Forest Research

The Research Agency of the Forestry Commission

FR News

News from Forest Research, September 2010

FR News is a free quarterly newsletter that is distributed to a wide range of organisations and individuals who have interests in trees, woods and forests.

Government Minister and top scientist see the science in the trees

In two separate visits, Lord Henley, the Parliamentary Under Secretary of State at Defra, and Professor Sir John Beddington, the Government's Chief Scientist, caught up with the range of work that Forest Research carries out into climate change, resource management and human and ecological sciences.

"The current threats from climate change and tree pests and diseases mean it's more important than ever that British forestry is underpinned by a sound scientific base," said Peter Freer-Smith, the Forestry Commission's Chief Scientist. "These threats apply equally to trees being grown for timber or to conserve nature."

(Continued on page 2)

Professor Sir John Beddington

Government Minister and top scientist see the science in the trees (cont.)

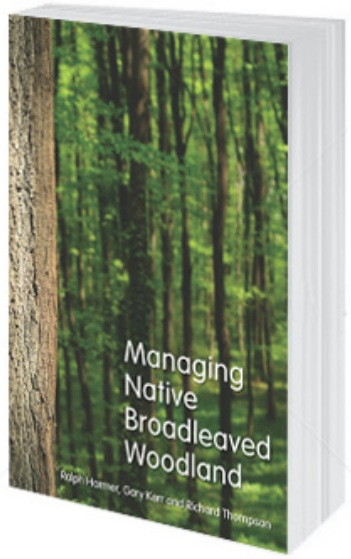
Lord Henley and Professor Sir John Beddington both received full briefings on the status of current pest and disease threats, focusing on two high-profile diseases – acute oak decline and the spread of *Phytophthora ramorum* to larch – both of which are causing concern in the forestry sector.

Lord Henley was particularly interested in our work on biosecurity issues and the scale of the current threats to UK forests.

Professor Beddington especially enjoyed his visit to our Straits flux station. He said it was an excellent visit and has asked for regular updates on a number of our programmes, such as carbon modelling.

Visiting the 'Straits flux station' monitoring site.

Help for managers and owners of native broadleaved woodland



In the 25 years since *Silviculture of Broadleaved Woodland* (FC Bulletin 62) was published, there have been substantial changes in the aims, aspirations and requirements of broadleaved woodland management. Now a new handbook entitled *Managing Native Broadleaved Woodlands* has been published, written by Forest Research scientists Ralph Harmer, Gary Kerr and Richard Thompson[1].

The handbook aims to provide advice that will help managers understand their woodland and improve their management. A wide variety of subjects are included, from the use of grazing animals to control vegetation, identification of woodland communities and management for nature conservation, to uneven-aged silviculture, vegetation management and management planning. The background and principles of each topic are explained and case studies are used for illustration throughout. Interactions between site characteristics and historical management are considered in relation to future management options. The handbook also includes important questions that managers should ask when assessing the management options for their woodland.

Author Ralph Harmer comments: "While the previous book remains a useful source of information, today's woodland managers need to understand much more about wood than just trees, and there have been significant changes in the skills and knowledge they require."

Although new information and advice has been published over the years in a wide range of research and practice notes, bulletins and handbooks, this book brings it all together into a comprehensive guide aimed specifically at managers of broadleaved woodland.

The handbook is published by The Stationery Office and was launched on 23 September at the APF International Forestry Exhibition. For more information or to order a copy, visit: www.tsoshop.co.uk

[1] Richard now works for Forestry Commission Scotland.

Storms – an increasing threat to Europe's forests

Storms cause more than 50% of all damage to European forests. Over the past 60 years, damage has increased markedly, with an average of two destructive storms each year. Forest Research scientist Barry Gardiner recently led a European Forest Institute (EFI) project entitled 'Past and future impacts of storms to European forests', commissioned by the Directorate-General for the Environment of the European Commission. This project involved partners in eight countries in addition to experts from Forest Research.

As part of the project, all storms causing notable damage to European forests since 1950 were catalogued and their details are now available in an online database[1]. Eleven storms were selected for more-detailed analysis of their social, environmental and economic effects, and for policy implications. The research suggests that forest storm damage will continue to increase in Europe, with damage at least doubling by the end of the century if current management practices continue. In addition, damage will be exacerbated by climate change with storms affecting wider areas.

A project workshop took place in Brussels this June, bringing together researchers, policy makers and forest practitioners and a final project report was delivered at the end of July. The report, which will be published later this year by EFI, recommends a range of practice and policy measures to help mitigate the effects of storms on the European forest industry.

Storm damage.

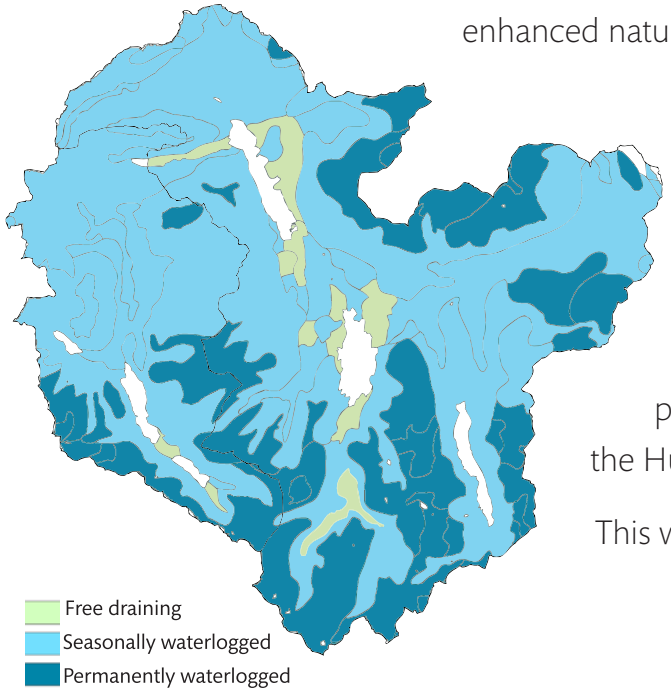
For more information, please contact Barry Gardiner, Bruce Nicoll or Mariella Marzano.

[1] Available at http://w3.pierroton.inra.fr/IEFC/bdd/storm/storm_liste.php

Can woodland reduce flooding?

The Lake District National Park (LDNP) is prized for the beauty of its landscape but, despite appearing perfect, the high level of soil erosion in some parts has led to scarring of the landscape. Forest Research was commissioned to identify those areas most at risk and determine if woodland creation might be the answer.

Woodland management has a key role in maintaining a healthy environment and creating wildlife habitats. Planting woodland can help reduce soil erosion by providing shelter from the wind, improving soil strength and stability, and increasing the infiltration of water into the soil. This is particularly effective if planting is targeted at the most sensitive soils or in key locations to either intercept and soak up surface run-off from adjacent hill slopes or reconnect streams with floodplains. Woodland planting also brings important secondary benefits, including improvements to fisheries, enhanced nature conservation and landscape value, opportunities for recreation and carbon sequestration.



Map showing propensity of soils to generate rapid surface runoff.

In the LDNP, erosion caused by over-grazing, land cultivation, drainage and human trampling has resulted in soil loss and excessive sedimentation of watercourses, leading to local increases in flood risk and damage to important habitats and several freshwater priority species. The Forestry Commission is working with other agencies to address these issues. As part of this work, Forest Research used geographic information system (GIS) techniques to create maps of the entire LDNP that identify land with vulnerable soils at risk from hill slope and stream bank erosion, where woodland creation has the potential to reduce diffuse pollution and improve water quality. A report on this project and details of similar projects in Yorkshire and the Humber and South-West England are available from www.forestry.gov.uk/fr/INFD-7T9JRD.

This was work funded by Natural England, The Woodland Trust, Cumbrian Woodland and FC England.

For more information, contact Samantha Broadmeadow or Tom Nisbet.

Big Society in your local woods!

Globally around 20% of forest cover is owned and managed by communities, with a further 5% designated for use by indigenous communities. However, much less is known about community woodlands in Great Britain. Forest Research's Social and Economic Research Group (SERG) is using information from a new series of commissioned reports to investigate the motivations of UK volunteers and community-based organisations to take on woodland ownership and management.

Along with its own research, SERG has analysed the information in these reports on the number, locations, history, characteristics and needs of community woodland groups in Scotland, England and Wales. The data show that people's motivations are many and varied, such as lifestyle, urban regeneration, realising community rights, and maintaining rural jobs.

There are some general differences between countries: groups in England are largely concerned with conservation and quality of place, while those in Wales and Scotland are more often involved in woodland-based enterprise development. A variety of institutional forms and partnership working arrangements have been identified, which show how important community woodlands are for delivering some of the key social objectives of national forest strategies on public (including Forestry Commission and local authority) as well as private forest land.

SERG have presented these results at a number of international events, such as the 2010 Commonwealth Forestry Conference and FR's own 'Trees and forests in British society' conference last April. The synthesised findings will help to structure a stakeholder workshop in early 2011, facilitated by Forest Research, to discuss new opportunities for community-based governance and social enterprise provided by the Coalition Government's Big Society agenda.

More information is available at www.forestry.gov.uk/fr/INFD-7TSD7E; alternatively contact Anna Lawrence or Bianca Ambrose-Oji.

Rare lichen discovery

While out in the field updating his lichen identification skills, Forest Research worker Bo Duff was lucky enough to spot a rare sample of Highland stump lichen (*Cladonia botrytes*) at Invercauld Estate in Aberdeenshire.

This lichen grows on *pinus* stumps between 4 and 10 years old, generally in northern Scotland. It is so small it is difficult to trace and identify and has not been seen in the area for over 50 years, despite extensive surveys by lichenologists. Bo's lecturers on the day included eminent lichenologist Dr Coppins of the Royal Botanic Gardens, Edinburgh, who was able to verify the find instantly.

> Says Bo: "*I'm out in the field all the time as I usually work on the Native Woodlands Survey of Scotland, but I never imagined I'd find something as rare as this!*"

This find signals a welcome return of *Cladonia botrytes* to the Braemar area.

Photo courtesy of Håkon Holien

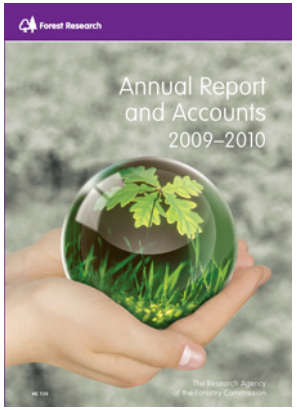
New publications

Forest Research Annual Report and Accounts 2009–2010
July 2010, 98 pages (£19.75)

This report describes the work of Forest Research during the period April 2009 to March 2010 and presents the audited accounts for the financial year. It gives a useful overview of the variety of research carried out by Forest Research and outlines a number of recent projects as examples.

www.forestry.gov.uk/fr/annualreports

Hard copies may be ordered from TSO (The Stationery Office) at www.tsoshop.co.uk.



Research Note

Climate Change: impacts and adaptation in England's woodlands
Duncan Ray, James Morison and Mark Broadmeadow (FCRN201)

This Research Note offers woodland managers in England guidance about what they can do to maximise their forests' ability to cope with climate change. There are many uncertainties associated with climate change and the likely effects on forest operations, but by actively adjusting forest management to anticipate future changes, we hope to increase resilience by reducing exposure to risks in forestry. The Research Note advocates adapting forest management now to reduce forests' exposure to future risks so that they can continue to provide goods and services for society.

www.forestry.gov.uk/fr/climatechangeengland

Our other newsletters:

Our scientists carry out research into many different aspects of forestry and land use. Some of their work is highlighted in several more-specific newsletters:

Ecotype

The biodiversity and conservation newsletter from the Centre for Human and Ecological Sciences (formerly Ecology Division).

Latest issue covers:

- Distribution of wood ants in the Trossachs
- A positive response by hazel dormice to conifer PAWS restoration
- The MARXAN spatial tool
- Scat identification service for British bat species

www.forestry.gov.uk/fr/ecotype

Path News

The pathology bulletin.

Latest issue covers:

- Browining of Scots pine
- Death of Douglas fir
- *Dendroctanus micans* in northern England
- Phytophthora disease of beech and *Nothofagus*
- Dutch elm disease (DED)
- Sudden larch death

www.forestry.gov.uk/fr/pathnews

Growing Places

The Social and Economic Research Group (SERG) newsletter.

Latest issue covers:

- Adapting forest management
- Tools to address risk and uncertainty
- Biomass energy
- Forestry and carbon markets

www.forestry.gov.uk/fr/growingplaces

Events

Full details of FR's events are available from the FR website: www.forestry.gov.uk/fr/events

Alternatively, a weekly email service provides details of newly announced events and other events that are organised or sponsored by Forest Research, or where Forest Research is participating.

If you would like to receive this e-newsletter, please send your contact details to: fr.events@forestry.gsi.gov.uk

6 and 7 October 2010

Forest Health Days – Scotland

Forest Research, assisted by Forestry Commission Scotland, is running several Forest Health Days in Scotland this Autumn. The next events will be held in Kiltarlity on 6 October and Cardrona on 7 October. Forest Research pathologists and entomologists will provide an update on the latest information about tree pests and diseases.

Kiltarlity, Inverness-shire

www.forestry.gov.uk/fr/INFD-87QDSG

Cardrona, Peebles

www.forestry.gov.uk/fr/INFD-87QDUX

11 November 2010

Forest Research Update

An update on selected research being performed by Forest Research. It is an opportunity to update forestry colleagues in the industry on a number of current topics of interest to the practitioner, to share information and gain feedback.

Aviemore, Inverness-shire

www.forestry.gov.uk/fr/INFD-8999T6

What's new on our website

Growing places: a study of social change in The National Forest

Study to seek to define how a healthier, green and more economically diverse environment can improve quality of life for local residents and visitors to The National Forest.

www.forestry.gov.uk/fr/INFD-875C6X

Landowners' attitudes to woodland creation and management in the UK: a review of current evidence

Research into what existing evidence tells us about landowners' values, attitudes and knowledge in relation to decisions about woodland management and creation.

www.forestry.gov.uk/fr/ownerattitudes

Cultural value of trees, woods and forests

Exploration of how cultural values are identified, explored and taken into account in forest planning and decision-making processes.

www.forestry.gov.uk/fr/INFD-874EMN

Further development and implementation of an EU-level forest monitoring system (FutMon)

Creation of a pan-European long-term forest monitoring system – measurements data now added.

www.forestry.gov.uk/fr/futmon

Reducing the impact of non-native or invasive vertebrates to forestry

Research programme to support the management of conflicts caused by vertebrate species and their impacts on woodlands and to provide information to support policy makers and practitioners in the delivery of forest policy targets. Research areas cover mammal damage to trees and woodland, and management of non-native or invasive vertebrates.

www.forestry.gov.uk/fr/invasivevertebrates

Climate change impacts and adaptation in England's woodlands

Research and knowledge development on the effects of climate change on forests and forestry in England.

www.forestry.gov.uk/fr/climatechangeengland

OneOak

Increasing understanding of the importance of trees and woodland management, and the benefits of using wood, amongst school children and the wider public. An education project organised by the Sylva Foundation.

www.forestry.gov.uk/fr/INFD-88XBZ6