

# Annual Report and Accounts 2012–2013





# Forest Research

## Annual Report and Accounts 2012–2013

Presented to the House of Commons pursuant to Section 7  
of The Government Resources and Accounts Act 2000

Ordered by the House of Commons to be printed 13 June 2013

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ISBN: 9780102952520

Printed in the UK for The Stationery Office Limited  
on behalf of the Controller of Her Majesty's Stationery Office

FR(JD-JP)/CG-350/Jun13/0014 06/13

Printed on paper containing 75% recycled fibre content minimum.

Design and printing: Colourgraphic Arts, Bordon, Hampshire GU35 9QE.

Photographs: Forestry Commission Picture Library and individual photographers.

# Contents

Chief Executive's Introduction .....	4
About Forest Research .....	8
Our research .....	10
Accounts for the year ended 31 March 2013.....	16



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# Chief Executive's Introduction

In last year's Annual Report and Accounts, I remarked that it is often easy to take our woodlands for granted, but that it would be wrong to assume that the status quo will persist. Events this year have certainly shown just how much things can change.

The last 12 months have been one of the busiest years in Forest Research's recent history, partly because of the unwelcome arrival and spread of Chalara dieback in ash.

However, while Chalara might enjoy a high media profile, it is only one of a growing list of tree pests and diseases affecting our trees and woodlands. We are working on all of these with a range of partners. Of particular note are *Phytophthora ramorum*, Dothistroma needle blight, Asian longhorn beetle, oak processionary moth, acute oak decline, pine lappet moth and *Phytophthora austrocedrae*. Some of these are of considerable economic importance or have the capacity to cause significant damage to other iconic tree species such as juniper.

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**Our tree health diagnostic and advisory service received four years' worth of calls in just four weeks.**

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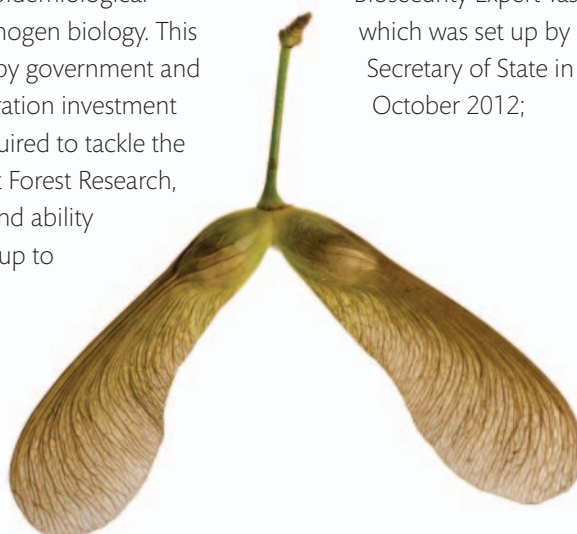
These various outbreaks have highlighted the strength of the relationship between Forest Research and the forestry sector and our capacity to work together to tackle problems. Frankly, without this very high level of cooperation across the sector – from nurseries to woodland owners,

managers, processors and environmental non-governmental organisations – the issues would be exceptionally difficult to manage. Indeed, an indication of the magnitude of current issues is that our tree health diagnostic and advisory service received four years' worth of calls in just four weeks as a direct result of the Chalara outbreak.

Aside from the support of the sector, we have also enjoyed unparalleled cooperation across the scientific community, both in the UK and worldwide, in dealing with the various underpinning science issues we need to address – from genomics and breeding for resistance, to epidemiological modelling and pathogen biology. This has been enabled by government and devolved administration investment in the research required to tackle the problems. For us at Forest Research, the commitment and ability of our staff to step up to and address these new challenges and opportunities has been most rewarding and impressive.

Aside from coping with these exceptional demands, Forest Research has also delivered on all of its original Corporate Plan targets for the year (see page 6). Of particular note, we have:

- contributed to the delivery of the Department for Environment, Food and Rural Affairs (Defra) and Forestry Commission Action Plan for Tree Health and Plant Biosecurity, and provided science input to the Ash Dieback Expert Group established by the UK Government Chief Scientific Adviser;
- contributed to the Officials Advisory Group of the Tree Health and Plant Biosecurity Expert Taskforce which was set up by Defra's Secretary of State in October 2012;





- provided research input to the Outbreak Management Teams across the UK and control strategies for established pests and pathogens (e.g. *Dothistroma* needle blight, *Phytophthora ramorum*) and for those newly arrived during 2012–13 (e.g. *Phytophthora austrocedrae*, Asian Longhorn beetle and *Chalara fraxinea*);
- contributed to the Scottish Government's Tree Health Summits and Tree Health Advisory Group.

It is also pleasing to note that, despite the challenging economic circumstances, Forest Research continues to grow its external income. We have exceeded our target this year by £1.5 million.

The 1 April 2013 sees a significant, and fundamental, change in the Forestry Commission. Our colleagues from Forestry Commission Wales will be leaving us and joining the newly formed Natural Resources Wales or the Welsh Government. Naturally, I would like to take this opportunity to wish them, and their new colleagues, every success in the future. However, I am also pleased that we will continue to work with them in their new organisations as we have already signed agreements to continue to provide forest research services to Natural Resources Wales.

It is important to recognise that there are ways to manage trees and woodlands to lessen the impact of pests and diseases, and to adapt woodlands to changing conditions. As part of its developing portfolio of research, Forest Research

has continued to undertake work on silvicultural adaptation, species choices, forest ecology and genetic diversity.

The business and reputation of Forest Research is founded upon the skills, experience and expertise of our staff, and their commitment to the science they undertake and the sector they serve. The high quality of this contribution has been particularly evident this year. I would like to thank all my colleagues who collectively create and sustain Forest Research.

**Dr James Pendlebury**  
Chief Executive



## Forest Research Corporate Plan Key Actions – Progress Report

Key Action	Commentary
1. Contribute to the delivery of the Defra and Forestry Commission Action Plan for Tree Health and Plant Biosecurity (October 2011), including an emphasis on training to improve disease detection and wider use of, and input into, our research.	<b>Achieved and ongoing:</b> Forest Research (FR) attends the Defra Tree Health Task Force meetings and is contributing to the Defra/FC Expert Panel Review of Tree Health and Plant Biosecurity. FR is also a partner in five of the seven approved Living with Environmental Change (LWEC) Phase 1 Initiatives, and is a partner in the Observatree project. FR is an active member of the EU COST action FRAXBACK. We are also: establishing field trials of provenances of ash in Eastern England in order to assess tree seedlings for resistance to Chalara (March 2013 ongoing); advising on management plans and aerial spraying for oak processionary moth; leading research on Dothistroma needle blight; and leading Defra-funded research into acute oak decline (AOD).
2. Publish a substantial peer-reviewed report on the importance of forests and their role in carbon management.	<b>Achieved:</b> <i>Understanding the carbon and greenhouse gas balance of forests in Britain</i> was published as a Forestry Commission Research Report on 18 June 2012. The full report is available as a pdf from our website.
3. Extend the Research Forest network and, learning from the experience from across Great Britain, launch two new Research Forests at the Queen Elizabeth Forest Park (the Trossachs, Scotland) and the Dyfi Valley (Gwynedd and Ceredigion, Wales).	<b>Part achieved and ongoing:</b> Forestry Commission Scotland has agreed in principle to support the creation of a research forest in Queen Elizabeth Forest Park in the Cowal and Trossachs forest district. Terms of Reference for the forest have been agreed (March 2012) and a formal launch will take place later in the year. <b>Achieved and ongoing:</b> The Dyfi Catchment and Woodland Research Platform was formally launched at the Tabernacle, Machynlleth, earlier than planned, on 29 March 2012. Further details are available at <a href="http://www.forestry.gov.uk/fr/dyficatchment">www.forestry.gov.uk/fr/dyficatchment</a>
4. Establish trials of trees managed on short rotations for bio-energy in Scotland and England.	<b>Achieved:</b> Including native, naturalised and exotic trees, 12 species with potential for rapid early growth have been planted at 12 varied sites across Scotland and England.
5. Publish protocols for the somatic embryogenesis and cryopreservation of Sitka spruce.	<b>Achieved/ongoing:</b> Full Standard Operating Procedures are available for all the key areas of somatic embryogenesis and cryo-preservation methodologies for Sitka spruce and are Quality Assurance compliant. An abstract of a presentation of this work was given at the IUFRO conference in Brno, Czech Republic, 25–28 June 2012, (available at <a href="http://www.iufro20902.org">www.iufro20902.org</a> ref S3-1P).
6. Incorporate social science research across all pertinent Forest Research programmes, and further develop its profile with the sector and government.	<b>Ongoing:</b> The FR Executive Board discussed a paper on social science and interdisciplinarity in December 2012. The paper noted that interdisciplinary behaviours and research were widespread within FR. However, they could be further encouraged and enabled by support within the FC's Science and Innovation Strategy.
7. Continue to be effective in knowledge exchange including hosting webinars, giving all Forestry Commission staff training opportunities regarding the Research Information Service and extending the circulation of <i>FR News</i> by 25%.	<b>Achieved and ongoing:</b> Webinars regarding the Research Information Service and other topics (such as Chalara, Forest Standards) proved successful. All FR seminars held at Alice Holt and the Northern Research Station can now be run as webinars, depending on the topic and audience demand. The circulation list of <i>FR News</i> has been refreshed, with new contacts being added and those who no longer wish to subscribe being removed. This has resulted in a net increase in contacts.
8. Host an international conference with the International Union of Forest Research Organisations: 'Managing forests for ecosystem services: can spruce forests show the way?'.	<b>Achieved:</b> The conference was attended by 90 delegates from 15 countries and there were 34 presentations. The meeting comprised two days of presentations, a poster session and a full-day field trip to the Cowal and Trossach Forests. Selected articles from the conference will appear in a forthcoming issue of <i>Forestry</i> .
9. Hold a minimum of six plant health information days.	<b>Exceeded:</b> FR has organised and participated in over 15 plant health events, covering a range of forestry pests and diseases across the UK, which have attracted 2,500 delegates in total. Examples of FR presentations include: <ul style="list-style-type: none"> <li>● outlining pathology, entomology and forest silviculture at Tree Health Information days in Sussex, East Anglia, Kent, London and Maidenhead</li> <li>● contributing to 'Focus on Forestry First' for the Welsh Government and EU funded contractors</li> <li>● six field-training events on Dothistroma</li> <li>● Institute of Chartered Foresters Annual Conference</li> <li>● Arboricultural Association Conference</li> <li>● Royal Welsh Show</li> <li>● launch of FC Biosecurity Guidance at the ConFor/APF Show.</li> </ul> Full information on past and current events is available at <a href="http://www.forestry.gov.uk/fr/events">www.forestry.gov.uk/fr/events</a>



10. Trial and assess additional methods of stakeholder engagement and CPD training such as interactive event casting.	<b>Achieved and to continue:</b> Use of webinars has become a standard addition to FR seminars. Interactive webcasting was offered for all potential remote attendees for the IUFRO Conference. Attendance at Forest Research events has been accepted as an eligible Continuing Professional Development activity by the Institute of Chartered Foresters. Forest Research's work into phenology and carbon capture at Alice Holt Research Forest featured in a podcast on the homepage of the <i>Journal of Functional Ecology</i> website.
11. Implement the 2012–13 changes set out in the Forest Research SR10 Implementation Plan.	<b>Achieved:</b> Allowing for the increase in external income, Forest Research has now largely delivered the saving and staff-reduction targets in the SR10 Implementation Plan.
12. Deliver the agreed annual business plan and secure a total of £2.7 million of other external income.	<b>Exceeded:</b> External research income is £4.2 million which is over £1.5 million in excess of our target for the year.
13. Strengthen relationships and partnership working with the forestry sector, environmental non-governmental organisations, Forestry Commission in Great Britain, the devolved administrations, government departments and land-based research organisations in the UK and overseas.	<b>Achieved and to continue:</b> Meetings held with The Royal Botanic Gardens, Kew, in 2012 led to the development of a Research Working Group, further to the existing Kew/FR Collections Working Group. A research contract was agreed with the Forest Service within the Department of Agriculture and Rural Development (Northern Ireland). FR also signed a Strategic Partnership Agreement with the James Hutton Institute in October 2012. At Alice Holt, FR has established a Touchdown Centre for Natural England staff and leased space to the Environment Agency for a new regional office for around 60 staff (operating from January 2013). FR has also worked in partnership with research institutions including the Centre for Ecology and Hydrology, European Forest Institute, Fera, French National Institute for Agricultural Research (INRA), John Innes Institute, Roslin Institute, Rothamsted, and universities including Aberdeen, Aberystwyth, Brunel, Cardiff, Dundee, East Anglia, Edinburgh, Edinburgh Napier, Glasgow, Heriot Watt, Imperial, Reading, Southampton, Stirling, Surrey and Swansea.
14. Continue to promote the development of staff through: the implementation of approved recommendations arising from the independent External Review Group; research opportunities identified in the Forest Research Science Focus and; ideas from Forest Research staff, arising from the 2011 Staff Survey, regarding ways to improve ways of working.	<b>Achieved and to continue:</b> Professor Peter Freer-Smith, the Departmental Chief Scientist, has met all Programme Group managers to discuss and progress upon the Review. Issues and forward ways of working regarding the 2011 Staff Survey were widely discussed and a concise plan was agreed with staff in June 2012. This has been reviewed and updated (September 2012), and is accessible to all staff. A fortnightly 'FR Bulletin', a staff idea to improve communication and awareness, was established in March 2012.
15. Identify the recommendations from the External Review Group that will improve our performance, and implement them.	<b>Achieved:</b> As part of delivering SR10 and some of the External Review group recommendations. FR has, for example, created a research services function and is actively enhancing its knowledge exchange capabilities.



# About Forest Research

Forest Research is the Forestry Commission's Research Agency and is the UK's foremost body for forest and tree related research.

## Background

The overall objective of the Forestry Commission (FC) is to lead the development and promotion of sustainable forest management and to support its achievement internationally. Forest Research (FR) is the Forestry Commission's research agency and main research provider.

## FR's Aim

To be a robust, market-relevant and flexible research organisation with a reputation for innovative applied science.

## FR's Strategic Objectives

1. To provide robust science to inform the development and delivery of UK Government and devolved administration forest policies.
2. To provide innovative applied research, development, monitoring and scientific services to UK, European and international forestry stakeholders.
3. To transfer research knowledge directly, or in partnership with others, to UK and international audiences.

## Research funding

Much of FR's work is funded by the FC with Corporate and Forestry Support acting as purchaser of research and other services in support of the forestry policies of the UK Government and the devolved administrations of Scotland, Wales and Northern Ireland. In addition, FC England, Scotland and Natural Resources Wales purchase research, development and surveys specifically related to their respective forest estates. FR has also been increasingly successful in securing funding from other government departments, the European Commission, UK research councils, commercial organisations, private individuals and charities. Collaborative bids with other research providers and consortium funding have become increasingly important, placing emphasis on effective partnership working.





## Activities

Research and development are essential components in delivery of the benefits of sustainable forestry in a multifunctional landscape. FR's research, surveys and related scientific services address the social, economic and environmental components of sustainability. There is a focus on providing knowledge and practical solutions based on high-quality science.

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Our projects provide understanding, policy advice and guidelines on the implementation of best practice (on issues such as forest hydrology,

continuous cover forestry, timber quality, land reclamation and the restoration of native woodlands). Much of the research is directed at increasing the many benefits of woodlands. The protection of woodlands from pests and diseases, and predicting the impacts of environmental change are also overarching themes.

FR works closely with the FC, the European Commission and other international bodies to ensure compliance with international agreements on the sustainable management of forests and the consideration of social and economic issues. The Agency also carries out work on genetic conservation, tree improvement, seed testing, method studies, product evaluation, crop inventory, surveys and monitoring.

## Resources

FR currently employs 171 (full-time equivalent) staff at Alice Holt Lodge in Hampshire, the Northern Research Station near Edinburgh, the Institute of Biological, Environmental and Rural Sciences (IBERS) at Aberystwyth University, and at field stations across England, Scotland and Wales. Contact information is given on the back cover.



# Our Research

Our research spans a wide range of issues, from tackling potentially devastating tree diseases to putting forests in the front line of mitigating climate change; from assessing ecosystem services to studying sustainable forest management and researching social relationships with forests. Here, we highlight some of our recent research over the past year.

## Forests for changing climates

Climate change is likely to affect the growth and survival of forest trees while increasing risks from storms, drought, pests and diseases. Forest Research is contributing to MOTIVE, a European Union project developing new ways to help foresters adapt their management to maintain a range of ecosystem services in a changing climate.



In a case study in Gwydyr and Clocaenog forests in north Wales, we used our suite of decision-support tools and models to project outcomes to the year 2080. We compared four different management strategies: business as usual, low-impact silvicultural systems, short-rotation forestry and species diversification. The projections showed that conversion from simple conifer forest to short-rotation forestry would result in a loss of carbon and outturn over time, but low-impact silviculture, where selected stands are converted to continuous-cover forestry, showed improvements in recreation landscape value and standing carbon.

Overall, we found that species diversification worked best in terms of delivering enhanced ecosystem services. For more details, see [www.forestry.gov.uk/fr/motive](http://www.forestry.gov.uk/fr/motive)

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**This research highlights the importance of selecting seed origins that are well-adapted to both present and future climates.**

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## Assisted migration for future climates

Another possible strategy for adapting our forests to the future climate is assisted migration, in which seed origins are selected to match future growing conditions. However, selecting seeds from more southerly origins may carry risks, such as increased likelihood of frost damage to seedlings, particularly in the present climate.

In a recent study, co-funded by the Forestry Commission and the European Union, we investigated the potential impact of climate change on regeneration of pedunculate oak.





We tested acorns from England and Italy, and recorded their germination and shoot emergence over a range of temperatures. Using these data, we were able to predict that the acorns from Italy may produce shoots too early in England. This means that, at present, the Italian seedlings may be at greater risk from late spring frosts.

This research highlights the importance of selecting seed origins that are well-adapted to both present and future climates.

### Options for deep peat soils

Forests on peat soils, if well-managed, are important wildlife habitats and may contribute to biodiversity and carbon sequestration, among other important ecosystem services. Many forest areas on deep peat soils (over half a metre of peat) were planted in the 1970s or 1980s and are now reaching felling age (see image above which shows recently felled deep peat area). It is

time to decide whether to replant these areas with trees, manage them as open habitat, or attempt bog restoration to enable them to become actively peat-forming habitat.

Forest Research scientists are advising on management options for afforested peat bogs. In Wales, this has led to the development of guidance and a practical field-assessment tool to help managers decide where restoration will provide multiple benefits – see [www.forestry.gov.uk/fr/afforestedpeatwales](http://www.forestry.gov.uk/fr/afforestedpeatwales). In Scotland, we are working with policy advisers and managers to formulate a 'decision tree' using information on climate, peat type and tree growth to plan the best management options.

### Direct seeding to restore native species?

Could direct seeding offer a cheap way of converting low-productivity, upland conifer plantations to native

tree species? Forest Research has been commissioned to carry out a five-year trial on the Public Forest Estate in Scotland.

Our preliminary findings have highlighted some significant factors. Good preparation of the seedbed is key, along with drainage if the site is wet. It is also important to use enough seed and a mix of species to take advantage of local variations in site conditions, increase diversity, and improve long-term resilience.

It remains too early to conclude whether direct seeding is a practical alternative to planting for low-cost restoration of woodland in upland areas, but our results to date indicate that the technique has potential.





### Citizen science to research urban trees

We have been working with the Open University and the social enterprise company Treeconomics to launch a pilot version of US software online tree mapping system 'iTree' that uses citizen science to collect individual tree information. Members of the public can enter information on tree species and stem diameter, and then the system provides quantitative estimates of improvements to air quality, carbon capture and storage afforded by trees, canopy cover, tree population make-up, diversity and condition.

We have used UK-specific valuations to provide estimates of the monetary value of selected ecosystem services. Results of pilot studies conducted in Torbay and Edinburgh are already being applied to benefit planting and management strategies for trees and woodlands. There are plans to conduct iTree surveys across many parts of the UK including Glasgow, Wrexham and London.

### Surveying Scotland's native woodlands

To protect and manage any resource, a first step is to determine 'what is there' and 'what it is'. When Forestry

Commission Scotland wanted to evaluate Scotland's native woodlands, Forest Research staff were extensively involved in the subsequent Native Woodland Survey of Scotland (NWSS), along with a number of private sector contractors. The survey took six years, and included every woodland identified from aerial photographs as a possible native woodland site.

In each woodland, data was recorded such as woodland type, as well as the presence of pests and diseases. The information has been published for local authorities and is available on the NWSS website ([www.forestry.gov.uk/nwss](http://www.forestry.gov.uk/nwss)). Specific information on each woodland is also available free of charge. The survey is the most comprehensive of its type in Scotland and, possibly, the UK. It establishes a baseline to support woodland policy development and monitoring, and provides the latest and most accurate information on areas for management and new planting.

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**The survey is the most comprehensive of its type.**

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### Biocontrol in a changing climate

Over the past three years, the EU project IMPACT, led by Forest Research with National University of Ireland, Maynooth and Swansea University, has been investigating the combined influences of climate, global trade and pest risk in order to develop sustainable solutions to combat forest pests.

**This strategy has yielded significant increases in efficiency, from around 30% weevil mortality to around 90%.**

In a joint approach, significant progress has been made in developing biological control of the pine weevil, *Hylobius abietis* (see image above), the most significant forest pest in Ireland and Wales. Insect parasitic nematodes (*Steinernema carpocapsae*) and pathogenic fungi (*Metarhizium anisopliae*) are applied together to target late-stage larvae developing in conifer stumps. The mobile nematodes locate prey, providing a rapid kill, whereas any remaining weevil larvae moving under the bark encounter applied fungal spores lodged in the weevil feeding zones. This strategy has yielded significant increases in efficiency, from around 30% weevil mortality to around 90%, especially in areas of higher weevil density. An added bonus is a reduction in dosage rates to half of current operational concentrations of nematodes. For more details see [www.impactproject.eu](http://www.impactproject.eu)

### Curbing global movement of forest pests

Forest Research is leading an EU COST Action project called PERMIT (Pathway Evaluation and pest Risk Management In Trade) to analyse the ways in which pests move through international trade. The work involves 34 countries, providing a global perspective on issues of pest transfers within trade.

The project focuses on trade in live plants for planting, which is the most significant pathway for pest movement. Live plants present a particularly high-risk profile due to the difficulty of applying active treatments to kill pests. We are analysing the movements of both insects and pathogens along this pathway and determining what options could be applied to reduce their prevalence. The best solution appears to be a multi-step process with emphasis on minimising the number of organisms at origin. Also key is increasing understanding amongst stakeholders of the live plant trade, which involves regulatory authorities, traders and end users such as the general public. These factors are being combined to develop solutions and to identify significant gaps in knowledge that require further research. For more information, visit [www.forestry.gov.uk/fr/permit](http://www.forestry.gov.uk/fr/permit)



## Woodland expansion and sustainable management

Our spatial analysts have been supporting the increased interest in location of new woodland, and appropriate choices for managing existing woodland. With the James Hutton Institute, we contributed evidence to the Scottish Government's Woodland Expansion Advisory Group (WEAG) in the form of an assessment of opportunities and constraints for woodland expansion. The results helped shape recommendations on achieving government targets for tree planting in Scotland (see [www.forestry.gov.uk/weag](http://www.forestry.gov.uk/weag)).

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### The results helped shape recommendations on achieving government targets for tree planting.

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Choice of silvicultural methods and tree species is important in sustaining the provision of ecosystem services and helping with adaptation to projected climate change. We have been assessing different methods of forest management in Craik forest, a 4700-hectare planted forest in southern Scotland. Using an integrated suite of models and decision support tools, we have explored the effect of species diversification to derive indicators of sustainability for the coming century. Future refinement will provide both operational tools and general guidance for the management of spruce-dominated forests.

## Tree health update

Our tree health experts carry out research on a range of pests and pathogens that pose threats to British woodlands. Over the last year two new outbreaks arose, as detailed in the following summaries. More details of our work to protect trees from these and other pests and pathogens can be found at [www.forestry.gov.uk/fr/protectingtrees](http://www.forestry.gov.uk/fr/protectingtrees)



### Ash dieback (Chalara)

Continuing concern about tree health, and the need to respond to new threats, has been a feature of the past year. Ash dieback (see photo above), caused by the fungus *Chalara fraxinea*, was discovered initially in a nursery but later at sites recently planted with trees, and eventually in trees in the wider environment ([www.forestry.gov.uk/chalara](http://www.forestry.gov.uk/chalara)).

Our scientists had previously reviewed the state of knowledge in Europe and prepared a pest risk assessment for this disease, which causes crown dieback and often tree death. With the discovery of Chalara in Britain, we rapidly became immersed in multiple strands of outbreak management. We were involved in confirming the first non-nursery finding; advising the Forestry Commission across the UK on symptom identification; providing science input to the Ash Dieback Expert Group

established by the UK Government's Chief Scientific Adviser; contributing to the Scottish Government's Tree Health Summits; contributing to the Officials Advisory Group of the Tree Health and Plant Biosecurity Expert Taskforce, set up by Defra's Secretary of State in October 2012; collaborating on DNA-based diagnosis and liaising with European scientists (see [www.fraxback.eu](http://www.fraxback.eu)).

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### With the discovery of Chalara in Britain, we rapidly became immersed in multiple strands of outbreak management.

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Within the first month, our Tree Health Diagnostic and Advisory Service received more than four times the average number of annual enquiries from members of the public, necessitating extra assistance and the preparation of public information material.



### Asian Longhorn Beetle

Another unwelcome arrival was the Asian Longhorn Beetle (*Anoplophora glabripennis*, see image below). This is a wood-boring insect native to parts of China and Korea but able to damage a wide range of tree species found in British parks, gardens and woodlands. It has already caused extensive damage in Italy and the USA after being accidentally introduced. Our scientists confirmed its presence in trees near Maidstone in Kent in spring 2012, probably following its arrival in wood used to package imported stone.

Working in collaboration with Forestry Commission tree health officers and The Food and Environment Research Agency (Fera), we participated in inspections, preparation of guidance, and briefings for a range of stakeholders. Throughout summer 2012 we guided the sanitation felling around the site while also developing a greater understanding of the extent of the outbreak and its history. It seems that the outbreak may now have been eradicated, although further monitoring of the site will continue.



### The human dimension

In both of these examples, movement of plants, timber or machinery may have facilitated the spread of pests and pathogens. This human dimension is the focus of work by our social scientists in conjunction with our pathologists and entomologists. We are studying the trade routes and practices that result in the arrival of new unwanted organisms. For example, in a UK-wide project funded by Defra, we are interviewing and surveying a wide range of stakeholders to improve methods of risk communication and assessment.

A similar exercise is being conducted in six countries across Europe for the PERMIT project (see page 13).

Observations from members of the public can provide early warning of pests and diseases. We are working with Fera and Brunel University to see whether the presence of Oak Processionary Moth (*Thaumetopoea processionea*), whose caterpillars shed hairs that can cause rashes and breathing problems in humans, can be detected through messages on social media and public health records. See [www.forestry.gov.uk/fr/oakprocessionarymoth](http://www.forestry.gov.uk/fr/oakprocessionarymoth) for more details.

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**Observations from members of the public can provide early warning of pests and diseases.**

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# Annual Report and Accounts for the year ended 31 March 2013

Annual Report .....	18
Remuneration Report .....	24
Statement of Accounting Officer's Responsibilities .....	28
Governance Statement .....	29
The Certificate and Report of the Comptroller and Auditor General to the House of Commons.....	33
Statement of Comprehensive Net Expenditure .....	35
Statement of Financial Position .....	36
Statement of Cash Flows .....	37
Statement of Changes in Taxpayers' Equity .....	38
Notes to the Accounts .....	39
Annex: Sustainability Report .....	62

# Annual Report for the year ended 31 March 2013

## 1. Basis of accounts

These accounts are prepared in accordance with a direction given by HM Treasury in pursuance of Section 7 of the Government Resources and Accounts Act 2000.

## Management commentary

## 2. Status

Forest Research has been an Executive Agency of the Forestry Commission since 1 April 1997. It undertakes the major part of the Commission's research and development programmes as well as providing survey, monitoring and scientific services.

Forest Research is part of the Forestry Commission, which is a cross-border Government Department responsible for forestry throughout Great Britain. The relationship between Forest Research, the Forestry Commissioners and Forestry Ministers is described in the Framework Document.

Under the Framework Document, Forest Research is funded from the sale of its services to both the Forestry Commission and external customers. Any annual surplus or deficit is counted in the Forestry Commission's net funding requirement.

## 3. Strategy

The strategic aims and objectives of Forest Research have been set to assist the Forestry Commission to achieve its objective to take the lead in development and promotion of sustainable forest management and to support its achievement nationally.

These are discussed in detail in Forest Research's Corporate Plan, which is available on the Forestry Commission website and the Forest Research website ([www.forestry.gov.uk](http://www.forestry.gov.uk) and [www.forestry.gov.uk/forestresearch](http://www.forestry.gov.uk/forestresearch), respectively).

## 4. Relationships with stakeholders

As a result of the unwelcome arrival and spread of Chalara dieback, and the growing number of other tree pests and diseases affecting our trees and woodlands, the last 12 months have been one of the busiest years in Forest Research's recent history. However, these various outbreaks have highlighted the strength of the relationship between Forest Research (FR) and the forestry sector and our capacity to work together to tackle problems. Without this very high level of cooperation across the sector – from nurseries to woodland owners, managers, processors and environmental non-governmental organisations – the issues would be exceptionally difficult to manage.

These outbreaks have also required FR to be extremely proactive both in handling an unprecedented amount of public and media interest and in disseminating the latest scientific and technical information to the sector to inform ongoing woodland or disease management decisions. To this end in particular, FR organised and participated in over 15 plant health events during the year, covering a range of forestry pests and diseases across the UK, which attracted 2500 delegates in total.

In our role as the UK's leading scientific experts on tree health, we were also actively involved in supporting or contributing to government and devolved administration activities concerning tree health. These included participating in: the Officials Advisory Group of the Tree Health and Plant Biosecurity Expert Taskforce established by Defra's Secretary of State; the Scottish Tree Health Summits hosted by the Minister for Environment and Climate Change; and the Ash Dieback Expert Group established by the UK Government Chief Scientific Adviser.



## 5. Aims and objectives

The aim of Forest Research is to support and enhance forestry and its role in sustainable development, by providing high-quality research and development in a well-run organisation, as set out in the Framework Document. The objectives of Forest Research are listed on page 8 in the main body of the Annual Report and Accounts.

## Current and future development and performance

### 6. Operating review

During the past exceptionally busy year, Forest Research has:

- successfully delivered against the Key Actions in our 2012–13 Corporate Plan;
- contributed to the delivery of the Department for Environment, Food and Rural Affairs (Defra) and Forestry Commission Action Plan for Tree Health and Plant Biosecurity, and provided science input to the Ash Dieback Expert Group established by the UK Government Chief Scientific Adviser;
- contributed to the Officials Advisory Group of the Tree Health and Plant Biosecurity Expert Taskforce which was set up by Defra's Secretary of State in October 2012;
- provided research input to the Outbreak Management Teams and control strategies for established pests and pathogens (e.g. *Dothistroma* needle blight, *Phytophthora ramorum*) and for those newly arrived during 2012–13 (e.g. *Phytophthora austrocedrae*, Asian Longhorn beetle and *Chalara fraxinea*);
- fully participated in a UK-wide response to the *Chalara* dieback of ash (and this participation is ongoing) – this included our field research staff inspecting and sampling trees across the UK;
- delivered or presented at 15 plant health events across the UK, attracting 2500 delegates in total;
- continued to grow its external income despite the challenging economic circumstances;
- hosted an international conference with the International Union of Forest Research Organisations ('Managing forests for ecosystem services: can spruce forests show the way?') – the conference was attended by 90 delegates from 15 countries;
- published a substantial peer-reviewed report on the importance of forests and their role in carbon management entitled *Understanding the carbon and greenhouse gas balance of forests in Britain*;
- established bio-energy trials involving 12 tree species at 12 sites across Scotland and England, spanning a range of site and climatic conditions;
- published protocols for the somatic embryogenesis and cryo-preservation of Sitka spruce.

### 7. Financial review

Forest Research produced a net operating surplus of £930,000, compared to a net operating surplus in 2011–12, excluding costs and provisions for early severance package, of £640,000. Including this cost resulted in an overall deficit of £948,000. The operating surplus in 2012–13 has arisen because of timing and technical accounting differences between Forest Research's operational accounts and parliamentary funding requirements. The differences relate mainly to the take-up and release of provisions.

A comparison of income and expenditure with the previous year's results shows that:

- staff costs decreased by £1,053,000 (12.1%), resulting from a 14.0% net decrease in average staff;
- other management costs decreased by £1,326,000 (33.5%), mainly as a result of 2011–12 including £1,588,000 costs and provisions for early severance packages, whereas only £62,000 was required in 2012–13; building maintenance and utilities costs increased by £83,000 and £60,000 respectively;
- materials and services costs decreased by £158,000 (6.2%), resulting from reduced use of contractors and commissioned research, partly offset by increased expenditure on materials and supplies;
- income from external customers (non-FC GB customers) exceeded our Corporate Plan target by £1,540,000, and was £68,000 more than 2011–12 income, despite having reduced staff numbers.

After adjusting the total deficit for items not involving the movement of cash and for capital expenditure, bank account movements and income, the net cash inflow for the year was £238,000, which was paid to the Forestry Commission (2011–12: £6,000).

Additions to fixed assets in the year were £362,000 (2011–12: £341,000), on essential scientific and other equipment.

## **8. Financial objective – Key Actions**

Forest Research's primary financial objective set out in the Framework Document is to recover the full economic costs of its operations from the sale of services to customers. In 2012–13 the recovery rate before allowing for significant early severance costs was 107.3% compared with 104.6% in 2011–12. After allowing for significant early severance costs, in 2011–12 the recovery rate was 93.8%. Across the two years, the overall recovery rate was 99.9% of total costs.

Performance against other operational, scientific and financial Key Actions is reported in the main body of the *Annual Report and Accounts*. Forest Research achieved £4.2m income from non-FC GB customers against the KPI target of £2.7m.

## **9. Events since the balance sheet date**

There were no significant post-balance sheet events to record (see Note 26).

## **10. The future**

Our work is founded on the principle that research and evidence are at the heart of informed policymaking and sustainable land management practices. The Government's recent Forestry and Woodlands Policy Statement (January 2013), the Welsh Government's Woodland Strategy "Woodlands for Wales" (2009) and the Scottish Forestry Strategy (2006), and subsequent implementation plans, have helped shape our priorities, which are to provide the science and evidence to:

- protect our trees and forests;
- enhance forest ecosystem resilience and service provision;
- ensure sustainable management and adaptation of our forests to climate change;
- effect knowledge exchange;
- grow our business.

Some of the activities Forest Research will be undertaking to fulfil its Corporate Plan objectives for 2013–14 are as follows.

- Actively contribute to the delivery of the Tree Health and Plant Biosecurity Action Plan and provide expertise in support of the Government's Tree Health and Plant Biosecurity Expert Taskforce and Chalara Control Plan.
- With partners, deliver elements of citizen-science-based research, such as Observatree and OPAL initiatives. These projects will be delivered, in part, by the integration of citizen science initiatives with FR's existing UK-wide advisory and extension service.
- Participate in and/or lead on research to provide evidence and management solutions for damaging or potentially high-risk disorders. This will include research on *Phytophthora* (*P. ramorum*, *P. lateralis*, *P. austrocedrae* and *P. kernoviae*),

Dothistroma Needle Blight, Chalara fraxinea, acute and chronic oak decline, Horse Chestnut Bleeding Canker; Pine-tree Lappet Moth, Oak Processionary Moth, Asian and citrus longhorn beetles, Hylobius, *Dendroctonus micans* and Pinewood Nematode.

- Evaluate the risk from other significant tree and forest pests and diseases and ensure the provision of evidence to support risk assessment, contingency planning and compliance.
- Provide advice and strategic maps to the water and forestry sectors identifying priority areas for woodland creation to help reduce downstream flood risk and diffuse water pollution.
- Undertake research to improve estimates of soil-carbon stocks within UK forests and how forestry management can best protect these.
- Launch a Research Forest at the Queen Elizabeth Forest Park in the Trossachs National Park.
- Contribute to the review of the National Forest Inventory (2014) and, specifically, considerations regarding a new metric for tree-canopy cover.
- Participate in a minimum of 20 knowledge-exchange events to the forestry and land-use sector, and make available presentations on the FR internet such that non-attendees can also access information.
- Deliver the agreed annual business plan and secure a total of £3.5 million (provisional) income from non-FC GB sources.
- Strengthen relationships and partnership working with the forestry sector across Government, devolved administrations, international forestry research organisations and our partners in European forestry projects.
- Further develop the capacity of Forest Research in Wales, working with the Welsh Government, Natural Resources in Wales and both new and existing customers and partnerships.
- Acting upon the Forest Research External Review, review the progress of research programmes and evaluate interdisciplinary working.

## 11. Supplier payment policy

Forest Research complies with the Government's Better Payment Practice Code. Unless otherwise stated in the contract, we aim to pay within 10 days from the receipt of goods and services or the presentation of a valid invoice, whichever is the later. A sample analysis for 2012–13 indicates that 98.4% were paid within the due date. Arrangements for handling complaints on payment performance are notified to suppliers on contracts.

## 12. Employment policies

Forest Research adheres to the Forestry Commission's employment policy and values and respects its staff by treating each member with respect and trust, and in doing so recognises that each person is different and can make a unique contribution to the work. The purpose of the employment policy is to demonstrate that FR is an equal-opportunity employer and the aim is to be fair to everybody. To do this the Forestry Commission and Forest Research ensure that no eligible job applicant or employee receives less favourable treatment on the grounds of their gender or gender re-assignment, ethnic origin, disability, age, nationality, national origin, sexual orientation, marital status, religion and religious or philosophical belief, and social class.

All employees, whether part-time, full-time or temporary, will be treated fairly and equally. Selection for employment, promotion or training or any other benefit will be on the basis of aptitude and ability. All employees will be helped and encouraged to develop their full potential and the talents and resources of the workforce will be fully utilised to maximise the efficiency of the organisation. No person shall be disadvantaged by conditions or requirements which cannot be shown to be justifiable.

The Forestry Commission and Forest Research also follow good employer practices aimed at ensuring that all staff work in an environment free from both illegal and unfair discrimination and harassment. Consolidated statements of the Commission's obligations with regard to equality of opportunity and diversity are shown in the Staff Handbook. Full details of these initiatives arising from our policies are also set out on the Human Resources intranet site.



The Forestry Commission and Forest Research will monitor the success of their policies by:

- collecting and analysing data as appropriate;
- regularly reviewing procedures (recruitment, performance management, promotion and pay) to ensure that they are free of unfair discrimination;
- reporting the results of equality and diversity monitoring to the Human Resources Management Sub-Committee on an annual basis;
- liaising closely with Cabinet Office and other Government Departments to ensure that we are keeping abreast of all changes in legislation and other developments.

Further information on the employment of persons with disabilities, the provision of information to, and consultation with, employees, and the promotion of equal opportunities is available on request from the Human Resources unit of the Forestry Commission.

### **13. Sickness absence**

The Forestry Commission has one common absence-management policy which covers Forest Research and provides a consistent framework approach to management. The policy is underpinned by an externally provided occupational health service and an internal employee support programme which is available 24 hours a day. The average number of working days lost to sickness absence in Forest Research in 2012–13 was 4.1 per employee (2011–12: 6.2), compared with the average of 4.9 (2011–12: 5.8) for the Forestry Commission.

### **14. Management**

The Department for Environment, Food and Rural Affairs (Defra) Ministers who had responsibility for the Forestry Commission, including Forest Research, during the year were:

Caroline Spelman MP	<i>Secretary of State (until September 2012)</i>
Owen Paterson MP	<i>Secretary of State (from September 2012)</i>
Lord Taylor of Holbeach	<i>Parliamentary Under-Secretary (until September 2012)</i>
Lord de Mauley	<i>Parliamentary Under-Secretary (until September 2012)</i>
David Heath MP	<i>Minister of State for Agriculture and Food (from September 2012)</i>

Members of the Executive Board of Forest Research during the year were:

James Pendlebury *	<i>Chief Executive</i>
Peter Freer-Smith *	<i>Chief Scientist</i>
Helen McKay	<i>Head of Centre for Forest Resources and Management</i>
Andy Moffat *	<i>Head of Centre for Forestry and Climate Change</i>
Chris Quine	<i>Head of Centre for Human and Ecological Sciences</i>
Hugh Williams	<i>Head of Operations</i>

The Chief Executive is appointed following public advertising of the post. The term of the appointment, and provision for its termination, are governed by the Civil Service Commission Recruitment Code.

Further details on remuneration are set out in the Remuneration Report (page 24).

\* These Board Members have related party interests which are disclosed in Note 24.

### **15. Pensions**

Information on pensions is contained in the Remuneration Report and accounting policy Note 1.6.

**16. Personal-data-related incidents**

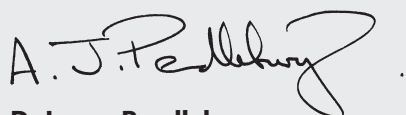
There were no protected personal-data-related incidents reported for Forest Research in 2012–13 or previous financial years. Forest Research will continue to monitor and assess its information risks in order to identify and address any weaknesses and ensure continued improvement of its systems. Further information on the handling of information risk is contained in the Governance Statement (page 29).

**17. Auditors**

These accounts are prepared in accordance with a direction given by the Treasury in pursuance of Section 7 of the Government Resources and Accounts Act 2000. They are audited by the Comptroller and Auditor General. The notional fee for statutory audit services in respect of these accounts was £31,000 (2011–12: £31,000). No further assurance or other non-audit services were provided.

**18. Disclosure of audit information to the auditors**

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



**Dr James Pendlebury**

Chief Executive and Accounting Officer

30 May 2013



## Remuneration Report

The information in this report is subject to audit.

### Remuneration policy

Remuneration of board members who hold senior staff group posts is determined by the Forestry Commission's Senior Pay Committee in accordance with guidelines prescribed by the Cabinet Office. Details of membership of the Pay Committee are provided in the Remuneration Report of Forestry Commission Great Britain/England. Other board members' remuneration is determined by the standard processes set out in the Forestry Commission's pay and grading system.

### Employment contracts

The Chief Executive is appointed following public advertising of the post. The term of the appointment, and provision for its termination, are governed by the Civil Service Commission Recruitment Code. Dr James Pendlebury was appointed as Chief Executive with effect from 16 June 2008. His notice period is one week for each year's service up to a maximum of 13 weeks; currently this is 11 weeks (due to prior employment within the Forestry Commission).

Civil Service appointments are made in accordance with the Civil Service Commission Recruitment Code, which requires appointment to be on merit on the basis of fair and open competition but also includes the circumstances when appointments may otherwise be made. All senior staff covered in this report hold appointments which are open-ended until they reach the normal retiring age. Peter Freer-Smith's notice period is 13 weeks, and for other senior staff it is three months. Early termination, other than for misconduct, would result in the individual receiving compensation as set out in the Civil Service Compensation Scheme.

The performance of senior staff is monitored and reviewed through the appropriate Performance Management System (PMS) of the Forestry Commission. No element of remuneration is specifically subject to performance conditions, although pay progression can be affected and bonuses, if awarded, are based on performance. Further information about the work of the Civil Service Commission can be found at <http://civilservicecommission.independent.gov.uk>

The figures in the tables and text below have been audited.

### Salary and pension entitlements

The salary (includes basic salary, overtime and any allowances subject to UK taxation) and pension entitlements of the members of the Forest Research Executive Board were as follows.

Name	2012-13			2011-12		
	Salary £000	Bonus £000	Benefits in kind (to the nearest £100)	Salary £000	Bonus £000	Benefits in kind (to the nearest £100)
James Pendlebury	70-75	-	1,900	70-75	-	3,200
Peter Freer-Smith	70-75	-	8,200	70-75	-	8,400
Helen McKay	65-70	-	-	65-70	-	-
Andy Moffat ~	150-155	-	-	65-70	-	-
Chris Quine	65-70	-	-	65-70	-	-
Hugh Williams	55-60	-	-	55-60	-	-

~Andy Moffat left on 30 March 2013 under Voluntary Exit terms; he received a compensation payment of £85,000 – £90,000. His basic full-time salary banding was £65,000 – £70,000.

### Benefits in kind

The monetary value of benefits in kind covers any benefits provided by the employer and treated by the HM Revenue and Customs as taxable income. They are in respect of the Car Provision for Employees Scheme.

### Highest-paid director and median salary cost disclosure

Reporting bodies are required to disclose the relationship between the remuneration of the highest-paid director in their organisation and the median remuneration of the organisation's workforce.

The banded remuneration for the highest paid director of Forest Research in the financial year 2012–13 was £150,000 – £155,000. This was 5.01 times the median remuneration of the workforce.

The banded remuneration of the true highest-paid director of Forest Research in the financial year 2012–13 was £75,000 – £80,000 (2011–12: £80,000 – £85,000). This was 2.54 times (2011–12: 2.59) the median remuneration of the workforce, which was £30,464 (2011–12: £31,807). In 2012–13, no employees (2011–12: nil) received remuneration in excess of the highest-paid director.

Total remuneration includes salary and benefits-in-kind as well as severance payments. It does not include employer pension contributions and the cash equivalent transfer value of pensions.

### Remuneration of non-executives

The non-executive members of the Audit and Risk Committee received the following remuneration for their services:

Name	2012-13 £000	2011-12 £000
Victoria M. Edwards	1	1
David A. Evans	1	1
Judith Webb	1	–

## Pension benefits 2012-13

Name	Accrued pension at age 60 at 31/3/13 and related lump sum (LS)	Real increase (decrease) in pension and related lump sum (LS)	CETV at 31 March 2013	CETV at 31 March 2012*	Real increase (decrease) in CETV
	£000	£000	£000	£000	£000
James Pendlebury	10-15 plus 30-35 LS	0-2.5 plus 0-2.5 LS	201	180	10
Peter Freer-Smith	25-30 plus 80-85 LS	0-2.5 plus 0-2.5 LS	575	539	4
Helen McKay	25-30 plus 85-90 LS	0-2.5 plus 0-2.5 LS	643	596	5
Andy Moffat	25-30 plus 85-90 LS	0-2.5 plus 2.5-5 LS	647	587	27
Chris Quine	25-30 plus 80-85 LS	0-2.5 plus 2.5-5 LS	512	466	19
Hugh Williams	15-20 plus 10-15 LS	0-2.5 plus 0-2.5 LS	209	182	10

\*The figure may be different from the closing balance in last year's accounts. This is due to the Cash Equivalent Transfer Value (CETV) factors being updated to comply with the Occupational Pension Scheme (Transfer Values) (Amendment) Regulations 2008.

## Civil Service pensions

Pension benefits are provided through the Civil Service pension arrangements. From 30 July 2007, civil servants may be in one of four defined benefit schemes: either a 'final salary' scheme (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 Pensions Increase legislation. Members joining from October 2002 may opt for the appropriate defined benefit arrangement or a 'money purchase' stakeholder arrangement with an employer contribution (partnership pension account).

Employee contributions are salary-related and range between 1.5% and 3.9% of pensionable earnings for classic and 3.5% and 5.9% for premium, classic plus and nuvos. Increases to employee contributions will apply from 1 April 2013. Benefits in classic accrue at the rate of 1/80th of final pensionable earnings for each year of service. In addition, a lump sum equivalent to three years' initial pension is payable on retirement. For premium, benefits accrue at the rate of 1/60th of final 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, a member builds up a pension based on their pensionable earnings during their period of scheme membership. At the end of the scheme year (31 March) the member's earned pension account is credited with 2.3% of their pensionable earnings in that scheme year and the accrued pension is uprated in line with Pensions Increase legislation. 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.

The partnership pension account is a stakeholder pension arrangement. The employer makes a basic contribution of between 3% and 12.5% (depending on the age of the member) into a stakeholder pension product chosen by the employee from a panel of three providers. The employee does not have to contribute, but where they do make contributions, the employer will match these up to a limit of 3% of pensionable salary (in addition to the employer's basic contribution). Employers also contribute a further 0.8% of pensionable salary to cover the cost of centrally provided risk-benefit cover (death in service and ill-health retirement).



The accrued pension quoted is the pension the member is entitled to receive when they reach pension age, or immediately on ceasing to be an active member of the scheme if they are already at or over pension age. Pension age is 60 for members of classic, premium and classic plus and 65 for members of nuvos.

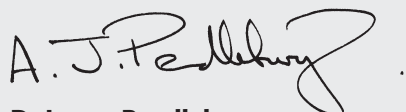
Further details about the Civil Service pension arrangements can be found at the website <http://www.civilservice.gov.uk/pensions>.

### **Cash Equivalent Transfer Values**

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 Civil Service pension arrangements. They also include any additional pension benefit accrued to the member as a result of their purchasing additional years of pension service in the scheme at their own cost. CETVs are calculated within the guidelines and framework prescribed by the Institute and Faculty of Actuaries.

### **Real increase (decrease) in CETV**

This reflects the increase (decrease) in CETV effectively funded by the employer. It takes account of the increase (decrease) 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.



**Dr James Pendlebury**

Chief Executive and Accounting Officer  
30 May 2013

## Statement of Accounting Officer's Responsibilities

Under Section 7 of the Government Resources and Accounts Act 2000, the Treasury has directed the Forestry Commission to prepare for each financial year a statement of accounts for Forest Research in the form and on the basis set out in the Accounts Direction. The accounts are prepared on an accruals basis and must give a true and fair view of the Forest Research state of affairs at the year-end and of its income and expenditure, changes in taxpayers' equity 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 judgements 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 the going-concern basis.

The Director General of the Forestry Commission, as Accounting Officer for the Forestry Commission, has designated the Chief Executive of Forest Research as the Accounting Officer for Forest Research. His responsibilities as Forest Research Accounting Officer (including responsibility for the propriety and regularity of the public finances for which an Accounting Officer is answerable, for keeping proper records, and for safeguarding Forest Research's assets), are set out in *Managing Public Money* produced by HM Treasury.

## Governance Statement

### 1. Scope of responsibility

As Agency Accounting Officer for Forest Research, I have responsibility for ensuring that its business is conducted in accordance with the law and proper standards, and that public money is safeguarded and properly accounted for, and used economically, efficiently and effectively in accordance with *Managing Public Money*.

In discharging this overall responsibility, I am responsible for putting in place appropriate arrangements for the governance of its affairs, facilitating the effective exercise of its functions, which includes ensuring a sound system of control is maintained through the year and that arrangements are in place for the management of risk.

### 2. The purpose of the governance framework

The governance framework comprises the systems and processes, and culture and values, by which Forest Research is directed, controlled and led. It enables the Agency to monitor the achievement of its strategic objectives and to consider whether those objectives have led to the delivery of appropriate, cost-effective outcomes.

The system of internal control is a significant part of that framework and is designed to manage risk to a reasonable level. It cannot eliminate all risk and 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 the Agency's 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 governance framework has been in place at Forest Research for the year ended 31 March 2013 and up to the date of approval of the Annual Report and Accounts, and complies with HM Treasury guidance.

### 3. The governance framework

Forest Research is an executive agency of the Forestry Commission. The Agency's framework document sets out my responsibilities as Agency Accounting Officer. I am a member of the Forestry Commission's Executive Board and am responsible, normally through Director England, to the Forestry Commissioners for the management of the Agency. I have a right of direct access to the Forestry Commissioners and to the relevant Minister, and a right to meet them at least once a year.

#### Forest Research Executive Board (FREB)

The FREB was established to manage the day-to-day operations and performance of the Agency, within the policy framework set by Ministers and the Forestry Commissioners. The Board (whose members are listed on page 22) meets monthly, with the exception of August. The Board discussed a wide range of forest research and related issues, including:

- future science;
- plant health;
- Research Strategy Management Board
- quality assurance;
- Independent Panel on Forestry;
- health and safety;
- staff survey;
- SR10 implementation;
- external income;
- risk register.



At each meeting, the Board also discussed the Finance and Human Resources reports and received verbal updates on Forestry-Commission-wide Governance meetings. They also reviewed Centre reports on Forest Resources and Management, Climate Change, Human and Ecological Sciences, and Operations. Papers for these meetings and further information on the FREB, including attendance, are available on request.

### **Audit and Risk Committee**

FREB established an Audit and Risk Committee (ARC) to support it in its responsibilities for the effective management of risk, control and governance. Forest Research has a risk register which is overseen by the ARC. Through its work, the ARC provides independent assurance to the FREB on those key activities which support the achievement of country objectives. Assurance is also provided through the review of the annual accounts and the findings from work carried out by Internal and External Audit. The ARC operates in accordance with the principles contained in the Treasury's Audit Committee Handbook.

During the year, the Committee (whose members are listed on page 25) met on three occasions and discussed a wide range of issues including:

- risk management;
- annual report and accounts 2011–12;
- external and internal audit strategy and reports;
- plant health;
- information security;
- governance statement.

Further information on the Audit and Risk Committee, including attendance, is available on request.

## **4. Review of effectiveness**

As Agency Accounting Officer, I have responsibility for conducting, at least annually, a review of the effectiveness of the governance framework. My review is informed by the work of Internal Audit and the executive managers across Forest Research and the Forestry Commission who have responsibility for the development and maintenance of the governance and control framework, and by comments made by the external auditors in their management letter and other reports.

I receive Annual Assurance Statements from each of the Heads of Shared Services for the Forestry Commission, based centrally in Edinburgh, providing me with assurance on the standard of governance and control within their area of responsibility.

The Head of Internal Audit has prepared an annual report and assurance statement to me as Agency Accounting Officer. The report includes an overall assessment of the adequacy and effectiveness of risk management, control and governance within Forest Research. The overall opinion is that internal control within Forest Research continues to provide substantial assurance that material risks to the achievement of objectives are adequately managed.

Work to date has not identified any significant new control weaknesses and has supported findings from financial control visits and the work of internal and external auditors.

Forest Research applies the principles of the Treasury's Code of Good Practice for Corporate Governance in the context of its own circumstances, where relevant and practical.

## **5. Risk management**

The Forest Research Executive Board recognises that risk must be managed, but management of risk is not the same as risk aversion, i.e. an unwillingness to accept any risk. Resources available for managing risk are finite so the aim is to achieve

an optimum response to the risk. Forest Research evaluates the amount of risk that it is prepared to accept before taking action (risk appetite), using a risk-scoring matrix of likelihood and impact for inherent and residual risk. This is subject to on-going management review.

The Executive Board ensures that the risk management policy is implemented and that they strategically review key risks. Each risk identified in the risk register has a corresponding Senior Risk Owner who is a Board-level officer with the authority to take effective action.

Forest Research has an Audit and Risk Committee (ARC) to support the Accounting Officer and the Agency Executive Board in their responsibilities for the effective management of risk, control and governance (see Section 3 above).

## 6. Ministerial Direction

No ministerial directions were given during the year.

## 7. Significant risk and governance issues

### Organisational change

During 2012–13, Forest Research continued to deliver to the SR10 objectives, effectively managing the demanding change process, notably the development and consultation on new organisational structures, and ensuring business continuity through a period of significant downsizing.

### Information Communication Technology (ICT) infrastructure

The Forestry Commission's ICT Infrastructure modernisation programme continues with further migration of key business applications to the new platform taking place over the next 18 months. This programme is gradually making positive inroads into the business risk posed by ICT infrastructure failure. A new disaster-recovery site has been established at Northern Research Station and will have the operational capacity to restore major corporate systems within five working days. Completion of the facility significantly reduces the previous continuity requirement for manual processes.

Forest Research is dependent on the Forestry Commission's ICT infrastructure. However, whilst some risk to the business operations of the Agency still remains as work continues, the overall risk position has substantially improved over the past three years.

### Business continuity management

Forest Research has business continuity plans that have been tested and were found to be effective during bad weather; however, they are more 'disaster recovery' than 'business continuity' plans. Work to develop business continuity plans during 2012–13 has been deferred until 2013–14. The intention is to learn from the experience of Shared Services to use a continuity management system that will make it simpler to update and control plans.

Forest Research is reliant on Shared Services, based in Silvan House in Edinburgh, for many of its Human Resources, Information Services and Finance requirements. Significant progress has been made in developing business continuity management within Shared Services. A pilot is underway to assess a continuity management system that will make it simpler to update and control plans. The system is web-based and shall give access to the Silvan House plans from any location. All current plans will be revised and transferred to the new system by July 2013.

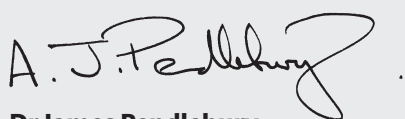
### Information risk management

Forest Research shares a common approach to information risk management with the Forestry Commission. The Forestry Commission continues to take a proportionate approach to information risk. Forest Research does not have as much sensitive information as most other departments and our information holdings are relatively small. We therefore manage risk as appropriate for the business.

Within that context, Forest Research fully considers, manages and cares for its information. Forest Research's Head of Research Services is the Senior Information Risk Officer (SIRO) for Forest Research and participates in the meetings of Forestry Commission's Information Security Management Forum (ISMF), chaired by the Forestry Commission's Director of Finance Great Britain. The ISMF coordinates and controls the implementation of information security for the Forestry Commission. The ISMF is supported through the Forestry Commission's Departmental Security Officer, who reports back to the ISMF, and the IT Security Officer. The Departmental Security Officer provides regular reports and updates to the ISMF on security matters. Forest Research's SIRO sits on and provides information to the Forest Research Executive Board and provides updates to Forest Research Audit and Risk Committee. The Forest Research SIRO has also attended an information assurance training course (May 2012), run by the National Archives, to increase awareness of the context and nature of information security risk faced by other parts of Government.

Forest Research staff members have undertaken training regarding protecting information. This training will be refreshed in 2013 as appropriate for business needs and through new training courses, and Forest Research will work with the ISMF to undertake this work. Forest Research laptops are fully encrypted and staff use pre-encrypted memory sticks for the storage or transfer of personal or sensitive information or when presenting information externally. There has not been any loss of reportable data during 2012–13. Forest Research continues to enforce the Cabinet Office's Baseline Personnel Security Standard and the Forestry Commission requirements. These are mandatory and apply to anyone requiring access to Forest Research computer systems. This involves undertaking a Basic Disclosure, signing the Official Secrets Act, completing a Notification of Non Staff Members form, and producing supporting passport documentation. Staff leaving Forest Research also have to complete, with their line manager, a formal leaving process which includes the return of necessary paperwork, Government Procurement Card, mobile phones, etc. All staff are also required to wear formal identification cards whether they are at Forestry Commission sites or on business. Forest Research will continue to manage its information carefully and securely and continue to promote and encourage the high level of awareness and engagement of Forest Research staff with these activities.

We propose over the coming year to take steps to address the above matters to further enhance our governance arrangements. We are satisfied that these steps will address the need for improvements that were identified in our review of effectiveness and we will monitor their implementation and operation as part of our next annual review.



**Dr James Pendlebury**

Chief Executive and Agency Accounting Officer

30 May 2013



## The Certificate and Report of the Comptroller and Auditor General to the House of Commons

I certify that I have audited the financial statements of Forest Research for the year ended 31 March 2013 under the Government Resources and Accounts Act 2000. The financial statements comprise: the Statements of Comprehensive Net Expenditure, Financial Position, Cash Flows, Changes in Taxpayers' Equity; 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 Board, Accounting Officer and auditor

As explained more fully in the Statement of Accounting Officer's Responsibilities, the Board and the Accounting Officer are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. My responsibility is to audit, certify and report on the financial statements in accordance with the Government Resources and Accounts Act 2000. I conducted my audit in accordance with International Standards on Auditing (UK and Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

### Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to Forest Research's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by Forest Research; and the overall presentation of the financial statements. In addition, I read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements. If I become aware of any apparent material misstatements or inconsistencies, I consider the implications for my certificate.

I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

### Opinion on regularity

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

### Opinion on financial statements

In my opinion:

- the financial statements give a true and fair view of the state of Forest Research's affairs as at 31 March 2013 and of the net operating income for the year then ended; and
- the financial statements have been properly prepared in accordance with the Government Resources and Accounts Act 2000 and HM Treasury directions issued thereunder.

### Opinion on other matters

In my opinion:

- the part of the Remuneration Report to be audited has been properly prepared in accordance with HM Treasury directions made under the Government Resources and Accounts Act 2000; and
- the information given in the Annual Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

**Matters on which I report by exception**

I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- adequate accounting records have not been kept or returns adequate for my audit have not been received from branches not visited by my staff; or
- the financial statements and the part of the Remuneration Report to be audited are not in agreement with the accounting records and returns; or
- I have not received all of the information and explanations I require for my audit; or
- the Governance Statement does not reflect compliance with HM Treasury's guidance.

**Report**

I have no observations to make on these financial statements.

**Amyas C E Morse**

**Comptroller and Auditor General**

4 June 2013

National Audit Office  
157–197 Buckingham Palace Road  
Victoria  
London  
SW1W 9SP

**Statement of Comprehensive Net Expenditure for the year ended 31 March 2013**

		2012-13	2011-12
	Notes	£000	£000
<b>Income</b>			
Income from research, development and survey services			
Forestry Commission customers	3	<b>11,304</b>	12,227
Non-Forestry Commission customers			
European Union		<b>486</b>	628
Other	3b/4	<b>1,838</b>	1,432
<b>Total income</b>		<b>13,628</b>	14,287
<b>Expenditure</b>			
Staff costs	5	<b>7,677</b>	8,730
Other management costs	6	<b>2,631</b>	3,957
Materials and services	7	<b>2,390</b>	2,548
<b>Total expenditure</b>		<b>12,698</b>	15,235
<b>Net operating (income)/expenditure *</b>		<b>(930)</b>	948
<b>Other comprehensive net expenditure</b>			
Net gain on revaluation of property, plant and equipment	17	<b>655</b>	289
Net gain on revaluation of intangible assets	17	<b>6</b>	-
		<b>661</b>	289
<b>Total comprehensive (income)/expenditure for the year</b>		<b>(1,591)</b>	659

All income and expenditure are derived from continuing operations.

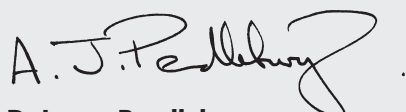
\* Early severance costs of £62,000 are included in 2012-13 and £1,588,000 included in 2011-12.

The notes on pages 39 to 61 form part of these accounts.



## Statement of Financial Position as at 31 March 2013

		31 March 2013	31 March 2012
	Notes	£000	£000
<b>Non-current assets</b>			
Property, plant and equipment	8	10,809	10,549
Intangible assets	9	41	39
Financial assets	10	25	25
Trade and other receivables	11	-	10
		<b>10,875</b>	10,623
<b>Current assets</b>			
Inventories	12	2	3
Trade and other receivables	11	1,222	1,446
Cash and cash equivalents	13	259	4
		<b>1,483</b>	1,453
<b>Total assets</b>		<b>12,358</b>	12,076
<b>Current liabilities</b>			
Provisions	15	(291)	(949)
Trade and other payables	14	(2,118)	(2,364)
		<b>(2,409)</b>	(3,313)
<b>Non-current assets plus net current assets</b>		<b>9,949</b>	8,763
<b>Non-current liabilities</b>			
Provisions	15	(212)	(321)
		<b>9,737</b>	8,442
<b>Taxpayers' equity</b>			
General Fund	16	3,149	2,395
Revaluation Reserve	17	6,588	6,047
		<b>9,737</b>	8,442



**Dr James Pendlebury**

Chief Executive and Agency Accounting Officer  
30 May 2013

*The notes on pages 39 to 61 form part of these accounts.*

**Statement of Cash Flows for the year ended 31 March 2013**

		2012-13	2011-12
	Notes	£000	£000
<b>Net cash inflow/(outflow) from operating activities</b>			
Net (deficit)/surplus for the year		<b>930</b>	(948)
Adjustments for non-cash transactions			
Depreciation	6	<b>580</b>	618
Amortisation	6	<b>15</b>	27
Timing between accrual and cash VAT		<b>(1)</b>	(2)
Non-cash inter-country transfers		<b>(88)</b>	4
Impairment of property, plant and equipment	6	<b>50</b>	-
Loss on disposal of property, plant and equipment	6	<b>115</b>	7
Notional audit fee		<b>31</b>	31
Movements in provisions	15	<b>(52)</b>	673
Decrease/(increase) in inventories	12	<b>1</b>	-
Decrease/(increase) in trade and other receivables	11	<b>234</b>	(288)
(Decrease)/increase in trade and other payables	14	<b>(246)</b>	867
Movements in payables relating to items not passing through the SoCNE	8	<b>(149)</b>	-
Use of provisions	15	<b>(716)</b>	(641)
<b>Net cash inflow from operating activities</b>		<b>704</b>	348
<b>Cash flows from investing activities</b>			
Purchase of property, plant and equipment	8	<b>(199)</b>	(341)
Purchase of intangible assets	8	<b>(12)</b>	-
<b>Net cash outflow from investing activities</b>		<b>(211)</b>	(341)
<b>Cash flows from financing activities</b>			
Net cash transfer (to)/from Forestry Commission		<b>(238)</b>	(6)
<b>Net financing</b>		<b>(238)</b>	(6)
<b>Net increase/(decrease) in cash and cash equivalents in the period</b>		<b>255</b>	1
<b>Cash and cash equivalents at the beginning of the period</b>		<b>4</b>	3
<b>Cash and cash equivalents at the end of the period</b>		<b>259</b>	4

The notes on pages 39 to 61 form part of these accounts.

## Statement of Changes in Taxpayers' Equity for the year ended 31 March 2013

		General Fund	Revaluation Reserve	Total Reserves
	Notes	£000	£000	£000
<b>Balance at 1 April 2011</b>		<b>3,318</b>	<b>5,755</b>	<b>9,073</b>
<b>Changes in taxpayers' equity for 2011-12</b>				
Net gain/(loss) on revaluation of property, plant and equipment	17	-	289	289
Non-cash charges: timing between accrual and cash VAT	16	(1)	-	(1)
Non-cash charges: inter-country transfers	16	4	-	4
Realised element of the Revaluation Reserve		(3)	3	-
Notional audit fee		31	-	31
Net deficit for the year	16	(948)	-	(948)
<b>Total recognised income and expense for 2011-12</b>		<b>(917)</b>	<b>292</b>	<b>(625)</b>
Cash surplus transferred to Forestry Commission	16	(6)	-	(6)
<b>Balance at 31 March 2012</b>		<b>2,395</b>	<b>6,047</b>	<b>8,442</b>
<b>Balance at 1 April 2012</b>		<b>2,395</b>	<b>6,047</b>	<b>8,442</b>
<b>Changes in taxpayers' equity for 2012-13</b>				
Net gain/(loss) on revaluation of property, plant and equipment	17	-	655	655
Net gain/(loss) on revaluation of intangible assets	17	-	6	6
Non-cash charges: timing between accrual and cash VAT	16	(1)	-	(1)
Non-cash charges: inter-country transfers	16	(88)	-	(88)
Realised element of the Revaluation Reserve	16	120	(120)	-
Notional audit fee	16	31	-	31
Net surplus for the year	16	930	-	930
<b>Total recognised income and expense for 2012-13</b>		<b>992</b>	<b>541</b>	<b>1,533</b>
Cash surplus transferred to Forestry Commission	16	(238)	-	(238)
<b>Balance at 31 March 2013</b>		<b>3,149</b>	<b>6,588</b>	<b>9,737</b>

The notes on pages 39 to 61 form part of these accounts.

## Notes to the Accounts

### Note 1. Statement of Accounting Policies

These financial statements have been prepared in accordance with the 2012–13 *Government Financial Reporting Manual* (FReM) issued by HM Treasury. The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public-sector context. Where the FReM permits a choice of accounting policy, the accounting policy judged to be most appropriate to the particular circumstances of Forest Research for the purpose of giving a true and fair view has been selected. The particular policies selected by Forest Research are described below. They have been applied consistently in dealing with items considered material in relation to the accounts.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in note 2.

#### 1.1 Accounting convention

These accounts have been prepared under the historical cost convention modified to account for the revaluation of property, plant and equipment, inventories and available-for-sale financial assets, and derivative financial assets and derivative financial liabilities at fair value through profit or loss.

#### 1.2 Value Added Tax (VAT)

Forest Research is covered under the Forestry Commission's registration for VAT. In order to comply with the government accounting regulations and normal commercial practice, income and expenditure shown in the Statement of Comprehensive Net Expenditure is net of VAT. The Forestry Commission accounts for VAT on a Great Britain basis with any VAT due to or from HM Revenue and Customs at the year-end included in the Forestry Commission Great Britain/England accounts as a debtor or creditor in the Statement of Financial Position. Irrecoverable VAT is charged to the Statement of Comprehensive Net Expenditure in the year in which it is incurred.

#### 1.3 Segmental reporting

Forest Research's aim is to support and enhance the role of trees, woodlands and forests in sustainable development, by providing high-quality research, development and knowledge transfer. Management has determined that Forest Research operates as one operating segment, with results reviewed by the Chief Executive, as the chief operating decision-maker for Forest Research as a whole.

#### 1.4 Revenue recognition

Income comprises the fair value of the consideration received or receivable from forestry and related activities. Revenue is shown net of value-added tax, returns, rebates and discounts.

Forest Research recognises revenue when the amount of revenue can be reliably measured and it is probable that future economic benefits will flow to it.

#### 1.5 Foreign currency translation

##### (a) Functional and presentation currency

Items included in the financial statements are measured using the currency of the primary economic environment in which Forest Research operates ('the functional currency'). The functional currency and the presentational currency of the financial statements is pounds sterling.

##### (b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the



settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Net Expenditure.

## **1.6 Employee benefits**

### **Pensions**

Past and present employees are covered by the provisions of the Principal Civil Service Pension Scheme (PCSPS). The defined benefit schemes are unfunded and are non-contributory except in respect of dependant's benefits. Forest Research accounts for the PCSPS scheme as a defined contribution plan and recognises the expected cost of these elements on a systematic and rational basis over the period during which it benefits from an employee's services by payment to the PCSPS of amounts calculated on an accruing basis. Liability for payment of future benefits is a charge on the PCSPS. In respect of the defined contribution schemes, Forest Research recognises the contributions payable for the year. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

### **Short-term employee benefits**

Liabilities and expenses are recognised for holiday entitlements earned to 31 March but not yet taken.

## **1.7 Property, plant and equipment**

Where Forest Research is the principal beneficial user of assets of the Forestry Commission estate, they are treated as a non-current asset of Forest Research although legal ownership is vested in the Forestry Ministers. Staff payroll costs and expenditure on materials and consumables related to systems development software, for general use within Forest Research, are recognised as tangible non-current assets. There was no relevant in-house development activity in the year 2012–13.

The normal threshold for the capitalisation of assets is £2,000.

### **Non-forest land**

Non-forest land is shown at fair value. Professionally qualified staff employed by the Forestry Commission undertake a full revaluation of non-forest land at five yearly intervals (31 March). They follow the principles set out in the RICS Red Book and value on the basis of Open Market Value, Existing Use Value, Depreciated Replacement Cost or Discounted Cash Flow, as appropriate under the RICS Standards for determining fair value. The work of internal staff is reviewed by Smiths Gore, Chartered Surveyors.

Unequipped agricultural land indices provided by the District Valuer are used to restate values between full valuations. A full valuation took place on 31 March 2013.

Revaluation gains and losses are recognised in the Statement of Comprehensive Net Expenditure in the year of revaluation.

### **Dwellings and other buildings**

Dwellings and other buildings are shown at fair value less accumulated depreciation.

Professionally qualified staff employed by the Forestry Commission undertake a full revaluation of dwellings and other buildings at five-yearly intervals coinciding with that for the non-forest land (31 March). They follow the principles set out in the RICS Red Book and value on the basis of Open Market Value, Existing Use Value, Depreciated Replacement Cost or Discounted Cash Flow, as appropriate under the RICS Standards for determining fair value. Suitably qualified external valuers review the work of internal professional valuers. A full valuation took place on 31 March 2013 and Smith Gore, Chartered Surveyors, reviewed this.

In the intervening years between professional valuations, indices provided by the District Valuer are used to restate values. Indexation was applied as at 31 March 2012.

**Subsequent expenditure**

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Forest Research and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to the Statement of Comprehensive Net Expenditure during the financial period in which they are incurred.

**Plant and machinery**

Forestry vehicles, machinery and equipment are shown at fair value less accumulated depreciation. Plant and machinery values are restated to current value each year using indices provided by the Office for National Statistics.

**Information technology hardware**

Information technology (IT) hardware is shown at fair value less accumulated depreciation. IT values are restated to current value each year using indices provided by the Office for National Statistics.

**Revaluation reserve**

Increases in the carrying amount arising on revaluation of property, plant, equipment and intangible assets are credited to the revaluation reserve in taxpayers' equity. Decreases that offset previous increases of the same asset are charged against the revaluation reserve directly in equity; all other decreases are charged to the Statement of Comprehensive Net Expenditure. Each year the difference between depreciation based on the revalued carrying amount of the asset charged to the Statement of Comprehensive Net Expenditure and depreciation based on the asset's original cost is transferred from the revaluation reserve to the general fund.

**1.8 Depreciation**

Depreciation is provided on all tangible non-current assets (except land) at rates calculated to write off the valuation, less estimated residual values, of each asset evenly over its expected useful life. Asset lives are as follows:

- freehold buildings - over 1 to 80 years
- scientific equipment - over 5 to 20 years
- information technology – hardware - over 5 years
- other machinery and equipment - over 5 to 20 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each reporting date.

An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within the Statement of Comprehensive Net Expenditure.

When revalued assets are sold, the amounts included in the revaluation reserve are transferred to the general fund.

**1.9 Intangible assets**

Intangible assets are valued initially at cost and subsequently at fair value using the revaluation model.

Where an active market does not exist, income-generating assets are valued at the lower of depreciated replacement cost and value in use. Non-income-generating assets are carried at depreciated replacement cost. These valuation methods are considered to be a proxy for fair value.

## **Computer software**

Acquired computer software licences are initially capitalised on the basis of the costs incurred to acquire and bring to use the specific software and subsequently revalued to depreciated replacement cost. Acquired computer software licences are amortised over their estimated useful lives of 5 to 15 years.

Costs associated with maintaining computer software programmes are recognised as an expense as incurred.

Development costs that are directly attributable to the design and testing of identifiable and unique software products controlled by Forest Research are recognised as intangible assets when the following criteria are met:

- it is technically feasible to complete the software product so that it will be available for use;
- management intends to complete the software product and use or sell it;
- there is an ability to use or sell the software product;
- it can be demonstrated how the software product will generate probable future economic benefits;
- adequate technical, financial and other resources to complete the development and to use or sell the software product are available;
- the expenditure attributable to the software product during its development can be reliably measured.

Directly attributable costs that are capitalised as part of the software product include the software-development employee costs and an appropriate portion of relevant overheads.

Other development expenditures that do not meet these criteria are recognised as an expense as incurred. Development costs previously recognised as an expense are not recognised as an asset in a subsequent period.

Computer software development costs recognised as assets are subsequently revalued to depreciated replacement cost and amortised over their estimated useful lives of 5 to 7 years.

### **1.10 Impairment of non-financial assets**

Assets subject to depreciation and amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Where an asset is not held for the purpose of generating cash flows, value in use is assumed to equal the cost of replacing the service potential provided by the asset, unless there has been a reduction in service potential. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets that suffer impairment are reviewed for possible reversal of the impairment at each reporting date.

### **1.11 Subsidiaries, associates and joint ventures**

Investments held in subsidiaries, associates or joint ventures that are outside the departmental boundary and where Forest Research does not exercise in-year budgetary control are accounted for in accordance with paragraph 4.2.4 of the FReM. Such investments are reported at historical cost less any impairment in line with paragraph 9.2.7 of the FReM. The investment in C-Cure Solutions Ltd is accounted for as a financial instrument, available-for-sale in line with FReM interpretation of IFRS.

### **1.12 Financial assets**

#### **Classification**

Forest Research classifies its financial assets in the following categories: at fair value through profit or loss and loans and receivables. The classification depends on the purpose for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

(a) Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss comprise derivatives. Assets in this category are classified as current assets. Forest Research does not trade in derivatives and does not apply hedge accounting.

(b) Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are included in current assets, except for maturities greater than 12 months after the reporting date. These are classified as non-current assets. Loans and receivables comprise trade and other receivables and cash and cash equivalents in the Statement of Financial Position.

### Recognition and measurement

Financial assets are recognised when Forest Research becomes party to the contractual provisions of the financial instrument.

Financial assets are derecognised when the rights to receive cash flows from the asset have expired or have been transferred and Forest Research has transferred substantially all risks and rewards of ownership.

(a) Financial assets at fair value through profit or loss

Financial assets carried at fair value through profit or loss are initially recognised at fair value, and transaction costs are expensed in the income statement.

Financial assets carried at fair value through profit or loss are subsequently measured at fair value. Gains or losses arising from changes in the fair value are presented in the Statement of Comprehensive Net Expenditure.

(b) Loans and receivables

Loans and receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment. A provision for impairment of loans and receivables is established when there is objective evidence that Forest Research will not be able to collect all amounts due according to the original terms of the receivables. Significant financial difficulties of the debtor, probability that the debtor will enter bankruptcy or financial reorganisation, and default or delinquency in payments are considered indicators that the loan and receivable is impaired. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the original effective interest rate. The carrying amount of the asset is reduced through the use of an allowance account, and the amount of the loss is recognised in the Statement of Comprehensive Net Expenditure. When a loan or receivable is uncollectable, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited in the Statement of Comprehensive Net Expenditure.

(c) Available-for-sale financial assets

Available-for-sale financial assets are initially recognised and subsequently carried at fair value. Changes in the fair value of financial assets classified as available for sale are recognised in equity. When financial assets classified as available for sale are sold or impaired, the accumulated fair value adjustments recognised in equity are included in the Statement of Comprehensive Net Expenditure. Dividends on available-for-sale equity instruments are recognised in the Statement of Comprehensive Net Expenditure when Forest Research's right to receive payments is established.

## 1.13 Financial liabilities

### Classification

Forest Research classifies its financial liabilities in the following categories: at fair value through profit or loss, and other financial liabilities. The classification depends on the purpose for which the financial liabilities were issued. Management determines the classification of its financial liabilities at initial recognition.



(a) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss comprise derivatives. Liabilities in this category are classified as current liabilities. Forest Research does not trade in derivatives and does not apply hedge accounting.

(b) Other financial liabilities

Other financial liabilities are included in current liabilities, except for maturities greater than 12 months after the reporting date. These are classified as non-current liabilities. Forest Research's other financial liabilities comprise trade and other payables in the Statement of Financial Position.

### **Recognition and measurement**

Financial liabilities are recognised when Forest Research becomes party to the contractual provisions of the financial instrument.

A financial liability is removed from the Statement of Financial Position when it is extinguished, that is when the obligation is discharged, cancelled or expired.

(a) Financial liabilities at fair value through profit or loss

Financial liabilities carried at fair value through profit or loss are initially recognised at fair value, and transaction costs are expensed in the income statement.

Financial liabilities carried at fair value through profit or loss are subsequently measured at fair value. Gains or losses arising from changes in the fair value are presented in the Statement of Comprehensive Net Expenditure.

(b) Other financial liabilities

Other financial liabilities are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

### **1.14 Inventories**

Consumable materials and supplies are stated at the lower of current cost and net realisable value. Net realisable value is based on estimated selling prices, less further costs expected to be incurred to completion and disposal.

### **1.15 Cash and cash equivalents**

Cash and cash equivalents includes cash in hand, deposits held at call with banks, cash balances held by the Government Banking Service and other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the Statement of Financial Position.

### **1.16 Provisions**

Forest Research provides for present legal and constructive obligations which are of uncertain timing or amount at the reporting date on the basis of the best estimate of the expenditure required to settle the obligation. Where the effect of the time value of money is significant, the estimated risk-adjusted cash flows are discounted using the real rate set by HM Treasury. The increase in the provision due to passage of time is recognised in the Statement of Comprehensive Net Expenditure.

### **1.17 Contingent liabilities**

Where the time value of money is material, contingent liabilities which are required to be disclosed under IAS 37 are stated at discounted amounts.

**Note 2. Critical Accounting Estimates and Judgements**

The preparation of financial statements requires Forest Research to make estimates, assumptions and judgements. These are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Estimates, assumptions and judgements that are deemed to have a significant risk of causing a material adjustment to the carrying amounts of Forest Research's assets and liabilities are as follows:

**Intangible assets**

*Per IAS 38 Intangible Assets:* an intangible asset arising from development shall be recognised if all of the following can be demonstrated by the entity.

- The technical feasibility of completing the intangible asset so that it will be available for use or sale.
- Its intention to complete the intangible asset and use or sell it.
- Its ability to use or sell the intangible asset.
- How the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset itself, or, if it is to be used internally, the usefulness of the intangible asset.
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.
- Its ability to measure the expenditure attributable to the intangible asset during its development.

To date it has been deemed that the development activities undertaken by Forest Research have not met these conditions and therefore no intangible assets relating to development have been recognised. This will continue to be reviewed on an on-going basis.

**Note 3. Income****3a. Income from the Forestry Commission**

Forest Research undertakes the major proportion of the Forestry Commission's overall annual research programme in the form of specifically commissioned projects to deliver agreed outputs. A separate annual charge is agreed for each project based on full cost recovery. These charges amounted to £8.3 million. In addition to the annual research programme, Forest Research provides other research and survey services for the Forestry Commission (GB, England, Scotland and Wales) the majority of which is on a full cost-recovery basis.

Income from Forestry Commission customers consisted of:

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
Research, development and other services to:		
Corporate Forestry Support	<b>8,576</b>	9,262
Inventory, Forecasting and Operational Support	<b>812</b>	852
England	<b>874</b>	804
Scotland	<b>793</b>	949
Wales	<b>249</b>	360
	<b>11,304</b>	12,227

### 3b. Other income

The increase in other income is largely as a result of the Agency being successful in winning more external contracts, one of the aims to compensate for reduced income from the Forestry Commission.

## Note 4. Foreign Exchange Gains and Losses

Other expenditure includes losses of £30,000 (2011-12: £nil) on foreign exchange transactions. Other income includes gains of £21,000 (2011-12: £12,000 losses) on foreign exchange transactions.

## Note 5. Staff Costs and Numbers

### 5a Employee costs during the year amounted to:

	<b>Permanent staff £000</b>	<b>Other staff £000</b>	<b>2012-13 Total £000</b>	2011-12 £000
Wages and salaries	<b>5,775</b>	<b>283</b>	<b>6,058</b>	6,922
Social security costs	<b>476</b>	<b>22</b>	<b>498</b>	545
Employer's superannuation costs	<b>1,085</b>	<b>31</b>	<b>1,116</b>	1,263
Agency staff costs	<b>-</b>	<b>5</b>	<b>5</b>	-
	<b>7,336</b>	<b>341</b>	<b>7,677</b>	8,730

Average number of employees (full-time equivalents)	<b>2012-13</b>	2011-12
Permanent staff	<b>166</b>	193
Others	<b>12</b>	14
Total staff	<b>178</b>	207

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

For 2012-13, employer's contributions of £1,109,924 were payable to the PCSPS (2011-12: £1,313,265) at one of four rates in the range 16.7% to 24.3% of pensionable pay, based on salary bands. The scheme actuary reviews employer contributions every four years following a full scheme valuation. The contribution rates reflect benefits accruing during 2012-13 to be paid to the member when they retire and not the benefits paid during this period to existing pensioners.

Employees can opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employers' contributions of £5,108 (2011-12: £7,050) were paid to one or more of a 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. In addition, employer contributions of £355 (2011-12: £483), 0.8% of pensionable pay, were payable to the PCSPS to cover the cost of the future provision of lump sum benefits on death in service or ill-health retirement of these employees. Contributions due to the partnership pension providers at the Statement of Financial Position (SFP) date were £nil. Contributions prepaid at that date were £nil.

All salary-related costs for senior staff are disclosed in the Remuneration Report on page 24.

**5b Benefits in kind are provided under the following schemes:**

- (i) advances of salary for house purchase
- (ii) advances of salary for purchase of season tickets and bicycles
- (iii) car provision for employees scheme.

Each scheme is subject to conditions and financial limits.

There were no Advances of Salary for House Purchase scheme loans outstanding as at 31 March 2013, however there was one for £10,000 outstanding as at 31 March 2012. Such loans are unsecured, interest free and typically repayable over 10 years, with an optional two-year deferral period.

**5c Early departure costs**

During 2012-13, 13 non-senior staff left under Voluntary Exit and Voluntary Redundancy terms (2011-12: 33). They received a compensation payment of £424,021.

Exit package cost band	Number of compulsory redundancies		Number of other departures agreed		Total number of exit packages by cost band	
	2012-13	2011-12	2012-13	2011-12	2012-13	2011-12
<b>Less than £10,000</b>	nil	nil	3	7	3	7
<b>£10,000 - £25,000</b>	nil	nil	3	12	3	12
<b>£25,000 - £50,000</b>	nil	nil	5	8	5	8
<b>£50,000 - £100,000</b>	nil	nil	1	6	1	6
<b>£100,000 - £150,000</b>	nil	nil	1	-	1	-
<b>£150,000 - £200,000</b>	nil	nil	-	-	-	-
<b>Total number of exit packages</b>	nil	nil	13	33	13	33
<b>Total resource cost £</b>	<b>nil</b>	<b>nil</b>	<b>£424,021</b>	<b>£915,031</b>	<b>£424,021</b>	<b>£915,031</b>

Redundancy and other departure costs have been paid in accordance with the provisions of the Civil Service Compensation Scheme, a statutory scheme made under the Superannuation Act 1972. Exit costs are accounted for in full in the year of departure. Where the department has agreed early retirements, the additional costs are met by the Forestry Commission through additional resources allocated by Defra and not by the Civil Service pension scheme. Costs relating to the one senior member of staff who left Forest Research under Voluntary Exit and Voluntary Redundancy terms in 2012-13 are included in the Remuneration Report (page 24). No senior staff left Forest Research under these terms in 2011-12. Ill-health retirement costs are met by the pension scheme and are not included in the table.



## Note 6. Other Management Costs

Other management costs are stated after charging:

		<b>2012-13</b>	2011-12
	<b>Notes</b>	<b>£000</b>	<b>£000</b>
Travel and subsistence		<b>491</b>	421
Building maintenance		<b>705</b>	622
Utilities *		<b>265</b>	205
Training		<b>81</b>	122
Early departure costs paid in year		<b>23</b>	915
Other expenditure		<b>267</b>	271
Computer supplies		<b>44</b>	59
Staff transfer expenses		<b>15</b>	26
<b>Non-cash costs:</b>			
Provisions – early departure costs:			
Provided in year	15	<b>14</b>	668
Unwinding of discount	15	<b>25</b>	5
Provisions – EU reclaim	15	<b>(91)</b>	(40)
Depreciation of property, plant and equipment	8	<b>580</b>	618
Amortisation of intangible assets	9	<b>15</b>	27
Impairment of property, plant and equipment	8	<b>50</b>	-
Loss on disposal of property, plant and equipment	8	<b>115</b>	7
Loss on disposal of intangible assets	9	<b>1</b>	-
Auditors' remuneration – notional cost ~		<b>31</b>	31
Total		<b>2,631</b>	3,957

\* The photovoltaic panels at Alice Holt generated 23,164 kWh (2011-12: 26,411 kWh) of electricity.

~ No payments were made to the auditors for non-audit work.

Included within other management costs are charges from the Forestry Commission amounting in total to £83,000 (2011-12: £103,000).

**Note 7. Materials and Services**

Materials and services are stated after charging:

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
Materials and supplies	<b>684</b>	643
Central services provided by Forestry Commission *	<b>816</b>	811
Vehicle lease charges from Forestry Commission *	<b>302</b>	308
Contractors ~	<b>343</b>	487
Commissioned research	<b>174</b>	230
Protective clothing	<b>13</b>	10
Miscellaneous expenditure	<b>58</b>	59
	<b>2,390</b>	2,548

\* Charges are made to Forest Research from the Forestry Commission as appropriate, for assistance with field experiments, hire of vehicles, machinery and equipment and for personnel, business management, financial and other support services at Silvan House, Edinburgh. The total charge from Forestry Commission was £1,118,000 (2011-12: £1,120,000).

~ The level of spend on contractors is partially determined by the nature of the research work that Forest Research undertakes; lower expenditure indicates fewer contractors being used to deliver the contracts.

## Note 8. Tangible Non-current Assets

	Freehold land	Buildings	Scientific Equipment	IT equipment	Other machinery and equipment	Total
	£000	£000	£000	£000	£000	£000
<b>Valuation</b>						
<b>At 1 April 2011</b>	1,651	12,817	1,914	298	907	17,587
Additions	-	32	206	-	103	341
Transfers	-	12	-	-	-	12
Disposals	-	(7)	(216)	(146)	(30)	(399)
Revaluation to current prices	66	362	87	-	(3)	512
<b>At 31 March 2012</b>	1,717	13,216	1,991	152	977	18,053
<b>Depreciation:</b>						
<b>At 1 April 2011</b>	-	5,537	914	228	365	7,044
Provided in year	-	302	199	43	74	618
Transfers	-	12	-	-	-	12
Disposals	-	-	(215)	(146)	(31)	(392)
Revaluation to current prices	-	191	33	-	(2)	222
<b>At 31 March 2012</b>	-	6,042	931	125	406	7,504
<b>Net book value:</b>						
At 31 March 2012	1,717	7,174	1,060	27	571	10,549
At 31 March 2011	1,651	7,280	1,000	70	542	10,543
<b>Valuation</b>						
<b>At 1 April 2012</b>	1,717	13,216	1,991	152	977	18,053
Additions	-	24	290	-	36	350
Disposals *	-	(289)	(155)	(107)	(46)	(597)
Revaluation to current prices	145	-	(18)	6	53	186
Impairment	-	(129)	-	-	-	(129)
<b>At 31 March 2013</b>	<b>1,862</b>	<b>12,822</b>	<b>2,108</b>	<b>51</b>	<b>1,020</b>	<b>17,863</b>
<b>Depreciation:</b>						
<b>At 1 April 2012</b>	-	6,042	931	125	406	7,504
Provided in year	-	288	191	20	81	580
Disposals *	-	(182)	(155)	(107)	(38)	(482)
Revaluation to current prices	-	(486)	(7)	4	20	(469)
Impairment	-	(79)	-	-	-	(79)
<b>At 31 March 2013</b>	<b>-</b>	<b>5,583</b>	<b>960</b>	<b>42</b>	<b>469</b>	<b>7,054</b>
<b>Net book value:</b>						
At 31 March 2013	<b>1,862</b>	<b>7,239</b>	<b>1,148</b>	<b>9</b>	<b>551</b>	<b>10,809</b>
At 31 March 2012	1,717	7,174	1,060	27	571	10,549

Fixed assets were revalued as at 31 March 2013 in accordance with accounting policies. The valuation includes the principal research stations at Alice Holt Lodge near Farnham in Surrey and the Northern Research Station, Roslin near Edinburgh, with net book values (excluding land) of £4.4 million and £2.6 million, respectively, at 31 March 2013.

\* During 2012–13 a lease on land at Roslin was partially surrendered, and buildings on the land with net book values of £56,000 (valuation £115,000 less depreciation £59,000) were transferred at nil value to the leaseholder. In addition, during 2012–13 an asset-cleansing exercise was undertaken that resulted in assets with a net book value of £59,000 (valuation £482,000 less depreciation £423,000) being removed from the asset register.

The Impairment of £50,000 (valuation £129,000 less depreciation £79,000) relates to buildings at a site in Talybont being revalued to nil as Forest Research has ceased to use the site with effect from 1 April 2013.

Depreciation expenses of £580,000 (2011–12: £618,000) have been charged to other management costs in the Statement of Comprehensive Net Expenditure.

## Note 9. Intangible Non-Current Assets

	2012–13 £000	2011–12 £000
<b>Valuation</b>		
Balance at 1 April	105	213
Additions	12	-
Disposals *	(43)	(108)
Revaluation	10	-
<b>As at 31 March</b>	<b>84</b>	105
<b>Amortisation</b>		
Opening balance	66	147
Depreciation in year	15	27
Disposals *	(42)	(108)
Revaluation	4	-
<b>As at 31 March</b>	<b>43</b>	66
<b>Net book value</b>	<b>41</b>	39

Intangible non-current assets relate wholly to purchased software. Intangible non-current assets were revalued as at 31 March 2013 in accordance with accounting policies.

\* During 2012–13 an asset-cleansing exercise was undertaken which resulted in assets with a net book value of £1,000 (valuation £43,000 less amortisation £42,000) being removed from the asset register.

Amortisation of £15,000 (2011–12: £27,000) has been charged to other management costs in the Statement of Comprehensive Net Expenditure.

## Note 10. Investments

The investment in C-Cure Solutions Ltd is stated at historic costs less impairment. At 31 March 2013 the value was £25,000 (2011–12: £25,000). C-Cure Solutions Ltd is a spin-out company launched with the University of Surrey during 2009–10, in the area of land remediation. In the period March 2011 to March 2013 Genomia Management Ltd invested £305,000 for 361 shares of the company. The current shareholdings are: Forest Research 24.99%, the University of Surrey 24.98%, the inventors 22.71% and Genomia 27.32%.

C-Cure Solutions Ltd has its registered office at The Clock House, 140 London Road, Guildford, Surrey, GU11 1UW.

James Pendlebury represents Forest Research as a Director of the Company, for which he receives no personal payments.

In the year ended 31 March 2013, C-Cure Ltd had a turnover of £7,000 and an expenditure of £90,000, resulting in an operating loss of £83,000. In the year ended 31 March 2012, C-Cure Ltd had a turnover of £19,000 and an expenditure of £204,000, resulting in an operating loss of £185,000.

## Note 11. Receivables

### 11a. Analysis by type

	2012-13 £000	2011-12 £000
<b>Current</b>		
EU trade receivables	253	322
Other trade receivables	400	416
Total trade receivables	653	738
VAT	-	-
House purchase loans to employees	-	-
Prepayments and accrued income	569	708
Total current receivables	1,222	1,446
<b>Non-current</b>		
House purchase loans	-	10
	1,222	1,456

The carrying amounts of trade and other receivables are a reasonable approximation of their fair value.

As of 31 March 2013, £499,000 (2011-12: £467,000) were fully performing and not overdue or impaired and provided for.

As of 31 March 2013, trade receivables of £168,000 (2011-12: £314,000) were overdue but not impaired. These relate to a number of customers for whom there is no recent history of default. The age analysis of these trade receivables is as follows:

	2012-13 £000	2011-12 £000
<b>Months overdue</b>		
Less than one month	53	45
One to two months	1	7
Two to three months	40	66
More than three months	74	196
	168	314

As of 31 March 2013, trade receivables of £nil (2011-12: £nil) were impaired or provided for.



The other classes within trade and other receivables do not contain impaired assets.

The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivable mentioned above. Forest Research does not hold any collateral as security.

The carrying amounts of trade and other receivables are denominated in the following currencies:

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
<b>Current</b>		
UK Pound	<b>817</b>	819
Euro	<b>405</b>	618
US Dollar	<b>-</b>	9
	<b>1,222</b>	1,446
<b>Non-current</b>		
UK Pound	<b>-</b>	10
	<b>1,222</b>	1,456

#### 11b. Intra-government balances

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
<b>Current</b>		
Balances with other central government bodies	<b>124</b>	169
Balances with local authorities	<b>43</b>	12
Intra-Government balances	<b>167</b>	181
Balances with bodies external to government	<b>1,055</b>	1,265
	<b>1,222</b>	1,446
<b>Non-current</b>		
Balances with bodies external to government	<b>-</b>	10
	<b>1,222</b>	1,456

#### Note 12. Inventories

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
Inventories	<b>2</b>	3
	<b>2</b>	3

### Note 13. Cash and Cash Equivalents

The following balances at 31 March are held at commercial banks and as cash in hand:

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
<b>Opening balance at 1 April</b>	<b>4</b>	3
Net change in balances	<b>255</b>	1
<b>Balance at 31 March</b>	<b>259</b>	4

Forest Research had neither bank overdraft nor short-term investments as at 31 March for either of the two years.

As part of its normal activities Forest Research maintains Sterling and Euro bank accounts primarily used for the receipt of income from non-Forestry-Commission customers. These accounts are cleared to the Commission's main account on a regular basis. Sums held in these accounts on behalf of partners in European Commission projects are treated as third-party assets and not included in the balances shown.

### Note 14. Trade and Other Payables

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
<b>Current</b>		
Payments received on account	<b>475</b>	620
Trade payables	<b>440</b>	217
Taxation and social security costs	<b>97</b>	96
Accrued expenses and deferred income *	<b>1,106</b>	1,431
	<b>2,118</b>	2,364

\*£410,000 (2011-12: £567,000) of this sum relates to Early Departure Costs payable to staff who left on 30 March, but not paid until April the following year.

The carrying amounts of trade and other payables are a reasonable approximation of their fair value.

All payables are to bodies external to central or local government as at 31 March 2013 and 31 March 2012, with the exception of £7,000 due to central government and £1,000 due to local authorities as at 31 March 2013. Funds held on behalf of partners in European Commission projects are treated as third-party assets and not recorded on the face of the accounts (see Note 25). At 31 March 2013 the amount held in Forest Research bank accounts on behalf of partners was £181,638 (31 March 2012: £94,142).

The carrying amounts of trade and other payables are denominated in the following currencies:

	2012-13 £000	2011-12 £000
<b>Current</b>		
UK Pound	1,848	1,637
Euro	259	704
US Dollar	11	23
	<b>2,118</b>	2,364

#### Note 15. Provisions for Liabilities and Charges

	2012-13		2011-12	
	EU £000	Early departure costs £000	EU £000	Early departure costs £000
Balance brought forward at 1 April	127	1,144	567	672
Provided in year	-	14	-	667
Provision not required written back	(91)	-	(9)	-
Utilised in year	(36)	(680)	-	(201)
Unwinding of discount	-	25	-	5
Increase in provision	-	-	-	1
Exchange gain	-	-	(31)	-
Transfer to accruals	-	-	(400)	-
<b>Balance carried forward at 31 March</b>	<b>-</b>	<b>503</b>	<b>127</b>	<b>1,144</b>

A full provision (£567,000) was made in 2010-11 relating to the potential reclaim of monies from the EU for a research programme undertaken during 2005 to 2008. During 2011-12 the EU agreed a £9,000 reduction in potential reclaim and Forest Research acknowledged a minimum repayment of £400,000. As at 31 March 2012, the balance of the provision was £127,000. During 2012-13 Forest Research negotiated and settled a final reclaim of £436,000, (£400,000 shown as transfer to accruals in 2011-12 and £36,000 utilised in 2012-13).

Analysis of expected timing of discounted cash flows:

	Early departure costs £000
Less than one year	291
Later than one year but not later than five years	188
More than five years	24
<b>Balance at 31 March 2013</b>	<b>503</b>

Forest Research meets the additional costs of benefits beyond the normal PCSPS benefits in respect of employees who retire by paying the required amounts annually to the PCSPS over the period between early departure and normal retirement date. Forest Research provides for this in full when the early retirement programme becomes binding on Forest Research by establishing a provision for the estimated payments.

## Note 16. General Fund

	2012-13	2011-12
	£000	£000
Balance brought forward	2,395	3,318
Movement in year		
Net surplus/(deficit) for year	930	(948)
Realised element of the revaluation reserve	120	(3)
Cash surplus to (-) / deficit from Forestry Commission	(238)	(6)
Non-cash inter-country transfers	(88)	4
Timing between accrual and cash VAT	(1)	(1)
Notional audit fee	31	31
<b>Balance carried forward</b>	<b>3,149</b>	<b>2,395</b>

## Note 17. Revaluation Reserve

	2012-13	2011-12
	£000	£000
Balance brought forward	6,047	5,755
Revaluation surplus/(deficit) for the year		
Land and buildings	631	236
Scientific equipment	(11)	55
IT	2	-
Other machinery and equipment	33	(2)
Intangible assets	6	-
Investment in C-Cure	-	-
	661	289
Realised element of Revaluation Reserve	(120)	3
<b>Balance carried forward</b>	<b>6,588</b>	<b>6,047</b>

**Note 18. Financial Instruments****18.1 Financial Instruments by category**

	<b>2012-13</b>		2011-12	
	<b>Loans and receivables</b>	<b>Available for sale</b>	Loans and receivables	Available for sale
	<b>£000</b>	<b>£000</b>	£000	£000
<b>Assets as per Statement of Financial Position</b>				
Available-for-sale financial assets	-	25	-	25
Trade and other receivables (excluding prepayments)	1,281	-	1,306	-
Cash and cash equivalents	259	-	4	-
<b>Total</b>	<b>1,540</b>	<b>25</b>	1,310	25

	<b>2012-13</b>	2011-12
	<b>Other financial liabilities</b>	
	<b>£000</b>	£000
<b>Liabilities as per Statement of Financial Position</b>		
Trade and other payables excluding statutory liabilities (excluding payments received on account)	1,546	1,648
<b>Total</b>	<b>1,546</b>	1,648

**18.2 Exposure to risk**

Forest Research's activities expose it to a variety of financial risks.

- Credit risk – the possibility that other parties might fail to pay amounts due.
- Liquidity risk – the possibility that Forest Research might not have funds available to meet its commitments to make payments.

Because of the largely non-trading nature of its activities and the way in which government departments are financed, Forest Research is not exposed to the degree of financial risk faced by business entities.

**Credit risk**

Credit risk arises from cash and cash equivalents, deposits with banks and other institutions, as well as credit exposures to customers, including outstanding receivables and committed transactions.

**Liquidity risk**

Each financial year, the Forestry Commission makes provision for the use of resources by Forest Research for revenue and capital purposes. Each financial year, the Westminster Parliament makes provision for the use of resources by the Forestry Commission for revenue and capital purposes in the Consolidated Fund Act via the Department for Environment, Food and Rural Affairs (Defra) vote. Resources and accruing resources may be used only for the purposes specified and up to the amounts specified in the Consolidated Fund Act. The Act also specifies an overall cash authorisation to operate for the financial year. Forest Research is not therefore exposed to significant liquidity risks.



The table below analyses the financial liabilities into relevant maturity groupings based on the remaining period at the balance sheet to contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows. Balances due within 12 months equal their carrying balances as the impact of discounting is not significant.

	<b>2012-13</b>		2011-12	
	<b>Less than</b>	<b>More than</b>	Less than	More than
	<b>1 year</b>	<b>1 year</b>	1 year	1 year
	<b>£000</b>	<b>£000</b>	£000	£000
Trade and other payables excluding statutory liabilities (excluding payments received on account)	<b>1,546</b>	-	1,648	-
	<b>1,546</b>	-	1,648	-

### Market risk

The Agency has no powers to borrow or invest surplus funds. Financial assets and liabilities are generated by day-to-day operational activities and are not held to manage the risks facing Forest Research in undertaking its activities. However, under the Regulatory Reform (Forestry) Order 2006, with Treasury approval, Forest Research may form or participate in the forming of a body corporate, invest in a body corporate and provide loans. The Agency may also exploit any intellectual property arising from research.

During 2009-10, Forest Research made an investment of £25,000 in C-Cure Solutions Ltd, a spin-out company jointly launched with the University of Surrey. The investment is recorded at historical cost less impairment.

#### (i) Cash flow and fair value interest rate risk

Forest Research has no significant interest-bearing assets or liabilities and as such income and expenditure cash flows are substantially independent of changes in market interest rates.

#### (ii) Foreign currency risk

Forest Research's only exposures to foreign exchange rates are through a bank account denominated in Euros and through receipt of EU funding for contracts which are denominated in Euros and US Dollars.

EU contract income denominated in Euros and US Dollars forms only 4% of Forest Research's total income. Therefore, fluctuations in exchange rates do not have a significant impact on Forest Research's financial position.

### 18.3 Capital risk management

The Agency's objectives when managing its capital structure are to maintain its ability to continue to provide benefits for stakeholders and to maintain an optimal capital structure to safeguard taxpayers' equity.

### 18.4 Fair value estimation

The carrying value less impairment provision of trade receivables and payables are assumed to approximate their fair value.

## Note 19. Capital Commitments

There were £nil contracted capital commitments as at 31 March 2013 (2011-12: £nil).

**Note 20. Commitments and Receivables Under Operating Leases**

Total future minimum lease payments under operating leases are given in the tables below for each of the following periods.

There are no lease payments due in more than five years.

Obligations under operating leases comprise:

	<b>2012-13</b> <b>£000</b>	2011-12 £000
<b>Land:</b>		
Not later than one year	<b>2</b>	2
Later than one year and not later than five years	<b>7</b>	8
Total	<b>9</b>	10

**Buildings:**

Not later than one year	<b>1</b>	1
Later than one year and not later than five years	<b>5</b>	5
Total	<b>6</b>	6

**Equipment:**

Not later than one year	<b>8</b>	8
Later than one year and not later than five years	<b>5</b>	13
Total	<b>13</b>	21

Total minimum lease payments under operating leases for land due to Forest Research are:

	<b>2012-13</b> <b>£000</b>	2011-12 £000
Not later than one year	<b>5</b>	-
Later than one year and not later than five years	<b>20</b>	-
Later than five years	<b>98</b>	-
Total	<b>123</b>	-

Total contingent rents recognised as income in the period is £2,000. During 2012-13 the Environment Agency had a building constructed at Alice Holt and under the Memorandum of Terms of Occupancy has an obligation to pay Forest Research an annual capital allowance for occupation of the land for the 25 year term.

**Note 21. Other Financial Commitments**

There were no other financial commitments at 31 March 2013 (2011-12: £nil).

**Note 22. Contingent Liabilities Disclosed Under IAS 37**

There were no contingent liabilities at 31 March 2013 in respect of actions brought by employees (2011-12: nil).

## Note 23. Losses and Special Payments

	2012-13		2011-12	
	Number	£000	Number	£000
Losses total	0	0	0	0
Special payments total	0	0	1	34

Special payments relate to a claim made by an employee against Forest Research. The individual received an element of the payments but the majority related to the individual's legal costs.

## Note 24. Related Party Transactions

During the year, Forest Research has had a significant number of material transactions with the Forestry Commission, Forest Enterprise country agencies and with the Department for Environment, Food and Rural Affairs, who are regarded as related parties. In addition, Forest Research has had operational transactions with other Government Departments and other central Government bodies.

### 24a. Purchases of goods and services:

	2012-13	2011-12
	£000	£000
The University of Reading	-	21
The University of Southampton	1	1
Total	1	22

The above transactions, for course fees, student stipends and samples, occurred on an arm's-length basis. These transactions are disclosed as Andy Moffat held a visiting professorship at the University of Reading and Peter Freer-Smith holds a visiting professorship at the University of Southampton. There were no outstanding balances at 31 March 2013 (2011-12: £2,540).

### 24b. Key management compensation

Key management personnel are deemed to be the members of the Executive Board of Forest Research. The compensation of such individuals whilst serving on the Executive Board was as follows:

	2012-13	2011-12
	£000	£000
Salaries and other short-term employee benefits	397	398
Post-employment benefits	86	86
Total	483	484

At 31 March 2013 there were no amounts owing to key management personnel (2011-12: £nil).

Refer to the Remuneration Report (page 24) for further details of remuneration of Executive Board members.

**24c. Loans to related parties**

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
<b>Loans to key management personnel</b>		
Balance at 1 April	-	25
Loans repaid during year	-	(25)
<b>Balance at 31 March</b>	<b>-</b>	<b>-</b>

The above balance related to one member of key management personnel. House purchase loans to key management personnel are provided on the same terms and conditions as other Forestry Commission staff members. Such advances of salary are unsecured, interest free and typically repayable over 10 years, with an optional two-year deferral period. However, the loan was repaid during 2011-12.

**24d. Transactions with C-Cure Solutions Ltd**

	<b>2012-13</b>	2011-12
	<b>£000</b>	£000
C-Cure Solutions Ltd	<b>6</b>	10

The above relates to charges to C-Cure in respect of accommodation used at Alice Holt and water samples undertaken in the Forest Research laboratories. There was an outstanding balance of £435 at 31 March 2013 (2011-12: £3,600). This is disclosed as under the Agreement to form the company, James Pendlebury was appointed as the Forest Research Director of the company. See Note 10 for more details.

**Note 25. Third-Party Assets**

As a coordinator for a number of projects partially funded by the European Commission in Euros, Forest Research receives funds on behalf of partners for onward transmission once work programmes have been approved. These third-party assets are not recognised in the accounts.

	<b>2011-12</b>	<b>Gross inflows</b>	<b>Gross outflows</b>	<b>2012-13</b>
	<b>£000</b>	<b>£000</b>	<b>£000</b>	<b>£000</b>
Monetary third-party assets – bank balances	94	255	(168)	<b>181</b>

**Note 26. Events After 31 March 2013**

There have been no events after the reporting date requiring an adjustment to the accounts.

In accordance with the requirements of IAS10, events after the reporting period are considered up to the date on which the accounts are authorised for issue. This is interpreted as the date of the Certificate and Report of the Comptroller and Auditor General.

## Annex: Sustainability Report

**This Annex does not form part of the auditors' opinion on the Accounts**

### SUSTAINABILITY REPORT

#### Overview

Forest Research aims to provide a clear and accurate picture of its environmental impact. We also are committed to monitor and, wherever and whenever possible, reduce our use of natural resources. This aim and commitment both have a natural affinity and comfortable fit with the behaviours of Forest Research staff who, by the very nature of their work, are working both with, and often physically in, a renewable, valuable and, at times, vulnerable, natural resource – our trees and forests.

Forest Research is compliant with, and in receipt of ISO14001 status, an internationally recognised standard that addresses environmental issues. Forest Research sites at Alice Holt (Surrey) and Northern Research Station (near Edinburgh) were, with Silvan House, the first FC sites to receive ISO14001 certification in late June 2010. The certificate is renewed, subject to external assessment, every three years. Dates for reassessment have been confirmed with the external assessor and we expect to have completed the review and the renewal process by early June 2013.

By monitoring our financial spend and our activities we seek to demonstrate that environmental governance is consistent with financial management. Forest Research staff members have undertaken procurement training and apply the Forestry Commission's objectives on sustainable procurement throughout the procurement process. Business sustainability is discussed as a standing item at the Site Management Committee meetings that are operated for Forest Research's sites at Alice Holt and Northern Research Station and staff are regularly updated with information on utility (electricity, gas and water) use. Forest Research seeks to reduce greenhouse gas emissions wherever possible. However, the nature of our work and our business needs can mean that sustainability objectives do not always take precedence. For example, the development of new growth-room facilities essential to develop research into pathology (particularly concerning tree pests and diseases) does mean that our energy consumption (and hence greenhouse gas emissions) can rise. Similarly, the need to water the stock of trees held with the research nurseries can increase in hot summers, but maintaining the trees so that they can continue to be used in research takes precedence over water consumption.

#### Financial and non-financial information

We present the following information in a format consistent with HM Treasury's Sustainable Reporting guidance.



## Reporting Requirements

Performance measurement		2012-13 Performance		2011-12 Performance	
Area		Actual (qty/cost)	Target	Actual (qty/cost)	Target
Travel (including national and international air/rail travel)	Amount (tonnes CO <sub>2</sub> e)	361	<ul style="list-style-type: none"> <li>• 10% reduction on baseline (actual: 6% increase)</li> </ul>	341	<ul style="list-style-type: none"> <li>• 10% reduction on baseline (actual: 16% reduction)</li> </ul>
	Expenditure	£402,992		£437,035	
Electricity, gas and other heating fuels (Estate)	Consumption (KWh)	2,798,171	<ul style="list-style-type: none"> <li>• 12% reduction on baseline (actual: 8% increase)</li> </ul>	2,595,419	<ul style="list-style-type: none"> <li>• 12% reduction on baseline</li> </ul>
	Expenditure	£155,191		£154,088	
Total energy <sup>1</sup>	Expenditure	£558,183		£591,123	
Estate and office waste <sup>2</sup>	Amount (tonnes)	626	<ul style="list-style-type: none"> <li>• &lt; 20% landfill (actual: 9%)</li> <li>• ≥ 80% recycling (actual: 90%)</li> <li>• 1% incinerated</li> <li>• 10% overall reduction in weight (actual: 44% increase)</li> </ul>	436	<ul style="list-style-type: none"> <li>• &lt; 20% landfill (actual: 9%)</li> <li>• ≥ 80% recycling (actual: 91%)</li> <li>• 10% overall reduction in weight</li> </ul>
	Expenditure	£110,612		£32,534	
Estate and office water	Quantity used (m <sup>3</sup> )	8,414	<ul style="list-style-type: none"> <li>• 8% reduction on baseline (actual: 20% increase)</li> </ul>	7,029	<ul style="list-style-type: none"> <li>• 8% reduction on baseline</li> </ul>
	Expenditure	£8,682		£7,391	

<sup>1</sup> Total energy is the fossil fuel consumption of the built estate (heating and lighting, etc.) and the CO<sub>2</sub> from travel.

<sup>2</sup> Waste includes sewage and Waste Electrical and Electronic Equipment (WEEE).







## Forest Research

Alice Holt Lodge  
Farnham  
Surrey GU10 4LH  
Tel: 01420 22255  
Fax: 01420 23653  
Email: [research.info@forestry.gsi.gov.uk](mailto:research.info@forestry.gsi.gov.uk)  
[www.forestry.gov.uk/forestresearch](http://www.forestry.gov.uk/forestresearch)

Northern Research Station  
Roslin  
Midlothian EH25 9SY  
Tel: 0131 445 2176  
Fax: 0131 445 5124

Forest Research in Wales  
IBERS  
Edward Llwyd Building  
Penglais Campus  
Aberystwyth  
Ceredigion  
SY23 3DA  
Tel: 01970 621527

Tree Health Diagnostic and Advisory Service [www.forestry.gov.uk/fr/ddas](http://www.forestry.gov.uk/fr/ddas)  
Plant Quality Testing [www.forestry.gov.uk/fr/pqt](http://www.forestry.gov.uk/fr/pqt)  
Foliar Analysis/Fertiliser Prescription Service [www.forestry.gov.uk/fr/foliaranalysis](http://www.forestry.gov.uk/fr/foliaranalysis)  
Library and Photographic Services Email: [library@forestry.gsi.gov.uk](mailto:library@forestry.gsi.gov.uk)



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