

Publications, national and international links, research programmes, contracts and people

Forestry Commission technical publications

Publications by Forest Research staff

National and international links

Major research programmes undertaken by Forest Research

Research contracts awarded by Forest Research

Forest Research people



Forestry Commission technical publications

The following titles were published during the year ending 31 March 2006.

Published by Forest Research

Report

Forest Research annual report and accounts 2004–2005 (£22.10)

Leaflets, brochures and books

Consultation and community involvement in forest planning: research in Cranborne Chase and North Dorset by Paul Tabbush (£6)

Trees and woodlands: nature's health service by Liz O'Brien (£9)

RIVFUNCTION: integrating ecosystem functioning into river quality assessment and management prepared by Samantha Broadmeadow, Jonathan Humphrey and Jenny Claridge. Published in English, French, Polish, Portuguese, Spanish and Swedish (free)

AGILE: The Association of Geographic Information Laboratories for Europe Promotion leaflet prepared by Juan Suárez and Jenny Claridge

BPG Notes: Best practice guidance for land regeneration by The Land Regeneration and Urban Greening Research Group. Eleven topic leaflets in polyprop wallet (£25)

Published by FC Corporate Services

The various series of technical publications listed below are published for the Forestry Commission by Corporate Forestry Services. New titles listed here are by Forest Research authors.

Information Notes (free)

- 65 *Water use by trees*
Tom Nisbet
- 66 *Development of multiple leaders in Sitka spruce and Japanese larch following outplanting*
Mike Perks, Steve Smith and Colin McEvoy
- 67 *Needle diseases of pine* (publication delayed)
Anna Brown, Sarah Green and Steven Hendry
- 68 *Shoot diseases of pine*
Anna Brown and Grace MacAskill
- 69 *Climate change and British woodland*
Mark Broadmeadow and Duncan Ray

- 70 *Utilisation of lodgepole pine*
Shaun Mochan and Jason Hubert
- 71 *Golden eagles and new native woodland in Scotland*
Michael McGrady* and Steve Petty
- 72 *Birch dieback in Scotland*
Sarah Green
- 73 *Evaluating biodiversity in fragmented landscapes: principles*
Kevin Watts, Jonathan Humphrey, Matthew Griffiths, Chris Quine and Duncan Ray
- 74 *Woodland owners' attitudes to public access provision in south-east England*
Andrew Church*, Neil Ravenscroft* and Gill Rogers*
- 75 *Forest condition 2004*
Steven Hendry, Jane Poole, Ian Craig and John Proudfoot
- 76 *Habitat use by red and grey squirrels: results of two recent studies and implications for management*
Jenny Bryce*, Sarah Cartmel* and Chris Quine
- 77 *Selecting the right provenance of oak for planting in Britain*
Jason Hubert
- 78 *The influence of soils and species on tree root depth*
Peter Crow
- 79 *Use of sewage sludges and composts in forestry*
Andy Moffat

Practice Note (free)

- 13 *Managing brash on conifer clearfell sites*
Andy Moffat, Bill M. Jones and Bill Mason

Technical Notes (free)

- 9 *Small-scale systems for harvesting woodfuel products*
Andy Hall
- 10 *Extraction route trials on sensitive sites*
Colin Saunders and Duncan Ireland
- 11 *Protecting the environment during mechanised harvesting operations*
Ian Murgatroyd and Colin Saunders

*Authors outwith the Agency.

Publications by Forest Research staff

Printed publications

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Evaluating the effect of precommercial thinning on the resistance of balsam fir to windthrow through experimentation, modelling, and development of simple indices. *Canadian Journal of Forest Research* **35** (8), 1844–1853.

[Andersson, F., Angelstam, P., Feger, K.-H., Hasenauer, H., Krauchi, N., Marell, A., Matteucci, G., Schneider, U.] and Tabbush, P., eds. (2005)

A research strategy for sustainable forest management in Europe. ENFORs European Network for long-term Forest Ecosystem and Landscape Research. ENFORs Technical Report 5. Groupement d'Interêt Public Ecosystème Forestiers (GIP ECOFOR), Paris.

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Variations in levels of clonality among *Populus nigra* L. stands of different ages. *Evolutionary Ecology* **18** (5–6), 601–624.

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Changes over time in the spatiotemporal dynamics of cyclic populations of field voles (*Microtus agrestis* L.). Appendices A, B and C on Methodology online only. *The American Naturalist* **167** (4), 583–590.

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[Butt, K.R., Lowe, C.N., Frederickson, J.] and Moffat, A.J. (2004)

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Influence of selective breeding on the development of juvenile wood in Sitka spruce. *Canadian Journal of Forest Research* **35** (12), 2951–2960.

[Carter, A.D.] and Willoughby, I. (2005)

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National and international links

The two maps reflect the range of networks we have been generating both nationally and internationally. The national map (Figure 1) shows FR's links with an increasingly wide range of UK universities and associated scientific organisations. The international map (Figure 2) shows our extensive links across Europe; in addition to this we have wider global links with New Zealand, USA, Canada and China.

National

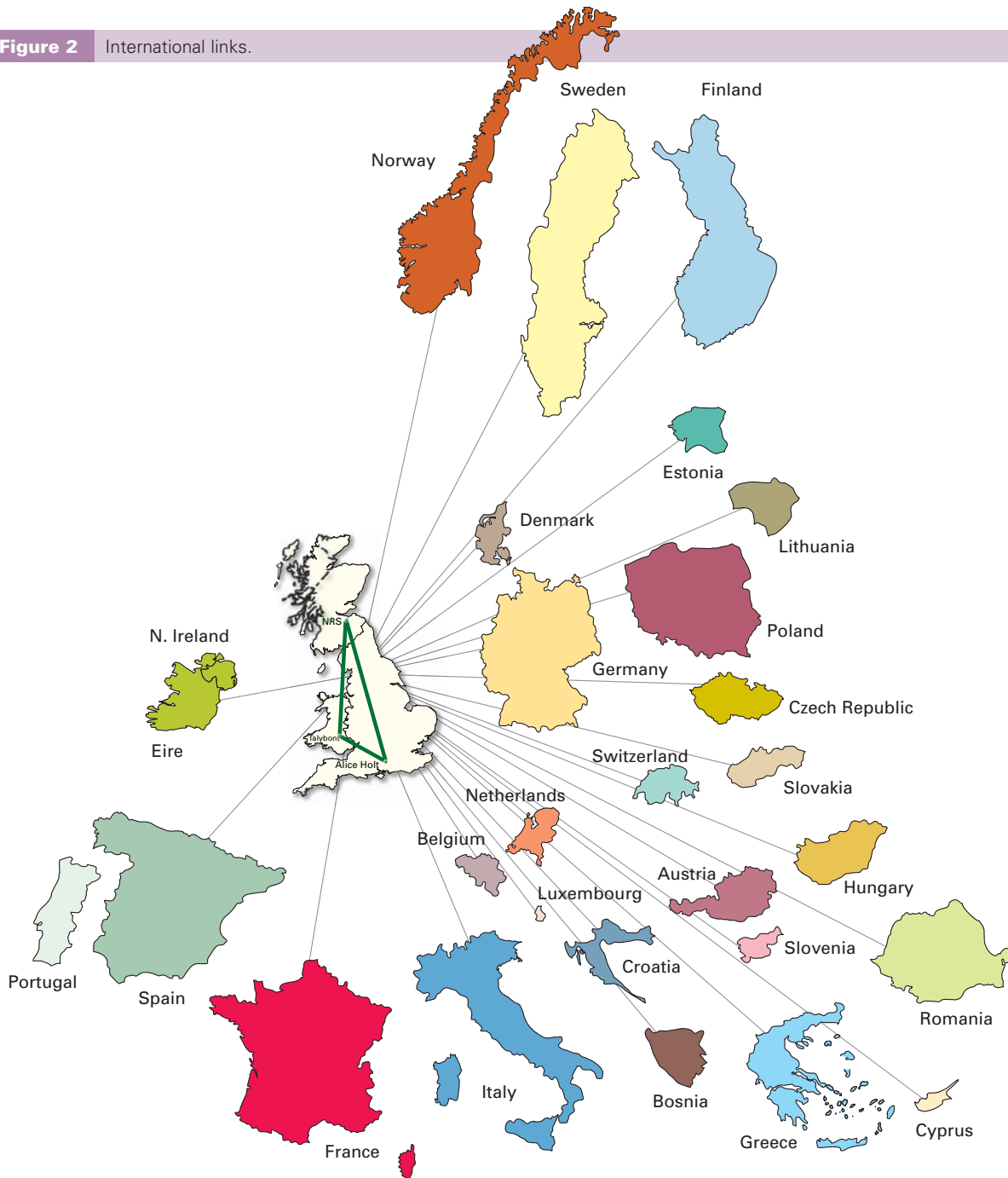
Many of our programmes, individual and collaborative, are funded by other government agencies, UK research councils, universities and commercial organisations; these include Defra, DTI, NERC, SNH, English Nature, the Environment Agency, and the Universities of Sheffield, Southampton and London. We also collaborate with other universities countrywide, including Aberdeen, Edinburgh, Napier, Stirling, Lancaster, Bangor, Cardiff, Cranfield, Oxford, Cambridge, Exeter, Bath, Portsmouth, Reading, Surrey and Sussex.

Figure 1 Major UK links.

- Universities
- Associated Scientific Organisations
- Field Stations
- FR hub



Figure 2 International links.



International

Key European links include:

- INRA, France
- Brussels Free University, Belgium
- BBA, Germany
- INIA, Portugal
- Department of Forest Protection, Austria
- CSIC in Spain
- JRC in Italy
- METLA in Finland

Further across the globe we are working with:

- USDA in several areas of the USA
- SCION in Rotorua, New Zealand
- Canadian Forest Service, e.g. Victoria, British Columbia
- Forest University Beijing, China
- Madeira National Park, Madeira

Major research programmes undertaken by Forest Research

Programmes funded by the Forestry Commission

Biometrics, Surveys and Statistics Division

Sample plots

John Proudfoot

Develop and maintain national reserve of periodic growth and yield data to support measurement, growth and yield studies using a network of permanent and temporary sample plots. Current focus: contemporary silvicultural practices, uneven-aged planting mixtures, modern planting and harvesting systems, long-term environmental change monitoring.

Yield models

Robert Matthews

Improve methods and models for forecasting growth and yield of forests. Current focus: development of interactive stand-level yield model software, site: yield relationships, biomass yield models.

Measurement

Ewan Mackie

Develop and promote measurement systems and instruments for the accurate and efficient measurement of trees and timber to support industry, national and international standards. Provide independent expert advice in cases of measurement dispute.

Core model

Sam Evans

Integrate modelling initiatives within Forest Research by developing a framework of existing and new models and relevant datasets. Taking growth models as a starting point, the core model programme aims to provide modelling tools at appropriate scales of resolution to support and promote the implementation of multi-purpose sustainable forestry policy in the UK.

Energy coppice and woodfuel research

Ian Tubby

Investigate environmental performance of energy coppice and woodfuel systems.

Remote sensing

Juan Suárez

Evaluate the potential of remote sensing techniques for operational use in British forest management.

National inventory of woodlands and trees

Mark Lawrence

Undertake the FC national survey of woodland and trees, assessing the woodland cover. Update key statistics on forest type, species, age-class, management and ownership.

Inventory GIS development

Graham Bull

Create the digital woodland map for Britain. Develop the use of GIS for providing spatially referenced data on the woodland cover of Great Britain.

Private sector production forecast

Justin Gilbert

Develop and produce the private sector production forecast incorporating new woodland data from the national inventory.

Ecology Division

Lowland native woods

Ralph Harmer

Examine methods for managing, regenerating and extending lowland native woodlands.

Biodiversity evaluation and indicators

Jonathan Humphrey

Synthesise datasets from the biodiversity assessment project, identify potential biodiversity indicators, and disseminate findings.

Forest habitat management

Jonathan Humphrey and Russell Anderson

Investigate and provide guidance on the management of forests for biodiversity through developing old growth stands, and managing open ground habitats.

Species Action Plans

Alice Broome, Roger Trout, Chris Quine and Brenda Mayle

Research into the ecology of native woodland ecosystems in northern and western Britain to support restoration and extension. Current emphasis is on the Atlantic oakwoods and other broadleaved woodland habitats.

Landscape ecology

Kevin Watts and Chris Quine

Improve understanding of how biodiversity responds to management at the landscape scale, and translate this into practical management guidance for forest design.

Ecological site classification and decision support systems

Duncan Ray

Research, build and test models that predict the effect of forest management on forest ecology, and develop decision-making tools for ecological site classification and forest biodiversity.

Squirrel management

Brenda Mayle

Develop cost-effective means of managing the impact of grey squirrels on timber production. Investigate the impact of grey squirrels on woodland biodiversity.

Impact of herbivores

Robin Gill, Helen Armstrong and Brenda Mayle

Provide a sustainable basis for deer management in UK woodlands by investigating and developing new techniques and models of impacts and damage, population dynamics of deer, deer density assessment and grazing management.

Tree protection

Roger Trout

Develop techniques and materials for cost-effective protection of trees and woodlands from vertebrate damage.

Improvement of broadleaves

Jason Hubert

Selection/testing of selections at population, family and clonal level: oak, ash, sycamore, beech, birch.

Genetic conservation

Joan Cottrell and Jason Hubert

Study of genetic variation and gene flow in natural populations. Assess the level of adaptive variation in the field trials of populations of native species.

Forest Reproductive Material Regulations

Sam Samuel

Devise methods for inspection of material proposed for registration. Maintain the National Register of Basic Material.

Environmental and Human Sciences Division

Soil sustainability

Elena Vangelova and Rona Pitman

Research to identify and evaluate the potential impacts of both forest management and air pollution on soil status and dynamics. Develop and advise upon sustainable practices.

Land Regeneration and Urban Greening

Tony Hutchings, Kieron Doick, Danielle Sinnett, Andy Moffat, Caroline Kilbride, Geoffrey Sellers and René van Herwijnen

Improve methods of establishing woodland and management practices on disturbed (brownfield) sites, taking into account changes in forestry and land-use policy, planting opportunity, environmental impacts, mining practices and technology. Develop best practice guidelines.

Forest hydrology

Tom Nisbet, Huw Thomas and Samantha Broadmeadow

Study the impacts of forests and forestry management practices on water quality and quantity. Develop and assess guidance on best management practice for the protection of the freshwater environment within forests. Provide expert advice on forestry–water issues.

Effects of air pollution on trees

Nadia Barsoum and Andy Moffat

Determine the role of air pollution in forest condition and growth through long-term intensive environmental monitoring in forest ecosystems, in compliance with EC regulations. Provide data under the Convention on Transboundary Air Pollution for the calculation and mapping of critical loads.

Climate change

Mark Broadmeadow and Matthew Wilkinson

Predict and model the impacts of climate and wider environmental change on tree growth by experimental work in open-top chambers and in forest stands. Interpret published climate change scenarios and develop guidance on future species suitability, both for production woodland management and native woodland restoration. Identify interactions between forests, woodland management and the changing global environment.

Carbon

Mark Broadmeadow, Matthew Wilkinson and Matthew Williams

Develop a network for monitoring carbon stocks and stock changes of woodland in the UK. Maintain one of only three long-term carbon flux monitoring stations in woodland in the UK, measuring carbon fluxes and constructing a carbon budget for a stand of lowland broadleaf woodland. Research the contribution that wood (including bioenergy production) and wood products can make to climate change mitigation.

Environmental change network

Sue Benham

Monitor and understand environmental change and its impact on terrestrial ecosystems. Manage one of the national ECN terrestrial sites.

Cultural heritage and historic environment

Peter Crow

Develop methods, tools and guidance to aid the day to day management of historic environment features such as archaeological evidence, veteran trees and historic woodlands/landscapes.

Social Research

Paul Tabbush, Elizabeth O'Brien, Max Hislop, Suzanne Martin, David Edwards and Jake Morris

Examine relationships between communities and woodlands in support of FC policies on sustainable forest management. Work concentrates on community involvement, publicly held values, health and well-being, sustainability indicators, impact assessment, recreation, access and rural development.

Forest Management Division

Integrated establishment systems for the uplands

Mike Perks, Alan Harrison and Colin McEvoy

Integrated studies of the effect of nursery practice, seedling physiology, plant handling methods, site preparation and maintenance upon tree establishment and subsequent growth.

Silvicultural effects on timber quality

Barry Gardiner, Elspeth Macdonald, Shaun Mochan and Alexis Achim

Investigate the impact of silvicultural practices on timber quality in conifers, especially spruce. Main emphasis is impact of site factors (e.g. exposure, fertility) on quality.

Silviculture of upland native woodlands

Colin Edwards and Bill Mason

Research into the structure, dynamics and silviculture of native woodland ecosystems in northern and western Britain to support restoration and extension for ecological and economic benefits. Emphasis is on Scots pine forests, birchwoods and the Atlantic oakwoods.

Alternative silvicultural systems in conifer forests

Bill Mason, Colin Edwards and Sophie Hale

Evaluate canopy structure manipulation to promote suitable microclimates for seedling establishment and facilitate natural regeneration to enable wider use of alternative silvicultural systems to patch clearfelling (continuous cover forestry).

Stability of stands

Bruce Nicoll, Barry Gardiner and Alexis Achim

Research to reduce wind damage to British forests using a GIS-based windthrow risk model for predicting the probability of windthrow in Sitka spruce forests. Carry out studies of root development and architecture in support of the model.

Forest vegetation management

Ian Willoughby and Richard Jinks

Investigate alternatives to conventional vegetation management for new planting and regenerating existing woodlands, including reducing synthetic chemical inputs and direct seeding.

Silvicultural systems

Gary Kerr

Examine the potential for diversifying the range of silvicultural systems used in lowland forests.

Seed and seedling biology

Peter Gosling and Richard Jinks

Improve tree seed quality and performance to reduce costs and increase reliability of direct seeding and natural regeneration.

Selection and testing of conifers

Steve Lee

Undertake plus-tree selection, progeny testing. Breeding/production populations. Demonstration of realised gain. Development of techniques for marker aided selection. Species: Sitka spruce, Scots pine, Corsican pine, Douglas fir, larch.

Breeding and production of conifers

Steve Lee

Clonal archives: conservation, advanced breeding material.
Improved seed: controlled pollination, seed orchards.

In vitro propagation and phase-change biotechnologies

Allan John

Investigate tissue culture systems for multiplication of Sitka spruce.

Technical Development Group

Large-scale forestry harvesting

Colin Saunders

Evaluate machinery and equipment, produce output guidance and investigate operational techniques relevant to large-scale forestry work in harvesting.

Large-scale ground preparation, seed sowing and planting

Steve Morgan, Andy Hall and Bill J. Jones

Evaluate machinery and equipment, produce output guidance and investigate operational techniques relevant to large-scale forestry work in ground preparation and planting.

Continuous cover and small-scale silviculture/harvesting

Duncan Ireland

Develop methods and assess equipment with low environmental impact suitable for use in small, generally broadleaved woodlands, and suitable for use by farmers and small contracting firms.

Wood for energy

Andy Hall and Paul Webster

Develop methods for using short rotation coppice, single-stemmed short rotation forestry, forestry residues and existing undermanaged woodlands for small-scale heating and small- or large-scale electricity generation.

Chemical weeding

Bill J. Jones

Evaluate equipment, application techniques and safety.

Reduction in the use of chemicals

Ian Murgatroyd and Finlay McAllister

Examine equipment and methods that offer opportunities for non-chemical weed control.

Health and safety

Bill M. Jones and Colin Saunders

Review techniques and procedures for management of health and safety of machine operators.

Tree Health Division

Plant health

Hugh Evans and Christine Tilbury with Nick Fielding (TSU)

Research into the risks from indigenous and non-indigenous forest insect species. Co-ordination and implementation of surveys in relation to retention of EU Protected Zone status for named bark beetle pests. The use of Pest Risk Analysis techniques to determine contingency options for potential pests. Research into alternatives to methyl bromide as a quarantine and remedial treatment against exotic pests (part EU-funded).

Impact of insects on tree growth

Nigel Straw

Investigate quantitative relationships between insect population pressure and the growth of trees attacked by those insects. An important aim is to separate the direct effects of damage from other biotic and abiotic variables that might mask the impacts of pest insects. The target species is green spruce aphid, *Elatobium abietinum*, which severely defoliates Norway and Sitka spruces.

Integrated Forest Management

David Wainhouse, Roger Moore and Hugh Evans

Develop the concepts and science of Integrated Forest Management (IFM) to underpin sustainable forestry with particular emphasis on reductions in chemical pesticides. Study the population dynamics of *Hylobius abietis* and use the data to develop decision support systems for management of the restocking problem. Investigate the variability in quality of both stumps and transplants in relation to performance of *H. abietis* and use the data to refine management options within the IFM programme. Develop a decision support system for sustainable reduction of *H. abietis* populations towards the acceptable damage threshold predicted by the population dynamics models.

Mechanisms of tree resistance to insect attack

David Wainhouse

Investigate mechanisms of resistance of young conifers to the pine weevil. Determine the relative importance of genetic and environmental factors in resistance expression. Develop these aspects to contribute to an Integrated Forest Management approach for control of pine weevil.

Restocking pests

Stuart Heritage

Research into the effective use of chemical pesticides for control of restocking pests, notably *Hylobius abietis*. Research into and development of insect parasitic nematodes for biological control of larval stages in stumps and provide direct intervention options within the Integrated Forest Management programme being developed in the Division.

Advisory services

Christine Tilbury

Provide identification services for both pest and beneficial insects and provide advice on pest management and control. Assess the spread and impact of horse-chestnut leafminer, *Cameraria ohridella*.

Tree diseases: diagnosis and provision of advice

David Rose, Sarah Green and Joan Webber

Diagnose the cause of disease in trees and provide advice and information on disease identification, management and control. Disseminate the information to all interested parties through outreach activities such as Forest Health Days, workshops and seminars.

Tree health monitoring

Steven Hendry

Monitor the health of the nation's trees through the 350+ plots of the Forest Condition Survey, and raise awareness of tree health issues.

Non-chemical protection

Joan Webber

Research the potential for biological and non-chemical control of tree diseases, with special emphasis on root and butt rot of conifers caused by the fungal pathogen *Heterobasidion annosum*. Integrate this information into effective approaches to management and control of tree diseases.

Red band needle blight

Anna Brown

Research and survey the extent, severity and rate of spread of red band needle blight (caused by *Dothistroma pini*) in the UK with particular reference to East Anglia Forest District. Determine the impact that this could have on tree mortality and timber yields of Corsican pine and the suitability of the different control measures.

Diseases of broadleaf trees

Joan Webber and Sandra Denman

Investigate a range of established broadleaf tree diseases which include oak decline and Phytophthora disease of alder to determine their impact, interaction with climate and the environment and the opportunities for management and mitigation.

Dieback of birch

Sarah Green

Investigate the causes of shoot dieback that are frequently found in birch planted as part of 'new native woodlands' in Scotland. Aim to establish if fungal pathogens cause the disorder and to advise forestry practitioners and the Forestry Commission on whether they are a serious, primary factor in birch dieback and, if so, how they may be managed.

Quarantine pathogens – *Phytophthora ramorum* and *P. kernoviae*

Joan Webber, Sandra Denman and Clive Brasier

Investigate the biology and epidemiology of the two new quarantine tree pathogens, *Phytophthora ramorum* and *P. kernoviae*, which infect tree species within the Fagaceae. Use information generated from this research in Pest Risk Analysis to determine the extent of the risk these pathogens pose to trees in the UK, their impact and opportunities for eradication and control.

Programmes part-funded by the European Commission

- Ash for the future: defining European ash populations for conservation and regeneration.
- Demonstration of sustainable forestry to protect water quality and aquatic biodiversity.
- Ergoefficient mechanised logging operations.
- Development of improved pest risk analysis techniques for quarantine pests, using pinewood nematode *Bursaphelenchus xylophilus* in Portugal as a model system.
- Forest condition surveys.
- Forest Focus review.
- Integrating ecosystem function into river quality assessment and management.
- Urgent conservation management for Scottish capercaillie.
- Visualisation tools for public participation in the management of landscape change.
- Risk analysis for *Phytophthora ramorum*.
- External timber cladding in maritime conditions. Northern Periphery.
- Reintegration of coal ash disposal sites and mitigation of pollution in the West Balkan area.
- Core forest sites for a Forest Habitat Network.
- Fellowship: Quality of Life and Management of Living Resources.
- Sustainability impact assessment: tools for environmental, social and economic effects of multifunctional land use in European regions.
- Sustainable management of forest insect pests.
- Development of generic 'on site' molecular diagnostics for EU quarantine pests and pathogens.

Programmes funded by individual organisations

BP Exploration Operating Co. Ltd

Scottish Forestry Alliance Biodiversity Group.

Cairngorms National Park

Update of forest and woodland framework, mapping section.

Carbon Trust

Energy efficient kilns.

CCW/FCW

Woodland habitat network strategy for Wales.

CCW, SNH and CSL

Grey squirrel fertility control vaccine bait trial.

Contaminated Land: Applications in Real Environments (CL:AIRE)

Development of an Indicator Methodology to determine the plant availability of potentially toxic elements.

Department for Environment, Food and Rural Affairs

- Species boundaries on *Phytophthora*.
- Yield models for energy coppice of poplar and willow.
- Investigation of eradication and control strategies for *Phytophthora kernoviae* in natural environments.
- Acid deposition monitoring at High Muffles.
- Renewable industrial material from the hills: adding value to trees.
- Condition survey of non-woodland amenity trees.

EPSRC/Sheffield

- Urban greening.
- Novel compost.
- Climate change.

EPSRC/University of Surrey

Pollutants in the urban environment.

FCS

- Scottish Native Woodlands Survey.
- Potential FR Timber Quality Group.

Institute of Grassland and Environmental Research

Development of sustainable heat and power fuelled by biomass from short rotation coppice in Wales.

James Jones

Timber properties of Sitka spruce in south Scotland.

Midlothian Council

Forest Habitat Network for Edinburgh and Lothian.

Natural Environment Research Council/Sheffield University

Terrestrial carbon dynamics.

NERC

- UK emissions by sources and removals due to land use and land use change policy.
- Terrestrial umbrella – eutrophication and acidification ecosystems in the UK.

Plantlife Scotland

Trials for *Juniperus communis* subsp. *communis*.

Scottish Executive

Small cow-wheat species recovery project.

Scottish Forestry Trust

Distribution and biology of *Anisogramma virgultorum* on birch in Scotland.

Scottish Natural Heritage

- Balancing upland and woodland strategic priorities.
- Lowland habitat network.

Sheffield University

CTCD data management.

Southampton University

Short rotation coppice (poplar).

USDA

- Phytophthora ramorum*.
- Bark infecting Phytophthoras.

Research contracts awarded by Forest Research

Avon Vegetation Research

Forestry herbicide evaluation.

Butterfly Conservation

Study of small pearl-bordered fritillary populations in Clocaenog Forest.

Cranfield University, BHR Group

Development and production of prototype systems to separate insect parasitic nematodes from rearing media.

Environment Agency (Wales)

Effects of forestry on surface water acidification.

Fountain Forestry

Water monitoring, Halladale.

Freshwater Fisheries Laboratory

Effects of riparian forest clearance on fish populations.

Imperial College, London

Control of decay in utility poles.

Development of a biological control agent for Dutch elm disease.

Conservation of Xylophagous beetles and their parasitoids in Britain's woodlands.

Macaulay Land Use Research Institute

Sustainability of afforestation development, Halladale.

Mountain Environments

Investigation of the long-term effects of forest management on upland catchments (Balquhider).

Scottish Environment Protection Agency

Effects of forestry on freshwater fauna.

University of Abertay, Dundee

Cryopreservation of Sitka spruce tissues.

University of Birmingham

Woody debris in forest aquatic habitats.

University of Bristol

Use of landscape features and habitats by lesser horseshoe bats: management implications.

University of Leeds

Atmospheric boundary layer over forests.

Chemical transport in forests.

University of Reading

Tree root response to acidification.

Soil variability.

Soil quality indicators in forestry.

University of Southampton

Water and fine sediment transport in rivers with wooded floodplains.

Molecular studies of quantitative traits in Sitka spruce.

University of Stirling

Habitat use of working forest by capercaillie.

Paleoecology of Glen Affric.

Identification and analysis of spider samples obtained from Forest Research's Biodiversity Assessment plots.

University of Sussex

Biochemical mechanisms for plants to act as sinks for atmospheric pollutants.

Drought tolerance in poplars.

University of Ulster

Feeding ecology of the large pine weevil.

Impact of defoliating insects on forests.

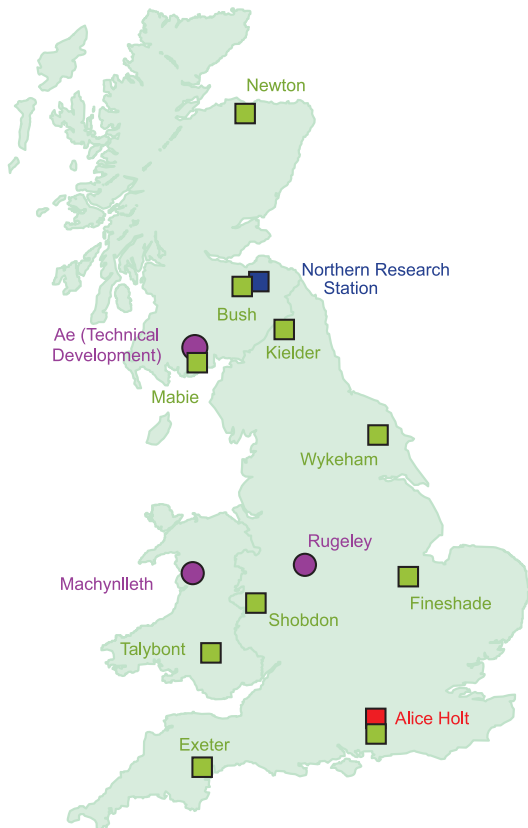
University of York

Carbon stocks in UK soils and their vulnerability to climate change.

Forest Research people

Staff as at 31 March 2006, in Divisions and Technical Services based at:

- **Alice Holt**
- **Northern Research Station**
- **Ae Village, Midlands and Wales**
- **Field Stations**



Chief Executive

- Professor Jim Lynch, BTech, PhD, DSc, CSci, CChem, FRSC, CBiol, FIBiol, FIBiotech, FRSA

Research Director

- Professor Peter Freer-Smith, BSc, PhD, DSc

Personal Secretaries

- Claire Holmes
- Sue Jones, BA, MA
- Sue Stiles

Head of Northern Research Station

- Chris Quine, MA, MSc, MICFor, PhD

Personal Secretary

- Madge Holmes

Quality Assurance Manager

- Kate Fielding (during 2005)
- Carl Foster (from January 2006)

Human Resources and Administration

- Ken Charles, FMS, *HR and Administration Director*
- Christopher Baker, BSc
- Wendy Groves
- Janet Lacey
- Heather Russell
- Mandy Sennett
- Sally Simpson
- Amanda Smith
- Louise Tharnthong
- Mike Wheeler
- Maureen Wilkes
- Mike Young
- Martin Abrahams, *Head of Administration at NRS*
- Gerry Cockerell
- Evelyn Hall
- Esther Ker
- Linda Legge
- Roz Shields

Finance and IT

- Tony Cornwell, FCMA, *Finance and IT Director*
- Laura Caless
- Dai Jeffries, BSc
- Carol Knight
- Timothy Knight, BSc
- Carole Martin
- Claire Sabin
- Janet Turner
- Wayne Blackburn, BSc, *Head of IT Services*
- Alec Gaw, BSc

Communications

- Xanthe Christophers, BSc, PhD, *Communications Director*
- Jenny Claridge, BSc, ARCS
- Joanne Davies, BSc
- George Gate
- David Georghiou, BA
- Eleanor Harland, MA, DipLib
- Alison Melvin, BA
- Catherine Oldham, BA, MA, DipLib, MCLIP
- Thelma Smalley
- Sally Taylor
- John Williams
- Glenn Brearley
- Kirsten Hutchison, MA

Research Liaison Officers

- Kate Fielding (Scotland)
- Chris Jones (Wales)
- Susannah Kable (England)

FR employs 283 staff, some of whom work part time, giving a total staff number of 273 full-time equivalents at 31 March 2006.

KEY: ■ **Alice Holt** ■ **Northern Research Station** ● **Ae, Midlands and Wales** ■ **Field Stations**

Publications, national and international links, research programmes, contracts and people

Biometrics, Surveys and Statistics Division

- Professor Sam Evans, MA, PGDip, PhD, PhD, FCMI,
Head of Division
- Catia Arcangeli, MSc, PhD
- Miriam Baldwin, HND, BSc, MSc
- Alan Brewer, BSc, MSc, MSc, PhD
- Eric Casella, MSc, PhD
- Joy Cornwell
- Ian Craig
- Carol Foden
- Paul Henshall, BSc
- Makihiko Ikegami, BSc, MSc, PhD
- Ewan Mackie, BSc, MSc
- Robert Matthews, BSc, MSc
- Geoff Morgan, BSc, MSc, PhD
- Lyn Pearce
- Jane Poole, BSc, MSc
- John Proudfoot
- Tim Randle, BSc
- Marc Sayce
- Paul Taylor, MA, MSc, MPhil
- Ian Tubby, BSc
- Christopher Vials, BSc
- Stephen Bathgate, BSc, BSc, PGDip
- Christine Brown
- Graham Bull
- Shona Cameron
- Lynn Connolly
- Tom Connolly, BSc, PhD
- Justin Gilbert, BSc
- Mark Lawrence, BSc, MSc
- Andrew Peace, BSc
- Lynn Rooney
- Juan Suárez-Minguez, BSc, MSc
- Esther Whitton

Ecology Division

- Chris Quine, MA, MSc, MICFor, PhD, *Head of Division*
- Stuart A'Hara, BSc, MSc, PhD
- Russell Anderson
- Helen Armstrong, BSc, PhD
- Alice Broome, BSc
- Robert Coope
- Joan Cottrell, BSc, PhD
- Jason Hubert, BSc, PhD
- Jonathan Humphrey, BSc, PhD
- Darren Moseley, BSc, PhD
- Liz Poulson, MSc
- Steve Petty, PhD, Research Fellow
- Duncan Ray, BSc
- Louise Sing, BA, MSc
- Shirley Spencer (also with FMD and TSU)
- Richard Thompson

- Andy Brunt
- Amy Eycott, BSc, PhD
- Mark Ferryman
- Robin Gill, BSc, MSc, PhD
- Matthew Griffiths, BSc, MSc
- Ralph Harmer, BSc, PhD
- Andrea Kiewitt, BSc, MSc
- Brenda Mayle, MSc
- Roger Trout, BA, PhD
- Kevin Watts, BSc, PhD

Environmental and Human Sciences Division

- Andy Moffat, BSc, PhD, *Head of Division*
- Lorraine Adams, BSc
- Nadia Barsoum, BSc, PhD
- Sue Benham, BSc
- François Bochereau, BSc, MSc
- Mark Broadmeadow, BSc, PhD
- Samantha Broadmeadow, BSc, MSc
- Sylvia Cowdry
- Peter Crow, BSc, MSc
- Cecile De Munck, BSc, MSc
- Tony Hutchings, MSc
- Lynn Jordan
- Caroline Kilbride, BSc
- Anthea McRiley, BSc
- Alberto Morales, BSc, PhD
- Jake Morris, MA, PhD
- Jacqui Neal
- Tom Nisbet, BSc, PhD
- Liz O'Brien, BSc, PhD
- Christopher Peachey
- Rona Pitman, BSc, PhD
- Geoffrey Sellers, BSc, MSc, PhD
- Danielle Sinnett, MSc
- Paul Tabbush, BSc, MSc, FICFor
- Huw Thomas, BSc, MSc
- Rene van Herwijnen, MSc, PhD
- Elena Vanguelova, BSc, MSc, PhD
- Ernest Ward, BSc, MSc, CChem, MRSC
- Christine Whitfield
- Matthew Wilkinson, BSc, MSc
- Matthew Williams, BSc
- Elizabeth Young, BSc
- David Edwards, BSc, MSc, MSc, PhD
- Max Hislop, MICFor
- Suzanne Martin, BSc, PhD

KEY: ■ Alice Holt ■ Northern Research Station ● Ae, Midlands and Wales ■ Field Stations

Forest Management Division

Incorporating Technical Development

- Bill Mason, BA, BSc, MICFor, *Head of Division*
- Alexis Achim, BSc
- Cathleen Baldwin
- Colin Edwards, BSc
- Professor Barry Gardiner, BSc, PhD, FRMetS
- Sophie Hale, BSc, PhD
- Alan Harrison, BSc
- Allan John, BSc, PhD
- Steve Lee, BSc, PhD, MICFor
- Elspeth MacDonald, BSc, MSc
- Shaun Mochan, MSc
- Bruce Nicoll, BSc
- Mike Perks, BSc, MSc, PhD
- Shirley Spencer (also with ED and TSU)
- Rob Sykes
- Colin McEvoy, BA
- Stephane Berthier, PhD
- Peter Gosling, BSc, PhD
- Lorelie Ives
- Richard Jinks, BSc, PhD
- Gary Kerr, BSc, FICFor, PhD, MICFor
- Shelagh McCartan, BSc, MSc, PhD
- Matt Parratt, BSc
- Victoria Stokes, BSc, PhD
- Christine Woods, BA
- Ian Willoughby, BSc, MBA

Technical Development

Ae, Scotland

- Andy Hall, *Head of Technical Development*
- Bill J. Jones
- Steve Morgan
- Ian Murgatroyd
- Norma Nicholson
- Joyce Rammell, BSc
- Colin Saunders

Midlands

- Andy Hall (also at Ae)
- Duncan Ireland, BSc
- Paul Webster

Wales

- David Jones, EngTech, AMIAgrE

Tree Health Division

- Hugh Evans, BSc, DPhil, FRES, *Head of Division*
- Professor Clive Brasier, BSc, PhD, DSc, Research Fellow
- Anna Brown, BSc, PhD
- Sandra Denman, BSc, MSc, PhD
- Gillian Green, BSc
- Andrew Jeeves
- Martin Jukes, Cbiol, MIBiol
- Susan Kirk
- Elizabeth Orton, BA, MSc
- David Rose, BA
- Joan Rose
- Shirley Stephens
- Nigel Straw, BSc, PhD, FRES
- Christine Tilbury, BSc
- Kath Tubby, BA, MSc, DPhil
- David Wainhouse, MSc, PhD, FRES
- Joan Webber, BSc, PhD
- David Williams, BSc, PhD
- Sarah Green, BSc, PhD
- Steven Hendry, BSc, PhD
- Stuart Heritage, MBA, Cbiol, MIBiol
- Grace MacAskill
- Roger Moore, BSc, PhD
- Corinne Russell
- Heather Steele, BSc

Field Stations

Technical Services Unit

- Janet Dutch, BSc, PhD, *Head of Unit*

North

Engineering Services

- David Brooks, *Head of Engineering Services*
- James Nicholl
- John Strachan

Bush, Inver and Bush Nursery

- David Anderson, *Head of Stations*

Bush

- Colin Gordon
- Hamish Howell
- Nelson Innes
- Gavin Mackie
- Steven Osborne, BSc
- Steven Sloan

Inver

- Nick Evans
- Bill Rayner

Publications, national and international links, research programmes, contracts and people

Bush Nursery

- David Clark, *Nursery Manager*
- John Armstrong
- Graeme Crozier
- Alan Purves

Kielder and Mable

- Dave Watterson, *Head of Stations*

Kielder

- Terry Gray
- Mike Ryan
- Len Thornton

Mable

- James Duff
- Joanna McGregor
- Harry Watson
- James White

Newton and Lairg

- Alistair MacLeod, *Head of Stations*
- Pauline Simson, BSc

Newton

- Hazel Andrew
- Allison Cowie
- Andrew Kennedy, BSc
- Fraser McBirnie
- Stuart McBirnie
- Hugh MacKay, BSc
- Stephen O'Kane
- Colin Smart

Lairg

- Alexander Bowran
- Calum Murray
- Duncan Williams

South

Alice Holt

- Jamie Awdry
- Bob Bellis
- Sue Bellis
- Tony Bright
- Rory Cobb
- Steve Coventry
- Norman Day
- Kate Harris
- Ian Keywood
- Vicki Lawrence
- Tony Martin
- Jim Page
- Bill Page

Alice Holt Workshop

- Jon Davey
- Clive Muller

Exeter

- Alan Ockenden
- Anthony Reeves
- Barnaby Wylder

Fineshade and Thetford

- Dave West, *Head of Stations*
- Elizabeth Richardson

Thetford

- John Lakey
- Paul Turner
- Alistair Whybrow
- Steven Whall

Shobdon and Talybont

- Nick Fielding, *Head of Stations*

Shobdon

- Jason Jones
- Sharon O'Hare
- Martin Page-Jones
- John Price
- Jonathan Tetley

Talybont

- Chris Jones, BSc
- Lyn Ackroyd
- Sam Catchpole, BSc
- Justin Chappell
- Dai Evans
- Ben Griffin, BSc
- Steve Howells
- Richard Keddle
- Brian Jones
- Finlay McAllister, BA, BSc
- Andrew Price
- Tony Price
- Jake Thompson
- Tyrone Waldron
- Ken Williams

Wykeham

- Lee Cooper
- Nicola Corney
- Alex Hill
- Patricia Jackson
- William Riddick

KEY: ■ Alice Holt ■ Northern Research Station ● Ae, Midlands and Wales ■ Field Stations

PhD Students linked with Forest Research

Sarah Archibald (Imperial College London)
Miriam Baldwin (Wageningen University, NL)
Eligiusz Baumgart (Imperial College London)
David Beattie (Imperial College London)
Sophie Bertin (University of Edinburgh)
Helen Billiald (University of Sussex)
Wendy Bryan (Paisley University)
Lois Canham (University of Stirling)
Fiona Caryl (University of Stirling)
Vanessa Castan-Broto (University of Surrey)
Jo Clark (University of Wales, Bangor)
Julia Cox (University of Surrey)
Richard Curtis (University of Gloucester)
Monica De Ioanni (University of Molise)
Heike De Silva (University of Aberdeen)
Hannah Drewitt (University of Durham)
Helen Ellison (Imperial College London)
Ruth Fitzgerald (Reading University)
Priya Gadepalle (University of Surrey)
Samantha Gale (Abertay University)
Rachel Gaulton (University of Edinburgh)
Nicole Harris (Southampton University)
Iain Hartley (University of York)

Jack Johnston (University of Ulster)
Tessa Knight (University of Bristol)
Bruce Lamond (University of Edinburgh)
Lucy Marchant (Reading University)
Paul McLean (University of Glasgow)
Jo Mortimer (Reading University)
Gloria Olaya (University of Edinburgh)
Vini Peteira (Imperial College London)
Martin Price (University of Wales, Bangor)
Jennifer Seaman (University of Sheffield)
Helen Sellars (University of Liverpool)
Tim Silverthorne (University of Surrey)
Danni Sinnett (Reading University)
Juan Suárez-Minguez (University of Sheffield)
Suzanne Swanwick (Cranfield University)
Janine Tan (Ulster University)
Louise Timms (Imperial College London)
Alessandra Timarco (Reading University)
Peter Torr (Aberdeen University)
Ed Wallington (University of Edinburgh)
Axel Wellpot (University of Edinburgh)
Jeremy Wingate (University of Surrey)
Georgios Xenakis (University of Edinburgh)