



Department  
for Environment  
Food & Rural Affairs

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# **Defra and Cefas Response to the 2012 Independent Science Review of Cefas**

**December 2012**



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Welsh Government

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PB13849

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# Comment from the Cefas Chief Executive

Cefas welcomes the publication of the independent Review into its science. The Review provides a thorough evaluation of the quality of Cefas science and helpful recommendations to underpin our aim of continuous improvement in the delivery of our science.

Cefas is particularly pleased that the review team brought together world experts in marine and freshwater sciences with backgrounds in academia and government research, and their appraisal is peer endorsement of the quality and depth of Cefas capability. The scope of the investigation included an appraisal of the relevance of Cefas science, the long-term sustainability of our organisation, and the quality and impact of our science since the Science Audit of 2005.

The outcomes of the Review match our own view of the robustness of Cefas. They highlight our clear strategic direction, the significant improvements made in our financial performance since the last review, our strength founded on an increasingly diverse customer base, and the professional management of our science portfolio.

The review highlights a number of strengths in Cefas science. It clearly describes Cefas science and Cefas scientists as world class, supported in part by a self-funded seedcorn programme that has been particularly successful at building future capability. The review points to the positive impact of our work in underpinning policy development, providing the evidence base for decision making, supporting a thriving marine industry and making a significant contribution to marine and freshwater research.

There are of course areas where Cefas can and should improve. The recommendations acknowledge that several actions cannot be taken forward by Cefas alone, and Defra as our owner has a role to play in investing for the future. Delivery of these actions will help to ensure that Cefas continues to thrive and is able to work with the wider science community to promote the agenda of sustainable economic growth in marine and related sectors. This response to the recommendations, and the actions associated with it, charts the way forward.

Mike Waldock  
CEO (interim)

## Comment from the Defra Corporate Customer

Cefas is a key provider of evidence and advice to inform development of Defra policy in the areas of marine and fisheries, aquatic animal health and water quality and specific areas of biodiversity and chemicals.

Defra welcomes the independent review report on Cefas' science, which provides a thorough assessment of the relevance, quality, sustainability and impact of Cefas' science and scientific programmes. The review provides important assurances of the quality of Cefas science and therefore the robustness of evidence and advice contributing to Defra policy. The review also recognises the excellent progress that has been made by Cefas since the last science review in 2005.

The review identifies important recommendations and challenges for the future in a variety of areas, including Cefas' customer engagement, strategy and ability to maintain long-term capability. These are key issues for Defra as the main Cefas customer. We are committed to working effectively with Cefas to continue to improve our performance. Coordinating across the Defra teams who draw on evidence and advice from Cefas, we will work with Cefas to take forward these recommendations. The response sets out the approach we will take.

John Robbs  
Director, Defra Marine & Fisheries Programme

# Introduction

Defra and Cefas welcome the independent panel's report and broadly accept the panel's recommendations. Our response to each recommendation is provided below. Some recommendations are targeted specifically at Defra or Cefas. The majority are relevant to both organisations and in these instances a joint response is provided. Where there are different views between Cefas and Defra, these have been made clear and a way forward has been identified. Annex A summarises the specific actions we will take in response to the recommendations.

To coordinate our response and to help monitor implementation of agreed actions, we have grouped the recommendations into the following themes:

- Theme 1: Funding Evidence Needs (recommendations 1, 2, 7, 26) – management of the Cefas High Level Agreement (HLA), Cefas capacity and responsiveness in marine emergencies, balance of funding for R&D and non-R&D, collaboration with Research Councils and other funders.
- Theme 2: Customer Relations (recommendations 6, 17, 24, 25, 27) – relationship management between customers, pricing policies, customer feedback, links with Devolved Administrations, Cefas website.
- Theme 3: Cefas Science (recommendations 4, 5, 13, 14, 15, 16, 18, 19) – science performance management, evidence strategy, Cefas Science Advisory Committee, science performance indicators, assessing science quality and impact, modelling capability and collaboration.
- Theme 4: Information and Communications Technology/Data (recommendations 10, 20, 21, 22) – strategy, capability and risk management, data management and data sharing.
- Theme 5: Cefas Corporate (recommendations 3, 8, 9, 11, 12, 23, 28) – Ministerial performance indicators, constraints on expansion, laboratory facilities, gender issues, pay and reward package, managing conflicts of interest, exploiting Intellectual Property.

## Response to specific review recommendations

### Theme 1 - Funding evidence needs

**Recommendation 1.** The Panel recommends that: (a) the main Defra stakeholders maintain a strategic approach to the provision of services and advice within the High Level Agreement (HLA) to provide continuity of evidence investment to Cefas; (b) the annual objectives in the HLA schedules should continue to be aligned to the relevant Defra Evidence Plans; (c) Cefas and Defra should increase their focus on anticipating future

evidence needs through more active horizon scanning; and (d) there should be strengthened oversight and coordination of HLA evidence activities and reporting across all the Defra Programmes that commission evidence from Cefas through the HLA.

**Response (1).** Both Defra and Cefas accept this recommendation and will implement actions to strengthen oversight and strategic management of the HLA.

The HLA between Defra and Cefas provides Cefas with indicative Defra funding to support forward planning, helping reduce uncertainties and potential pressures. Defra funding for future years is dependent upon, for example, Spending Review decisions and the Defra Chief Scientific Adviser's (CSA's) annual process for strategically allocating a proportion of Defra's evidence budget. These processes limit the level of certainty placed on future Defra funding which has implications for forward planning, including for Cefas HLA activities.

Defra recently carried out a review of the Cefas HLA to ensure clear arrangements are in place. Cefas actively contributed to this review. A number of mechanisms enable monitoring of Cefas delivery and performance for activities carried out under the HLA. For large areas of monitoring, surveillance and advice, detailed arrangements are set out in Service Level Agreements (SLAs) or Memoranda of Understanding (MOUs) – these specify the activities to be delivered and performance measures against which delivery can be assessed. For smaller areas of evidence and advice, individual contracts are in place. Specifications for Research and Development (R&D) activities carried out under the HLA are clearly set out in evidence proposals.

Regular reviews of projects in the Cefas R&D portfolio, and quarterly reports and performance discussions for activities in the SLAs/MOUs help ensure any issues or risks to delivery of the HLA are identified early and appropriate steps taken to mitigate these. These regular reviews will continue. Annual reviews of SLAs/MOUs also help ensure activities remain focussed on key policy priorities, aligned to Defra's Evidence Plans.

A number of other activities, such as Defra evidence programme reviews, updates of Evidence Plans for Defra's policy programmes, and refreshes of Defra's Evidence Investment Strategy will also help identify longer-term policy and evidence priorities. Cefas actively engages in these activities. Cefas will also undertake a strategic horizon scanning exercise as part of the development of a 5-year cross-cutting Evidence Strategy. Defra and Cefas will explore additional mechanisms for more systematic consideration of future issues. We will make arrangements to coordinate the annual review of the marine HLA R&D portfolio across fisheries, environment and biodiversity to enable greater integration of projects and ensure a more strategic and forward-looking focus on future evidence needs. We will also ensure annual reviews of evidence activities funded through the HLA in other Defra policy areas are coordinated effectively. Discussions on future issues will also be built into quarterly SLA/MOU performance discussions.

Within Defra, budgetary control of Cefas expenditure has been effective. To strengthen arrangements further, a Cefas Customer Group (represented by Defra policy customer teams, Marine Management Organisation (MMO) and Cefas) has been established and has met twice already. Collectively, the Cefas Customer Group provides the high level focal point on matters relating to the overall delivery of services provided to Defra by Cefas. The Group will continue to meet regularly to maintain oversight of the HLA, ensure appropriate working level arrangements are in place, and identify and monitor risks and issues impacting on delivery of key activities carried out by Cefas for Defra. Defra and Cefas will explore additional opportunities for strengthening coordination of financial and performance monitoring activities, including performance indicators.

**Recommendation 2.** The Panel was impressed by the capacity and responsiveness of Cefas in recent marine and nuclear power station emergencies and recommends that the emergency response capability in Cefas should be sustained and underpinned by a specific R&D budget. While not wholly a Defra issue, Defra should develop a clear view of its role in terms of funding, responsibilities and requirements in marine aspects of emergency preparedness and produce a funded plan for delivering this capability.

**Response (2).** Defra partly accepts this recommendation which will require effective collaboration with other organisations to implement.

The Maritime Coastguard Agency (MCA) has overall responsibility for marine emergencies, including leading the initial emergency response and maintaining the National Contingency Plan. The principal Lead Government Departments are Department for Transport (prevention, reduction and minimisation of effects of marine pollution, Merchant Shipping Act 1995) and Department for Energy and Climate Change (action on offshore installations, Pollution Prevention and Control Act 1999 and regulations). They have appointed the Secretary of State's Representative for Maritime Salvage and Intervention (SOSREP – a member of MCA staff) to provide overall direction for salvage, intervention and prevention for marine pollution involving shipping or offshore installations. The MMO has important responsibilities in approving the use of pollutant dispersants, with advice taken from Cefas, and it maintains its own contingency plan.

Defra has a smaller role in comparison and is not a Lead Government Department for marine emergencies. Defra's principal interests are in understanding changing risks to the protection of the marine environment and ensuring that arrangements for the approval of dispersants and post-spill monitoring are fit for purpose.

Defra is, however, a Lead Government Department for recovering from a Chemical Biological Radiological or Nuclear (CBRN) incident, with responsibility for co-ordinating the consequence management aspects, including decontamination, of these incidents.

In marine science, evidence is funded to help understand overall risk from pollution incidents, monitor short- and long-term impacts of pollution and explore the impacts of

pollutant dispersants in the marine environment. Funding for these activities is considered alongside other Defra policy priorities.

Cefas provides research and technical advisory support to a number of different organisations who play a role in emergencies.

- Cefas provide MMO with advice on environmental and fisheries impacts during spills and exercises, and test oil spill treatment products under a well established agreement and SLA with the MMO.
- Cefas also has an SLA with the Food Standards Agency to undertake monitoring and advice on the implications of spills on the human consumption of fish and shellfish products.
- Cefas is currently discussing a similar financial arrangement with the MCA for provision of modelling during the use of dispersants during spills and exercises.
- Cefas participates in an oil and gas industry forum to identify and fund research on pollution response for that sector. On-going work to maintain the PREMIAM network for post-spill monitoring is funded through the Defra/Cefas SLA and there is an agreement that the SLA could be used to cover funds for immediate monitoring response in a major incident.
- Cefas also delivers wider Defra evidence needs identified for both marine and CBRN through the HLA and call-off contract arrangements.

Defra has an important role in supporting the Cefas strategic capability in relation to the assessment of risk, development of tools to monitor and assess impacts from pollution incidents, and ensure an effective process for the approval of dispersants. This role complements responsibilities of other Government Departments, agencies and industry for maintaining and improving the evidence base in relation to their own specific responsibilities.

Defra will therefore engage with other Government Departments to seek a clear view on wider Government's role in supporting/funding emergency responses in the marine environment, maintaining strategic capabilities, such as those provided by Cefas, and understanding where Departments may be reliant on Cefas capability.

**Recommendation 7.** The Panel were impressed by the financial resilience that had resulted from the expansion into wider markets beyond Defra but, having accepted the key importance of R&D activities to expanding future capability, the Panel recommends that Defra keeps the R&D funding at the present level in proportion with the support for statutory functions.

**Response (7).** Defra recognises the aspiration of this recommendation, but is unable to accept it. In line with overall reductions in Government expenditure, Defra evidence budgets have been steadily declining over the Spending Review period. In consequence, Defra evidence funding for Cefas has been impacted. Budgets for statutory monitoring and surveillance activities have decreased at a lower rate, with the larger declines having

affected discretionary R&D funding. Recognising that pressures on evidence budgets are likely to continue, and that many areas of statutory work are very tightly constrained, (for example meeting complex EU Data Collection Framework requirements), it will be very challenging for Defra to maintain R&D funding in proportion to the support for statutory functions.

Defra's Marine Programme, on behalf of all Defra interests, will continue to work with Cefas to identify opportunities for further efficiencies and integration of statutory evidence activities to help reduce the impact of further pressures on R&D funding. Additional funding for cross-cutting, collaborative R&D will be sought as appropriate through Defra's Strategic Evidence Partnerships Fund. For R&D activities, Defra will however, need to consider appropriate opportunities for testing the market through open competition alongside the need to maintain critical Cefas capability. Cefas plans to maintain overall R&D income at 25%, and will explore a range of opportunities for achieving this by diversifying its customer base. Cefas and Defra's Marine Programme have been very successful in accessing additional funds through collaboration by supporting Research Council and European Union (EU) Framework programmes. This will be a valuable strategy for the future.

**Recommendation 26.** The Panel recommends that: (a) Defra places a priority on supporting marine research through targeted co-funding of Research Council programmes even though there is pressure on evidence budgets; (b) Cefas undertakes greater collaboration with the academic sector; and (c) successes in grant applications to the Research Councils and the EU Framework Programmes are included in the Cefas Science Performance Ministerial Indicators.

**Response (26).** (a) Defra partly accepts this recommendation. Defra actively collaborates with a range of Research Council programmes, including the Living With Environmental Change and Global Food Security programmes. Defra's Marine Programme has been very successful in accessing additional funding through NERC's joint Thematic Action Programmes, for example on shelf sea biogeochemistry and marine food webs and their impacts on ecosystem services. Cefas has successfully competed for significant additional funds for evidence provision in support of these programmes. Defra will continue to strengthen existing links with NERC, and will identify appropriate opportunities for linking with the Economics and Social Research Council (ESRC), Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering and Physical Sciences Research Council (EPSRC). Successes and potential future partnership opportunities with the Research Councils will be actively sought, including when annual evidence plans for Defra's Marine Programme are updated, and when relevant Research Council programmes are launched. Priorities for targeted co-funding with Research Councils will be considered alongside other evidence priorities for policy.

(b) Cefas accepts this recommendation. Through the NERC joint programmes, other Research Council links with academia, and the EU Framework Programmes, Cefas is growing the strength and diversity of its academic collaborations, and plans for them to

continue. Through self-funded Strategic Partnerships, Cefas has already forged formal links with the University of East Anglia (UEA), University of Exeter and the University of Bangor. These close relationships have been developed through, for example, a jointly funded academic post at UEA, shared research studentships, and lecturing on undergraduate and postgraduate courses by Cefas staff. Cefas has many other working relationships with UK Universities, for example investigating salmon ecology with the University of Portsmouth, Southampton University, University College London and University of Cardiff, and studying fish pathogens with Glasgow, Liverpool and Cambridge Universities. Further relationships will be developed as opportunities allow.

(c) Defra and Cefas do not accept this recommendation which relates to the setting of monetary inputs regarding grant applications as formal targets for success in Ministerial performance indicators. R&D income Cefas obtains through Research Councils and the EU does not cover the full cost of the work undertaken. In these instances, Defra investment helps to meet the shortfall. Specific indicators regarding growing the value of Research Council and EU grants could therefore potentially have a significant impact on Defra and Cefas' overall evidence budgets, and additional Defra funding would need to be considered against other policy priorities. In addition, Cefas is not eligible to apply for Research Council funding directly, making it difficult to plan for future growth, but can access funding through acting as a subcontractor within a consortium or through joint initiatives. Cefas considers, however, that UK national marine capability would benefit considerably if Cefas were able to bid for Research Council funds on an equal basis.

Cefas will consider other options available for assessing success in Research Council and EU framework programme grant applications. In particular there is likely to be a regular role for the Cefas Science Advisory Committee (CSAC) to review success and explore future options, as well as identify opportunities for strengthening partnership working.

In both Defra and Cefas' view, outputs and outcomes are more appropriate indicators of success, for example through scientific publications. Cefas will work with CSAC and the Corporate Owner to develop appropriate measures of success in relation to collaboration with the academic sector. Progress against these measures will be reviewed at quarterly intervals by the Cefas Management Board.

## Theme 2 - Customer relations

**Recommendation 6.** Whilst feedback from customers was generally positive, the Panel recommends that Cefas should: (a) be more proactive in providing a dedicated relationship manager for key customers; (b) provide clarity to their government customers on their pricing policy; and (c) introduce more flexibility in funding models when bidding for strategic research with academic partners, in recognition of the extension in capability that such projects can deliver for Cefas.

**Response (6).** (a) Cefas accepts this recommendation. Cefas gives high priority to improving its customer relations, and actively seeks feedback from all customers following project completion. Cefas already has relationship managers for Defra (Fisheries, Environment, Animal Health and Biodiversity), the Department of Energy and Climate Change (DECC) and the Marine Management Organisation (MMO). These relationship managers work closely with Deputy Directors and key policy leads, addressing concerns with delivery of the project portfolio, supporting policy advice and highlighting future risks and mitigation. Outline plans are already in place to allocate dedicated relationship managers for other key clients, and this will be extended and formalised. Defra policy customers also have policy leads responsible for monitoring delivery of Cefas evidence and advice within individual SLAs/MOUs and Defra's Marine Programme has provided staff resource to coordinate and maintain oversight across the Cefas HLA.

(b,c) Cefas partly accepts these recommendations. Cefas' pricing policy provides a good explanation of current pricing. The policy has been shared with some key customers, including Defra, and Cefas will broaden this awareness, to include the academic sector and other key customers. Cefas will also clarify its approach to setting charge-out rates to Defra and its other key customers. There is an increased variety of funding models for Cefas involving commercial competition and Government funds, including Defra HLA and non-HLA funds. Different funding models reflect overhead costs associated with bidding, strategic positioning, and likely competition, but Cefas firmly believes this represents value for money for all its clients. Under Government accounting rules Cefas is constrained not to distort the marketplace by offering services below cost. Individual SLAs/MOUs also provide clear statements to that effect. To introduce any further flexibility in funding models, Defra and Cefas would need to explore what, if any, constitutional changes to Cefas, or to models of partnership working, would be required to access a wider range of research funding. Cefas will review its funding models for all customers on a regular basis.

**Recommendation 17.** While the Panel recognises the value of numerical based customer feedback data (as provided by the Cefas administered Customer Satisfaction Questionnaires) in terms of providing quantitative trends in customer views, we also strongly encourage the collection of more qualitative free-form customer responses ( for example, collected via telephone questionnaires) and independent validation of customer views. The Panel recommends that Cefas augments its Customer Satisfaction Questionnaire programme with an independent customer survey every 2-3 years to challenge and validate their own information.

**Response (17).** Cefas accepts this recommendation. Cefas gives high priority to improving its customer relations, and actively seeks feedback from all customers following project completion. Following the successful use of independently coordinated customer interviews and feedback for a selection of Cefas completed projects, Cefas supports the extension and formalisation of this approach. Cefas will run independent qualitative customer reviews every two to three years, the next one being due in 2014/15. Cefas' non-executive directors have been consulted on this issue and have positive suggestions

on how to improve feedback. Cefas will be learning from their experiences and processes and will revise internal systems accordingly.

Defra completes Cefas' customer satisfaction questionnaires and supports Cefas in extending and formalising this approach, including incorporating more qualitative feedback. This will be a useful measure for informing assessment against Cefas' performance indicators. Defra and Cefas will explore options for aligning questionnaires with key delivery dates and performance reviews for work carried out under the HLA.

**Recommendation 24.** The Panel noted that the arrangements whereby Cefas provides important services to the Welsh Government are evolving rapidly and the Panel recommends that: (a) there is an evaluation of the programme planning procedures by Defra to ensure that Welsh Government feels that its interests have been given full consideration; and (b) Cefas establishes a formal agreement for the coordination of directly contracted services with the Welsh Government.

**Response (24).** (a) Defra accepts this recommendation and will clarify where expenditure through Cefas also supports Welsh Government needs. Defra's policy programmes engage with the Welsh Government when identifying and prioritising evidence needs, for example, through consulting the Welsh Government on Defra's Evidence Plans and individual work programmes, and engaging them in reviews of evidence programmes. Defra will continue to ensure the Welsh Government is involved throughout the evidence cycle.

(b) Cefas accepts this recommendation. Cefas' developing relationship with the Welsh Government already enables Cefas to provide them with some regulatory services and advice. Clarity about future governance of environmental advice within Wales will enable greater progress to be made. Progress towards a formal partnership with the Welsh Government is part of Cefas' strategy and will be actively pursued.

**Recommendation 25.** There are a number of UK initiatives between Defra and the Devolved Administrations to coordinate monitoring and research across national boundaries. However, the Panel recommends that Cefas and Defra takes the initiative at the institutional level to ensure comparability between the projects, initiatives and organisations of the Devolved Administrations and those of Cefas and Defra in the rapidly expanding marine environmental sectors.

**Response (25).** Defra and Cefas accept this recommendation, which requires action from both organisations to be successful.

There is already significant activity within the UK Marine Monitoring and Assessment Strategy (UKMMAS) to coordinate data and evidence collection across the entire UK. Defra and the Scottish Government lead on developing UKMMAS which aims to coordinate and integrate marine monitoring and assessment. Government Departments, agencies, marine institutes and Research Councils participate in various UKMMAS

working groups, which are overseen by the Marine Assessment and Reporting Group (MARG).

Existing links through the Management Group of Directors and Marine Science Coordination Committee (MSCC) also provide an overview of capability and developments but more could be done as resources permit. The MSCC brings together those involved in marine research, including the Defra network, Devolved Administrations, other Government Departments, The Crown Estate and Research Councils, and aims to coordinate and identify gaps for marine science in the UK. Opportunities for sharing progress with integrated monitoring and biodiversity evidence and advice, for example, are likely to be priorities for operational engagement.

In addition, the UK Integrated Marine Observing Network (UKIMON) is encouraging effective collaboration on evidence and the use of national capability, and seeking to improve the evidence base for future assessments of environmental status. Cefas has a clear role in supporting UKIMON. Cefas and Defra will continue to promote links with Devolved Administrations to develop marine data and evidence, using the Management Group of Directors, MSCC and UKMMAS as the primary fora.

The Marine Environmental Data and Information Network (MEDIN) aims to improve access to marine data and provides advice on data collection and metadata generation. The MEDIN sponsorship group has agreed that a review of MEDIN would be valuable to help identify further opportunities to improve management of marine data.

Individual activities within Cefas are also in place to support joint working with a range of Devolved Administration bodies. For example there are close working relationships with Welsh Government in Cardiff via a Cefas staff secondment, and preparation for joint projects with Marine Scotland Science on integrated marine surveys.

**Recommendation 27.** The Panel commends Cefas on the quality of their external website and recommends that, as changes to Defra and government websites are implemented, the commercial value to Cefas of the present website is recognised and the current levels of functionality in any new solution are maintained by clear and unambiguous contractual arrangements.

**Response (27).** Cefas accepts this recommendation. Cefas is an active contributor to discussions on the Government's internet presence, and will continue to influence to achieve the best outcome for Cefas. Most of the material currently on the Cefas website will move to [www.Gov.UK](http://www.Gov.UK) in April 2014. However, Cefas' commercial work will be retained in a separate Cefas site through a government exemption, including the Cefas Technology Limited (CTL) website. Cefas will continue to use the internet to maximise engagement and communication with the public.

## Theme 3 - Cefas science

**Recommendation 4.** The Panel recommends that Cefas ensures that it has a fit-for-purpose Management Information System for recording and managing project and scientific output information and that Cefas develops a strategy for collecting, recording and reporting on scientific output data at appropriate organisational level. These data should be regularly reported on as a tool for science performance management at a range of levels (individuals, Science Teams and Science Divisions, etc.).

**Response (4).** Cefas partly accepts this recommendation. The Cefas Management Information System provides financial data for project support rather than a project management system and was not designed to track scientific output data. Some basic science metrics, such as published paper output and training records are completed using accessible databases. Cefas will develop the necessary systems and ensure data are routinely collected once there is clarity on the full suite of metrics required for science performance management. Cefas will use information from these systems on staff output and engagement with the wider science community to inform staff performance appraisals. Defra will be considering the fitness-for-purpose of the Science Performance Indicators for Cefas at the next annual review of indicators (see response to recommendation 3).

**Recommendation 5.** The Panel recommends that Cefas: (a) develops a five year cross-cutting Evidence Strategy (including commitments to expand staff skills in key areas and a forward-looking plan for internal investment in novel research and procurement of scientific equipment); and (b) the Cefas Science Advisory Committee should be actively engaged in the development of the Evidence Strategy.

**Response (5).** Cefas accepts this recommendation. Cefas already has a five year strategic direction which outlines science and evidence plans at a high level. It is recognised that further work is necessary to further integrate this five year plan into the current operational plans of the science Divisions, and to make better use of the Cefas Science Advisory Committee (CSAC) in the process. Cefas will therefore take the initiative and lead the development of a comprehensive five-year Evidence Strategy that links operational plans and strategic direction with important related initiatives such as the modelling strategy, ICT strategy, plans for strategic seedcorn investment and capital scientific equipment needs.

Defra also accepts this recommendation and will work closely with Cefas to ensure effective development and integration of a cross-cutting evidence strategy. Recognising that Cefas' Evidence Strategy will be influenced by their customer needs and funding availability, any commitments to expand staff skills or invest in certain areas will need to be considered in the context of increasing budgetary pressures and the need to be flexible to changing policy and wider customer priorities. Cefas will therefore need to keep the priorities within their Strategy under review. Defra also supports the active engagement of the CSAC in challenging and monitoring implementation of Cefas' Evidence Strategy.

**Recommendation 13.** The Panel recommends that: (a) over time, a target of 150 ISI journal papers per annum should replace the existing criterion of 150 peer-reviewed papers in the Science Performance Ministerial Indicator; and (b) the Cefas Science Advisory Committee should advise on the rate at which this target should increase over the next review period in order to set an ambitious but achievable projection.

**Response (13).** (a) Defra and Cefas accept this recommendation. Cefas science output compares well with NERC institutes for which comparable data are available, in terms of citation impact and number of papers published. Focussing the Science Performance Ministerial Indicator on publications in high-impact journals will support continuous improvement in the quality of Cefas' science output. The Science Performance Indicator will be reviewed and amended at the next annual update of Ministerial Indicators.

Defra will also consider equivalent targets and Indicators relating to science performance in other Defra laboratory agencies to ensure a consistent approach and level of challenge, as appropriate to organisations' specific circumstances.

(b) Defra and Cefas support the role of the CSAC in reviewing publication targets. The CSAC will need to ensure that any changes to targets associated with this Science Performance Indicator help strengthen Cefas science, and do not detract from delivering the broad range and high quality of data and evidence provision currently undertaken.

**Recommendation 14.** The Panel noted that there were differences in ISI journal publication rates across, and within, the three Themes (Fisheries, Environment, and Health and Hygiene). The Panel recommends that Cefas should: (a) examine more closely the reasons for the variation of ISI publications across the Teams with R&D funding, and provide this information to the Cefas Science Advisory Committee for external scrutiny; (b) adopt a minimum of 1.5 ISI journal publications per active research scientist as the internal metric and ensure that all teams across the organisation achieve this target by 2015; and (c) ensure that staff are aware of the measures of success in terms of science quality and impact and that these are assessed in annual Staff Appraisals.

**Response (14).** Cefas accepts this recommendation in principle, which is focussed on the contribution of individuals, Teams and Groups to total science productivity. Cefas will analyse and provide information to Cefas' Science Advisory Committee (CSAC) on the variation in publication rates across Groups in order for CSAC to assess the variability of output across science divisions. There are a number of explanations for different levels of productivity across Cefas, including the demands of non-statutory work, balance of grades and seniority, and levels of involvement with commercial contracts. While this breadth of science engagement is a benefit to the organisation, we recognise the importance of a broad range of individual contributions that will support Cefas in the future. We note, however, that if Cefas were to implement the target at (b) this will produce a different total output to that recommended in 13 (~160 papers). To avoid confusion, Cefas will adopt the target of 150 ISI papers per year (recommendation 13) as part of the Science Excellence Ministerial Indicators. Cefas will use the recommendation of 1.5 ISI journal publications

per active research scientist to manage individual staff productivity and team performance rather than as a formal internal target. Strengthening the link to performance management will enable a more proactive approach to achieving the overall publications target. Cefas will also consider the most appropriate options for identifying and achieving internal targets such as at team level or for cohorts of staff with similar competencies. This assessment will be conducted during annual staff appraisal, and staff will be involved in awareness raising activities during the implementation of the new Defra appraisal process in 2014/15.

**Recommendation 15.** The Panel has found value in using the UK Higher Education Institutions “Research Excellence Framework” approach for assessing research quality and impact, leading to the conclusion that Cefas has a cohort of leading scientists with an international standing in applied marine and freshwater sciences - comparable to some top research-led universities - and recommends that Cefas develops a simple, fit-for-purpose benchmarking process to evaluate the performance of staff in relation to scientific outputs.

**Response (15).** Cefas accepts this recommendation. The application of the Research Excellence Framework to a small cohort of senior staff was a valuable exercise that highlighted the international excellence of key Cefas scientists. This metric will be developed and applied more widely, for the purpose of assessing individual performance of Cefas scientists. The potential for use as part of the Ministerial Targets will also be assessed (see response to recommendation 3). In addition, Defra will explore whether a similar approach for assessing research quality and impact might be appropriate for other Defra laboratory agencies, as part of the science reviews of these bodies.

**Recommendation 16.** Whilst the Panel recognises that all Cefas advisory scientists are required to keep their scientific credentials up-to-date by following the literature and best-practice, the Panel recommends that Cefas should promote and maintain the ability of staff to be active research scientists as well as involved in the provision of policy advice. Cefas should raise awareness amongst its scientific staff of individuals who represent exemplars of good practice in this context.

**Response (16).** Cefas agrees that this is a good aspiration in principle. At a practical level, however, the significant demands made by customers on senior advisors preclude them from an active and significant research role. These senior staff are more likely to publish reviews and policy-relevant work, and act as mentors to junior staff. Cefas will continue to promote the science mentor role of senior advisors, and will encourage them to fully engage with an active science role wherever possible. At a junior level there is opportunity for a more diverse portfolio of work, and this will continue to be encouraged.

**Recommendation 18.** The Panel recommends that: (a) it would be timely to refresh the Cefas Science Advisory Committee (CSAC), members of which, in addition to the present focus on scientists of high esteem, should also be independent of Cefas and Defra; (b) that recruitment to CSAC addresses the need for a better gender balance and international representation; and (c) CSAC develops a stronger role in strategic thinking, evaluation of the Seedcorn programme and assessment of Cefas’ scientific performance indicators.

**Response (18).** Cefas accepts this recommendation, and values CSAC as a source of independent support and challenge to Cefas' Management Board. Following the appointment of a new CSAC Chair, it is now timely to refresh the membership, actively seek to address gender issues and international representation, and review the frequency and content of future meetings. Particular attention will be given in the agenda to the need for active engagement with Cefas staff in developing a five year Evidence Strategy, and to supporting improvement in publication output. Due consideration will be given to suitable methods of appointment to achieve the required gender balance.

Defra also supports this recommendation. Cefas' CSAC provides a valuable contribution to assuring Defra of the robustness of Cefas' evidence and advice. It will be important that the CSAC maintains an understanding of current and emerging policy priorities and we will explore the value of having a senior Defra scientist acting as an observer to CSAC to provide additional policy insight.

**Recommendation 19.** The Panel recommends that in the area of ecosystem modelling, Cefas: (a) develops a clearer strategy that defines its niche in this area; (b) demonstrates how the different modelling platforms used in Cefas are applied, for what purposes, and how they add to each other's strengths; and (c) both Defra and Cefas assess the potential synergies and efficiencies that could be achieved by coordinating this strategy with NERC's National Capability funding for marine ecosystem modelling, and with the NERC Earth System Modelling strategy (which includes University and NERC Centre partners, as well as the UK Met Office).

**Response (19).** (a,b) Cefas accepts this recommendation and will develop and implement an operational modelling strategy for use within Cefas that integrates across existing platforms. Over the past five years Cefas has significantly increased its staff resource in both physical and ecosystem modelling capability, and has developed a specialist high performance computing facility. Cefas has already recognised the need to further develop the modelling strategy and will take this forward over the next six to twelve months.

(c) Defra and Cefas partly accept this recommendation. The main issue for the UK is not necessarily Cefas modelling capability, but the extent to which the various models currently used in the UK are coordinated to provide the best evidence available. Cefas and Defra are actively pursuing this by our ongoing collaboration with the Met Office, driving activity in MSCC to integrate modelling capability, and the successful award of NERC Thematic Action Programme funds to further develop the European Regional Seas Ecosystem Models. Cefas has also been invited to join the Governing Board of the National Centre for Ocean Forecasting. Initiatives in MSCC to bring together national modelling capability will also be supported. Coordinating modelling activities also requires action from the wider science community. Opportunities for coordinating with other teams/organisations involved in ecosystem modelling will continue to be sought. For example, Cefas is currently contributing to a NERC initiative to develop nested models that

integrate marine biogeochemical modelling at a regional scale with global scale Earth System models.

## Theme 4 – Information and Communications Technology (ICT) and data

**Recommendation 10.** We recommend that Cefas: (a) fully recognises in its Risk Register the risks around the current Information and Communication Technology (ICT) strategy in terms of supporting the future expansion of science capability; (b) assesses the potential risks of any new cross-Defra ICT strategy on its scientific computing capability and requirements and, if necessary, develops a strategy for its scientific computing capability; and (c) incorporates feedback from computer users in a major review of its present ICT capability and future needs.

**Response (10).** (a) Cefas accepts this recommendation, however it should be noted that in developing the evidence base for the review Cefas acknowledged this risk and added a new risk on ICT to the Management Board risk register concurrently with the review. This addresses the risk that operational IT needs are not met due to insufficient agreement on required resources, and is currently mitigated by ongoing feedback on future needs by project managers and the development of an operational IT strategy. The Cefas Management Board will keep this risk under review.

(b,c) Cefas accepts these recommendations and is committed to implementing a more comprehensive ICT strategy to support delivery of its strategic science aspirations. Cefas actively participates in the governance of Defra Network ICT through membership of the Defra Network CIO Board and supporting sub-groups. In developing the ICT Strategy, Cefas will ensure that feedback from users is a key element of future proposals.

**Recommendation 20.** The Panel considers Cefas data resources to be a major national asset and recommends additional funding from Defra to ensure compliance with the INSPIRE Directive.

**Response (20).** Cefas supports this recommendation, which is in line with the ongoing Programme to improve Data Management in Cefas (DMiC). Cefas does not have data under the categories described in Annex 1 and 2 of the Directive that it is required to publish. Plans are in place to publish metadata for categories of data in Annex 3 of the Directive, by the end of 2013. Cefas is therefore currently compliant with the INSPIRE Directive, but will need to continue with its change programme to ensure this remains the case in future. Cefas is a member of the Defra Network INSPIRE Practitioners Group and the Defra Network INSPIRE Compliance Board.

Defra recognises the importance of effective data management and data sharing. Defra funding helps underpin Cefas' capability in data management which is an integral element

of Cefas' evidence activities. Defra does not fund separate activities specifically in support of Cefas data management and data sharing. No additional funding is currently required by Cefas to meet requirements of the INSPIRE Directive, but if specific needs were identified that required additional Defra funding, this would need to be considered alongside other policy priorities.

**Recommendation 21.** The Panel recommends that: (a) Cefas ensures that the implementation of a centralised approach to internal data management is completed and adopted across the organisation's data holdings so that Cefas can deliver an optimised data management and storage strategy within a two year time frame; and (b) the Panel is concerned that insufficient funding has been allocated to this task and encourages Cefas to look at the level of resources committed to data management by other equivalent organisations (for example, NERC Institutes) and re-evaluates its position.

**Response (21).** Cefas accepts this recommendation, which is in line with the ongoing Programme to improve Data Management in Cefas (DMiC). Cefas is committed to full implementation of DMiC, and will review levels of investment by other equivalent bodies to assess comparability. Cefas aims to deliver an optimised data management and storage strategy by 2014/15.

Any additional Defra funding specifically for data management would need to take into account relative priorities of policy, balanced against the need to maintain Cefas capability.

**Recommendation 22.** The Panel recommends that Cefas: (a) makes a firm and public commitment to open access data and publishes a Data Policy comparable to that published by NERC, as soon as possible; (b) ensures that participation in data management and archiving networks are fully integrated; and (c) extends its recent participation in a wider network approach to data management to become a full and active member of initiatives such as the MAREMAP network.

**Response (22).** Cefas accepts this recommendation, and will continue with the progress already made to publish a Data Policy before April 2013. Cefas already has in place a clear commitment to data access but needs to do more to make others aware of it. Cefas is an active contributor to MEDIN, hosts the Fisheries Data Archive Centre and will consider the potential for other Centres as opportunity allows. Cefas is also active in MSCC to ensure development of the UK Integrated Marine Observing Network (UKIMON) is in line with best practice and acts as the focus for future data integration. Cefas will continue to engage with MEDIN and UKIMON to increase the accessibility and transparency of its data holdings. Cefas has become an active associate member of MAREMAP but is prevented from full membership as it is not a NERC institute.

## Theme 5 - Cefas corporate

**Recommendation 3.** The Panel recommends an evaluation by Defra of the relevance of Cefas' Ministerial Indicators given Cefas is increasingly operating as a commercial business with a wide customer base. In particular, there should be a greater degree of challenge in the targets for the "Scientific Excellence" Ministerial Indicator. In addition, Defra should organise an independent evaluation of the annual science performance statistics provided by Cefas in support of their Ministerial Indicators.

**Response (3).** Defra accepts this recommendation and is currently looking at processes for monitoring performance across the Cefas HLA. Performance indicators, including Ministerial Science Performance Indicators, will be reviewed as part of this to ensure targets are fit-for-purpose and suitably stretching, including consideration of what level of independent evaluation might be appropriate. The Cefas Customer Group (see response to recommendation 1) will have a role in supporting this. Defra will also explore equivalent indicators used in other Defra laboratory agencies and the feasibility and appropriateness of benchmarking performance targets across organisations.

Cefas also accepts this recommendation, noting that the science metrics proposed in recommendations 13 and 14 are already more ambitious than existing indicators, and that review of Cefas' science metrics by the Cefas Science Advisory Committee was also suggested in recommendation 18.

**Recommendation 8.** Given that there is potential for Cefas to grow income from expanding into new markets, the Panel recommends that an additional Business Plan is developed by Cefas that considers the various constraints on expansion of a government Agency (such as limitations of the current estate, caps on headcount and/or payroll, capital investment and underpinning R&D) so that these can be addressed through strategic discussions with Defra rather than the current case-by-case approach.

**Response (8).** Cefas and Defra partly accept this recommendation. Cefas acknowledges that the potential to grow income will be constrained by available resources. Additional constraints to potential expansion include access to capital investment, resource flexibility and R&D funding. Cefas and Defra recognise these issues which are discussed through existing business planning processes. There is the need to align Cefas' aspirations with Defra through improved strategic planning. Cefas will continue strategic discussions with Defra on its future business strategy through annual business planning rounds and discussions with the Corporate Owner, rather than develop a separate business plan.

**Recommendation 9.** The Panel concluded that, in line with existing plans, there is a clear need in the near future to replace the Lowestoft Laboratory and recommends that Cefas

and Defra place a priority on developing a costed plan for new, fit-for-purpose facilities which could be implemented rapidly as and when resources become available.

**Response (9).** Cefas accepts this recommendation, and is in the process of discussing the need for new infrastructure with the Cefas Management Board and Corporate Owner. Defra is supporting Cefas' development of site options for new laboratory facilities. Taking into consideration current budget constraints and the feasibility of significant investment in new laboratory facilities, Defra and Cefas will need to consider an appropriate timeframe for developing and implementing a plan.

**Recommendation 11.** The Panel recommends that Cefas should be more proactive regarding gender issues, for example, by benchmarking gender balance with other science organisations and setting goals to progress more rapidly towards equity amongst the senior grades.

**Response (11).** Cefas accepts this recommendation. An annual report on Workforce Monitoring is carried out as part of the legal obligation to publish data on equality statistics. Data is included within the Defra Workforce Monitoring report which covers other science agencies within the network. Benchmarking data are available across the Civil Service. Whilst aspirations can be set, for legal reasons it is not possible to positively discriminate within the Civil Service to achieve gender balance (or any other equality issue) for fair and open competition reasons. Cefas takes positive action through its existing flexible working policies and practices that aim to encourage recruitment, retention and promotion, and will continue to actively seek opportunities to do this going forwards. Cefas will work with Defra and other relevant external bodies to benchmark gender balance and policy, informed by data from comparable organisations, and will use this to help set Cefas' future aspirations.

**Recommendation 12.** As staff perceptions on the pay and reward package, corporate support services and retention issues in specific areas are a major concern, the Panel recommends that Cefas, working through Defra, should ensure that the future pay and reward package brings the consolidated pay scales more in line with other Defra Agencies and external benchmarks.

**Response (12).** Cefas accepts this recommendation. It is recognised that HM Treasury constraints on public pay give very little scope for improvement in the next two years. Work will continue between Cefas and the Reward Team within Defra to explore opportunities for improving the pay, terms and conditions and opportunities for staff as much as possible within the context of Civil Service Reform. Defra will also explore equivalent pay and reward packages in other Defra network organisations to provide a benchmark.

Cefas is covered by Defra's overarching Reward Strategy. The Reward Strategy sets out the Department's high level approach to employee reward, including the principles, immediate priorities and longer term objectives. It sets the direction of travel in the

medium term (during the 3 year scope of the Strategy), as well as identifying longer term aims. Each bargaining unit will shape their pay arrangements within this framework.

The Reward Strategy is designed to be a robust, flexible tool used by the Department and the Executive Agencies, to enable it to attract, retain and motivate the right people, with the right skills and experience. It will have a greater focus on performance and will offer a benefits package consistent with a modern employer. It is recognised that progress with the Defra Reward Strategy will be limited in the current fiscal climate.

**Recommendation 23.** The Panel was concerned that managing external perceptions will become more difficult as commercial income increases to the planned level of 25% of turnover by 2015. The Panel recommends that Cefas: (a) develops a communication strategy to make the commercial activities more transparent to its key stakeholders; and (b) issues arising in relation to conflicts of interest (in addition to specific complaints) are logged and reported to the Cefas Management Board on an annual basis.

**Response (23).** Cefas accepts the overall intent of this recommendation. The potential for perceived conflict of interest is an issue that Cefas is well aware of. It is addressed through internally published guidance that describes the processes in place to support staff in their daily activities. Cefas already has in place a mechanism for collating and regularly reporting all complaints (including Conflict of Interest) to the Cefas Management Board. In addition Cefas will always assess the extent to which commercial projects may limit capability in regulatory advice or emergency response. The Cefas Management Board (CMB) will keep Cefas' approach to managing Conflicts of Interest under regular review.

HMT Wider Market rules make clear that wider market activity carried out by Cefas or equivalent Government agencies should not squeeze out, or risk damaging, a public sector organisation's main objectives and activities. Individual Cefas SLAs/MOUs include clear statements about commercial work and Defra monitors performance to ensure there are no risks to delivery of Defra-funded work as a consequence of Cefas' commercial work. Development of similar approaches for other key customers will be pursued. The Cefas Customer Group will also monitor potential conflicts of interest (see response to recommendation 1).

**Recommendation 28.** The Panel commends Cefas on its commitment to exploiting Intellectual Property but recommends it takes a more ambitious approach to expansion of Cefas Technology Limited so that turnover is at least doubled over the next five years with more products moved out into joint ventures.

**Response (28).** Cefas does not accept this recommendation. Cefas Technology Ltd is a wholly owned subsidiary of Cefas that specialises in the application of Cefas technology to specific customers in a cost effective and focussed manner. CTL products and systems include data storage tags and electronic data capture equipment for fisheries and by-catch, and shellfish testing services and reference materials.

While Cefas is in principle keen to exploit Intellectual Property, and will investigate future opportunities for CTL to support activities in this area, Cefas can see no reason to support doubling the turnover of CTL. The business model of CTL Ltd is regularly reviewed and opportunities for strategic support of Cefas will continue to be undertaken on a case by case basis. Cefas actively plans to expand the role of CTL Ltd following investment in staff in order to take advantage of new opportunities in the marketplace, and will be considering the development of formal targets. The Cefas Management Board will continue to assess whether opportunities for IP exploitation are being fully realised.

## Annex A Summary of Defra and/or Cefas actions in response to review recommendations

<b>Theme 1: Funding evidence needs</b>		
<b>Recommendation</b>	<b>Action</b>	<b>Timeframe</b>
<p><b>Recommendation 1.</b> The Panel recommends that: (a) the main Defra stakeholders maintain a strategic approach to the provision of services and advice within the High Level Agreement (HLA) to provide continuity of evidence investment to Cefas; (b) the annual objectives in the HLA schedules should continue to be aligned to the relevant Defra Evidence Plans; (c) Cefas and Defra should increase their focus on anticipating future evidence needs through more active horizon scanning; and (d) there should be strengthened oversight and coordination of HLA evidence activities and reporting across all the Defra Programmes that commission evidence from Cefas through the HLA.</p>	<p>(a,d) Cefas Customer Group to continue to meet regularly to maintain oversight of the HLA, ensure effective working level arrangements, and identify and monitor risks and issues. Opportunities for strengthening coordination of financial and performance monitoring will also be identified.</p> <p>(b) Defra and Cefas to annually assess overall HLA, individual SLAs/MOUs and R&amp;D portfolio against evidence needs identified within relevant Defra Evidence Plan.</p> <p>(c) Defra and Cefas to adopt a more systematic approach to identifying future needs. Cefas to lead a strategic horizon-scanning exercise to inform a long-term Cefas Evidence Strategy.</p>	<p>(a,d) Regular meetings (quarterly/ every 4 months – tbc)</p> <p>(b) Annual reviews (minimum)</p> <p>(c) 2013/14 and ongoing</p>
<p><b>Recommendation 2.</b> The Panel was impressed by the capacity and responsiveness of Cefas in recent marine and nuclear</p>	<p>Defra will engage other Government Departments and seek to clarify</p>	<p>2013/14</p>

<p>power station emergencies and recommends that the emergency response capability in Cefas should be sustained and underpinned by a specific R&amp;D budget. While not wholly a Defra issue, Defra should develop a clear view of its role in terms of funding, responsibilities and requirements in marine aspects of emergency preparedness and produce a funded plan for delivering this capability.</p>	<p>Government's role in funding/supporting marine emergency capabilities and where policy responsibilities lie.</p>	
<p><b>Recommendation 7.</b> The Panel were impressed by the financial resilience that had resulted from the expansion into wider markets beyond Defra but, having accepted the key importance of R&amp;D activities to expanding future capability, the Panel recommends that Defra keeps the R&amp;D funding at the present level in proportion with the support for statutory functions.</p>	<p>(a) Defra's will continue to work with Cefas to identify opportunities for further efficiencies and integration of statutory evidence activities to help reduce the impact of further pressures on R&amp;D funding. Defra to continue to seek opportunities for accessing additional funding through collaboration.</p> <p>(b) Cefas continue to target opportunities for collaboration with EU and research councils to maintain R&amp;D income.</p>	<p>(a) Ongoing, including at annual updates of evidence plans for Defra's Marine Programme.</p> <p>(b) Ongoing.</p>
<p><b>Recommendation 26.</b> The Panel recommends that: (a) Defra places a priority on supporting marine research through targeted co-funding of Research Council programmes even though there is pressure on evidence budgets; (b) Cefas undertakes greater collaboration with the academic sector; and (c) successes in grant applications to the Research Councils and the EU Framework Programmes are included in the Cefas Science Performance Ministerial Indicators.</p>	<p>(a) Defra to actively seek appropriate opportunities to strengthen links with ESRC, BBSRC and EPSRC, building on successes in accessing NERC funding.</p> <p>(b) Cefas to increase collaborations with the academic sector, and work with the Cefas Science Advisory Committee and Corporate Owner to develop appropriate measures of success.</p>	<p>(a) Ongoing, including at annual updates of evidence plans for Defra's Marine Programme, and when relevant Research Council programmes launched.</p> <p>(b) Cefas</p>

		measures in place for 2014/15 reporting.
<b>Theme 2: Customer relations</b>		
<b>Recommendation</b>	<b>Action</b>	<b>Timeframe</b>
<b>Recommendation 6.</b> Whilst feedback from customers was generally positive, the Panel recommends that Cefas should: (a) be more proactive in providing a dedicated relationship manager for key customers; (b) provide clarity to their government customers on their pricing policy; and (c) introduce more flexibility in funding models when bidding for strategic research with academic partners, in recognition of the extension in capability that such projects can deliver for Cefas.	(a) Cefas to further develop and formalise its approach to relationship management and share this with all key clients.  (b) Cefas to clarify its approach to charge-out rates to Defra and other key customers and encourage a wider understanding that these costs offer value for money.  (c) Cefas to review funding models for all customers on a regular basis.	(a,b) 2013/14  (c) 2013/14 and annually thereafter.
<b>Recommendation 17.</b> While the Panel recognises the value of numerical based customer feedback data (as provided by the Cefas administered Customer Satisfaction Questionnaires) in terms of providing quantitative trends in customer views, we also strongly encourage the collection of more qualitative free-form customer responses ( for example, collected via telephone questionnaires) and independent validation of customer views. The Panel recommends that Cefas augments its Customer Satisfaction Questionnaire programme with an independent customer survey every 2-3 years to challenge and validate their own information.	(a) Cefas to plan regular (2-3 yearly) independent qualitative customer reviews.  (b) Defra and Cefas to consider how customer satisfaction questionnaires can be better coordinated and integrated with reviews of Cefas SLAs/MOUs.	(a) 2014/15 and every 2-3 years thereafter.  (b) 2013/14

<p><b>Recommendation 24.</b> The Panel noted that the arrangements whereby Cefas provides important services to the Welsh Government are evolving rapidly and the Panel recommends that: (a) there is an evaluation of the programme planning procedures by Defra to ensure that Welsh Government feels that its interests have been given full consideration; and (b) Cefas establishes a formal agreement for the coordination of directly contracted services with the Welsh Government.</p>	<p>(a) Defra to clarify financial and programme boundaries in marine and fisheries arena with Welsh Government.</p> <p>(b) Cefas to explore opportunities for agreeing a partnership arrangement with Welsh Government.</p>	<p>2013/14</p>
<p><b>Recommendation 25.</b> There are a number of UK initiatives between Defra and the Devolved Administrations to coordinate monitoring and research across national boundaries. However, the Panel recommends that Cefas and Defra takes the initiative at the institutional level to ensure comparability between the projects, initiatives and organisations of the Devolved Administrations and those of Cefas and Defra in the rapidly expanding marine environmental sectors.</p>	<p>Cefas and Defra to continue to promote links with Devolved Administrations to develop marine data and evidence, using the Management Group of Directors, MSCC and UKMMAS as the primary fora.</p>	<p>2013/14 and ongoing, including consideration at annual updates of evidence plans for Defra's Marine Programme.</p>
<p><b>Recommendation 27.</b> The Panel commends Cefas on the quality of their external website and recommends that, as changes to Defra and government websites are implemented, the commercial value to Cefas of the present website is recognised and the current levels of functionality in any new solution are maintained by clear and unambiguous contractual arrangements.</p>	<p>Cefas will continue to strive for the best website outcome in Defra through ongoing discussions.</p> <p>Cefas will continue to use the internet to maximise engagement and communication with the public.</p>	<p>2012/13</p>
<p><b>Theme 3: Cefas science</b></p>		
<p><b>Recommendation</b></p>	<p><b>Action</b></p>	<p><b>Timeframe</b></p>
<p><b>Recommendation 4.</b> The Panel recommends that Cefas ensures that it has a fit-for-purpose Management Information System for recording and managing project and scientific output</p>	<p>(a) Cefas to ensure that the necessary science performance data are routinely</p>	<p>(a) 2013/14</p>

<p>information and that Cefas develops a strategy for collecting, recording and reporting on scientific output data at appropriate organisational level. These data should be regularly reported on as a tool for science performance management at a range of levels (individuals, Science Teams and Science Divisions, etc.).</p>	<p>collected and easily accessible, and mindful of any changes/additions to science performance indicators as agreed with Defra.</p> <p>(b) Cefas to use scientific output data to support science performance management within Teams.</p>	<p>(b) At annual and mid-year staff performance reviews.</p>
<p><b>Recommendation 5.</b> The Panel recommends that Cefas: (a) develops a five year cross-cutting Evidence Strategy (including commitments to expand staff skills in key areas and a forward-looking plan for internal investment in novel research and procurement of scientific equipment); and (b) the Cefas Science Advisory Committee should be actively engaged in the development of the Evidence Strategy.</p>	<p>Cefas to lead the development of a comprehensive five-year Evidence Strategy, incorporating the views of CSAC.</p>	<p>2013/14</p>
<p><b>Recommendation 13.</b> The Panel recommends that: (a) over time, a target of 150 ISI journal papers per annum should replace the existing criterion of 150 peer-reviewed papers in the Science Performance Ministerial Indicator; and (b) the Cefas Science Advisory Committee should advise on the rate at which this target should increase over the next review period in order to set an ambitious but achievable projection.</p>	<p>(a) Defra and Cefas to review and agree changes as appropriate to amend Science Performance Ministerial Indicator at next annual update.</p> <p>(b) Cefas and the CSAC to adopt the new publication target with mutually agreed rate of annual change.</p> <p>(c) Defra to consider whether equivalent targets and indicators relating to science performance would be appropriate for other Defra laboratory agencies, and link in with the science reviews of these bodies.</p>	<p>(a) 2013/14</p> <p>(b) 2013/14 and annually thereafter.</p> <p>(c) At next science review of other laboratory agencies</p>
<p><b>Recommendation 14.</b> The Panel noted that there were differences in ISI journal publication rates across, and within, the three Themes (Fisheries, Environment, and Health and</p>	<p>(a) CSAC to assess and comment on the variability of output across science</p>	<p>(a) 2013/14</p>

<p>Hygiene). The Panel recommends that Cefas should: (a) examine more closely the reasons for the variation of ISI publications across the Teams with R&amp;D funding, and provide this information to the Cefas Science Advisory Committee for external scrutiny; (b) adopt a minimum of 1.5 ISI journal publications per active research scientist as the internal metric and ensure that all teams across the organisation achieve this target by 2015; and (c) ensure that staff are aware of the measures of success in terms of science quality and impact and that these are assessed in annual Staff Appraisals.</p>	<p>divisions following Cefas input.</p> <p>(b) Cefas to adopt the individual output metric as an internal mechanism to drive improvements in staff productivity and performance, and to consider alternative options for identifying formal targets, eg. at team level.</p>	<p>(b) 2013/14 and at staff appraisal</p>
<p><b>Recommendation 15.</b> The Panel has found value in using the UK Higher Education Institutions “Research Excellence Framework” approach for assessing research quality and impact, leading to the conclusion that Cefas has a cohort of leading scientists with an international standing in applied marine and freshwater sciences - comparable to some top research-led universities - and recommends that Cefas develops a simple, fit-for-purpose benchmarking process to evaluate the performance of staff in relation to scientific outputs.</p>	<p>(a) Cefas to adopt the Research Excellence Framework as a tool for assessing individual science performance of Cefas scientists.</p> <p>(b) Defra to consider whether a similar approach might be appropriate for other Defra laboratory agencies, as part of the science reviews of these bodies.</p>	<p>(a) 2013/14</p> <p>(b) At next science review of other laboratory agencies.</p>
<p><b>Recommendation 16.</b> Whilst the Panel recognises that all Cefas advisory scientists are required to keep their scientific credentials up-to-date by following the literature and best-practice, the Panel recommends that Cefas should promote and maintain the ability of staff to be active research scientists as well as involved in the provision of policy advice. Cefas should raise awareness amongst its scientific staff of individuals who represent exemplars of good practice in this context.</p>	<p>Cefas to promote the science mentor role of senior advisors, and encourage them to fully engage with an active science role wherever possible.</p>	<p>2013/14 onwards, including through staff performance appraisals.</p>
<p><b>Recommendation 18.</b> The Panel recommends that: (a) it would be timely to refresh the Cefas Science Advisory Committee (CSAC), members of which, in addition to the present focus on scientists of high esteem, should also be independent of Cefas</p>	<p>Cefas to work with the CSAC chair to renew the membership and Terms of Reference of CSAC, consult widely on suitable methods of appointment to</p>	<p>2012/13</p>

<p>and Defra; (b) that recruitment to CSAC addresses the need for a better gender balance and international representation; and (c) CSAC develops a stronger role in strategic thinking, evaluation of the Seedcorn programme and assessment of Cefas's scientific performance indicators.</p>	<p>address gender issues and international representation, and increase overall engagement with Cefas Science.</p> <p>Defra to explore role of senior Defra scientist as observer to Cefas CSAC.</p>	
<p><b>Recommendation 19.</b> The Panel recommends that in the area of ecosystem modelling, Cefas: (a) develops a clearer strategy that defines its niche in this area; (b) demonstrates how the different modelling platforms used in Cefas are applied, for what purposes, and how they add to each other's strengths; and (c) both Defra and Cefas assess the potential synergies and efficiencies that could be achieved by coordinating this strategy with NERC's National Capability funding for marine ecosystem modelling, and with the NERC Earth System Modelling strategy (which includes University and NERC Centre partners, as well as the UK Met Office).</p>	<p>(a,b) Cefas to develop and implement an operational modelling strategy for use within Cefas that integrates across existing platforms.</p> <p>(c) Cefas and Defra to engage in national reviews of relevant modelling capability and application to policy questions.</p>	<p>(a,b) 2013/14</p> <p>(c) Ongoing as appropriate.</p>
<p><b>Theme 4: ICT and data</b></p>		
<p><b>Recommendation</b></p>	<p><b>Action</b></p>	<p><b>Timeframe</b></p>
<p><b>Recommendation 10.</b> We recommend that Cefas: (a) fully recognises in its Risk Register the risks around the current Information and Communication Technology (ICT) strategy in terms of supporting the future expansion of science capability; (b) assesses the potential risks of any new cross-Defra ICT strategy on its scientific computing capability and requirements and, if necessary, develops a strategy for its scientific computing capability; and (c) incorporates feedback from computer users in a major review of its present ICT capability and future needs.</p>	<p>(a) Cefas to keep under review the current ICT risk on the Cefas Management Board register.</p> <p>(b) Cefas to develop an ambitious ICT strategy that delivers the tools necessary to deliver its strategic science aspirations.</p>	<p>(a) 2012/13 onwards, including at quarterly Management Board meetings.</p> <p>(b,c) 2013/14</p>

	(c) Cefas to use internal corporate performance processes and reviews in the development of its ICT Strategy.	
<b>Recommendation 20.</b> The Panel considers Cefas data resources to be a major national asset and recommends additional funding from Defra to ensure compliance with the INSPIRE Directive.	Defra to consider whether any future specific needs identified by Cefas require additional Defra funding, (to be considered alongside other policy priorities).	2014/15
<b>Recommendation 21.</b> The Panel recommends that: (a) Cefas ensures that the implementation of a centralised approach to internal data management is completed and adopted across the organisation's data holdings so that Cefas can deliver an optimised data management and storage strategy within a two year time frame; and (b) the Panel is concerned that insufficient funding has been allocated to this task and encourages Cefas to look at the level of resources committed to data management by other equivalent organisations (for example, NERC Institutes) and re-evaluates its position.	(a) Cefas to continue with implementation of the current internal Data Management in Cefas (DMiC) project to deliver an optimised data management and storage strategy.  (b) Cefas to reconsider the level of funding allocated to DMiC in light of comparable investments by other organisations, and adapt funding as appropriate considering Cefas' priorities.	(a,b) Ongoing and completion of phase 4 during 2014/15.
<b>Recommendation 22.</b> The Panel recommends that Cefas: (a) makes a firm and public commitment to open access data and publishes a Data Policy comparable to that published by NERC, as soon as possible; (b) ensures that participation in data management and archiving networks are fully integrated; and (c) extends its recent participation in a wider network approach to data management to become a full and active member of initiatives such as the MAREMAP network.	(a) Cefas to publish its Data Policy as soon as possible.  (b) Cefas to continue to actively engage with MEDIN and UKIMON to increase the accessibility and transparency of its data holdings.	(a) 2012/13  <b>(b)</b> 2014/15
<b>Theme 5: Cefas corporate</b>		

Recommendation	Action	Timeframe
<p><b>Recommendation 3.</b> The Panel recommends an evaluation by Defra of the relevance of Cefas' Ministerial Indicators given Cefas is increasingly operating as a commercial business with a wide customer base. In particular, there should be a greater degree of challenge in the targets for the "Scientific Excellence" Ministerial Indicator. In addition, Defra should organise an independent evaluation of the annual science performance statistics provided by Cefas in support of their Ministerial Indicators.</p>	<p>Defra to review current Ministerial Performance Indicators at next annual update, explore what level of independent evaluation of Cefas performance would be appropriate and explore opportunities for benchmarking performance across Defra laboratory agencies, linking in with science reviews of relevant organisations.</p>	<p>2013/14 and at next science review of other laboratory agencies.</p>
<p><b>Recommendation 8.</b> Given that there is potential for Cefas to grow income from expanding into new markets, the Panel recommends that an additional Business Plan is developed by Cefas that considers the various constraints on expansion of a government Agency (such as limitations of the current estate, caps on headcount and/or payroll, capital investment and underpinning R&amp;D) so that these can be addressed through strategic discussions with Defra rather than the current case-by-case approach.</p>	<p>Cefas to take forward strategic discussions with Defra on its future business strategy as part of existing annual business planning rounds and discussions with the Corporate Owner.</p> <p>Defra to explore mechanisms for monitoring risks to expansion of its laboratory agencies.</p>	<p>2013/14</p>
<p><b>Recommendation 9.</b> The Panel concluded that, in line with existing plans, there is a clear need in the near future to replace the Lowestoft Laboratory and recommends that Cefas and Defra place a priority on developing a costed plan for new, fit-for-purpose facilities which could be implemented rapidly as and when resources become available.</p>	<p>Cefas to work with Defra to develop plans for new accommodation to replace the Lowestoft site.</p>	<p>2012/13</p>
<p><b>Recommendation 11.</b> The Panel recommends that Cefas should be more proactive regarding gender issues, for example, by benchmarking gender balance with other science organisations and setting goals to progress more rapidly</p>	<p>Cefas to work with Defra on gender benchmarking and policy, informed by data from comparable organisations.</p>	<p>2013/14</p>

towards equity amongst the senior grades.		
<b>Recommendation 12.</b> As staff perceptions on the pay and reward package, corporate support services and retention issues in specific areas are a major concern, the Panel recommends that Cefas, working through Defra, should ensure that the future pay and reward package brings the consolidated pay scales more in line with other Defra Agencies and external benchmarks.	Cefas to work with Defra and HM Treasury on the pay and reward package.	2013/14
<b>Recommendation 23.</b> The Panel was concerned that managing external perceptions will become more difficult as commercial income increases to the planned level of 25% of turnover by 2015. The Panel recommends that Cefas: (a) develops a communication strategy to make the commercial activities more transparent to its key stakeholders; and (b) issues arising in relation to conflicts of interest (in addition to specific complaints) are logged and reported to the Cefas Management Board on an annual basis.	Cefas to review at Cefas Management Board (CMB) meetings the approach to managing Conflicts of Interest and provide reassurance that the opportunity for adverse external perceptions are minimised. Issue to be kept under regular review by the CMB.	2012/13
<b>Recommendation 28.</b> The Panel commends Cefas on its commitment to exploiting Intellectual Property but recommends it takes a more ambitious approach to expansion of Cefas Technology Limited so that turnover is at least doubled over the next five years with more products moved out into joint ventures.	Cefas to use CMB to assess whether opportunities for IP exploitation are being fully realised. Cefas to continue to regularly review the business model for CTL and consider the development of formal targets for expansion.	2013/14