms of the lease.

At 31 March 2009, Cefas was committed to making the following payments during the next financial year in respect of operating leases:

	2008-09			2007-08		
	Vehicles	Land	IT equipment	Vehicles	Land	IT equipment
	£'000	£'000	£'000	£'000	£'000	£'000
<b>Operating leases that expire</b>						
Within one year	56	17	0	1	4	6
Between two to five years	33	81	0	52	34	0
After five years	0	9	0	0	73	0
<b>Total</b>	<b>89</b>	<b>107</b>	<b>0</b>	<b>53</b>	<b>111</b>	<b>6</b>

### Note 24. Related-party transactions

Cefas has dealings with Defra and its sponsored bodies. One of Cefas' non-executive directors is employed by Defra.

CTL is a fixed asset investment (see note 8). The shares are held by Richard Judge as nominee of the trustees for Cefas. Turnover of £249,998 was derived from CTL (2007-08: £331,000) and costs of £148,701 were payable to CTL (2007-08: £554,000). At 31 March 2009 £110,749 was due from CTL (2007-08: £131,000) and £49,266 was owed to CTL (2007-08: £9,000).

No Cefas Management Board member, key management staff or other related parties have undertaken any material transactions with Cefas, CTL or other related parties during the year.



### Note 25. Prompt-payment policy

Cefas has a duty to meet the Confederation of British Industry's 30-day payment policy. During the year, the percentage of invoices that met the policy is as below. From January 2009 onwards this has been revised to a ten-day payment policy under a measure by HM Treasury to support suppliers through a period of restriction of alternative cash sources. By 31 March 2009, the percentage of invoices paid within this revised target was 83%.

	<b>2008-09</b>	<b>2007-08</b>
	%	%
Quarter 1	94	96
Quarter 2	93	94
Quarter 3	94	95
Quarter 4	89	86
<b>Average percentage of invoices paid within 30 days</b>	<b>92</b>	<b>92</b>

No interest was paid in respect of late payment of commercial debt (2007-08: £NIL).

### Note 26. Notional interest

	<b>2008-09</b>	<b>2007-08</b>
	£'000	£'000
Notional interest	1,758	1,709
<b>Total</b>	<b>1,758</b>	<b>1,709</b>

# Acronyms

<b>ARC</b>	Audit and Risk Committee
<b>ASOF</b>	Arctic–Subarctic Ocean Fluxes [study]
<b>BTEC</b>	Business & Technician Education Council
<b>Cefas</b>	Centre for Environment, Fisheries and Aquaculture Science
<b>CETV</b>	cash equivalent transfer value
<b>CMB</b>	Cefas Management Board
<b>COSHH</b>	Control of Substances Hazardous to Health
<b>CRL</b>	Community Reference Laboratory [EU]
<b>CSAC</b>	Cefas Science Advisory Committee
<b>CSP</b>	civil service pension
<b>Defra</b>	Department for Environment, Food and Rural Affairs
<b>EU</b>	European Union
<b>FSA</b>	Food Standards Agency
<b>FSP</b>	Fisheries Science Partnership
<b>HR</b>	human resources
<b>HSE</b>	Health and Safety Executive
<b>ICES</b>	International Council for the Exploration of the Sea
<b>LSP</b>	Laboratory Strategy Programme
<b>MMO</b>	Marine Management Organisation
<b>MSFD</b>	Marine Strategy Framework Directive
<b>NC3Rs</b>	National Centre for the Replacement, Refinement and Reduction of Animals in Research
<b>NMs</b>	nanomaterials
<b>OGC</b>	Office of Government Commerce
<b>PCSPS</b>	Principal Civil Service Pension Scheme
<b>QuEST</b>	Quality and Excellence in Science and Technology
<b>R&amp;D</b>	research and development
<b>SMT</b>	senior management team
<b>UEA</b>	University of East Anglia





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Further information about Cefas, our activities and services, and news of recent developments can be found on our website: [www.cefas.co.uk](http://www.cefas.co.uk)

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