Knowledge Exchange records from 01/04/2015 – 31/03/2016

CATEGORY 3 - FC and/or FR publications (12 records)

Record ID	4010875
Title:	**Forestry Commission Research Report: Shake in oak: an evidence review.**
Other titles:	Understanding the causes of shake defects in oak trees
Author:	Price, A.
Company:	Corporate Forestry Services
Imprint:	Forestry Commission Scotland, 2015
Description:	FC Report
Main subject:	TREE HEALTH
Subjects:	TIMBER; DEFECT; DAMAGE; EARLYWOOD; VESSEL; GROWTH RING; GEOLOGY; SOIL; NUTRITION STRESSES; FCRA AUTHOR; 2016-FR-CAT-3
Notes:	36 pp
Abstract:	Shake is believed to affect about 20% of British oaks. Shake may appear on any site. No fully reliable method exists to identify the defect in standing trees, or predict vulnerable sites without local and historical knowledge. This review seeks to enable risky sites to be identified and avoided for new planting and to help lower risk sites be managed to minimise risk. The following factors will predispose a tree to shake: large earlywood vessel diameter, wounding to the main stem, and abrupt changes in ring width. Predispositions will not lead to shake without an additional aggravating factor or 'trigger' such as poor soil nutrition, poor rooting conditions, drought or waterlogging, and severe external or internal stresses.
Class:	Electronic resource http://www.forestry.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=%28FCRP024%29&count=999&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE http://www.forestry.gov.uk/fr/hcou-4u4jeq
ISBN:	978-0-85538-925-3
Country:	uk
Bib type:	M
GMD:	Reports
Entered:	07/05/2015 B00000115

Record ID	4010974
Title:	**Ecosystem services and forest management**
Author:	Sing, L.
Co-author:	Ray, D.; Watts, K.
Company:	Forest Research
Imprint:	Forestry Commission, September 2015
Description:	9 pages, ills. refs.
Series:	Research Note
Main subject:	ECOSYSTEM MANAGEMENT
Subjects:	ECOSYSTEM; ECOSYSTEM MANAGEMENT; ECOSYSTEM SERVICES; FOREST ECOSYSTEMS; FOREST MANAGEMENT; POLICY; POLICY MAKING; CLIMATE CHANGE; SUSTAINABLE FOREST MANAGEMENT; UK FORESTRY STANDARD; TIMBER PRODUCTION; CARBON SEQUESTRATION; FLOOD MANAGEMENT; WATER QUALITY; HEALTH; RECREATION; BIODIVERSITY; BRITAIN; UK; FCRA AUTHORS; 2016-FR-CAT-3
Abstract:	The ecosystem services concept helps describe the benefits which humans receive from nature and natural processes in a way that can influence policy and management decision making. The ability of trees, woodlands and forests to provide a wide range of ecosystem services is very much dependent on where they are located and how they are managed. Characterising, assessing and valuing ecosystem services can support forest

management in a number of ways. These include demonstrating the human and societal goods and services which trees, woodlands and forests provide; supporting the prioritisation of management activities by articulating forest management outcomes as trade-offs in ecosystem services; and considering whether the configuration and management of woodlands is sufficiently robust to meet potential changes in the future demand for ecosystem services, and is resilient to projected climate change. This Research Note provides an introduction to the ecosystem services framework by explaining the concepts of characterisation, assessment and valuation, and the links to sustainable forest management through the UK Forestry Standard. It presents the findings of a series of workshops, held by Forest Research during 2011, which identified the priority ecosystem services for policy and practice from trees, woodlands and forests as timber and fuel production, carbon sequestration, flood mitigation, water quality, health and recreation, and biodiversity.
http://www.forestry.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=%28FCRN020%29&count=999&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE

ISBN: 9780855389291
Country: uk
Bib type: M
GMD: FR Publication
Entered: 17/09/2015 b00000317
Updated: 17/09/2015 b00000317

Record ID 4010975
Title: Xylella fastidiosa
Company: Forest Research
Imprint: Forestry Commission, September 2015
Description: 2 pages, ills.
Series: Pest Alert
Main subject: PESTS
Subjects: XYLELLA FASTIDIOSA; PEST MANAGEMENT; PESTS; WOODY PLANTS; BROADLEAVED TREES; LEAFHOPPERS; XYLEM; SYMPTOMS; TREE DISEASE; TREE DISEASES; CENTRAL AMERICA; NORTH AMERICA; EUROPE; UK; FCRA; 2016-FR-CAT-3
Abstract: Xylella fastidiosa is a disease causing bacterium that affects a wide range of important woody plants and broadleaved trees. It invades the xylem vessels that transport water throughout plants and causes symptoms that range from leaf scorch to tree dieback and death. In the natural environment it is transmitted by xylem-fluid feeding insects such as leafhoppers. Until recently the bacterium was only known in the Americas and Taiwan, but an outbreak on olive trees in southern Italy was confirmed in 2013. Affected shrubs were also found in France in 2015. In Italy, the bacterium is apparently causing the rapid decline of olive trees over a large area and is under emergency measures. It has not yet been found in the UK and measures are in place to protect our trees.
http://www.forestry.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=%28FCPH-XF%29&count=999&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE

ISBN: 9780855389338
Country: uk
Bib type: M
GMD: FR Publication
Entered: 17/09/2015 b00000317
Updated: 17/09/2015 b00000317

Record ID 4010976
Title: Plane Wilt (canker stain disease)

Company:	Forest Research
Imprint:	UK: Forestry Commission, September 2015
Description:	2 pages, ills.
Series:	Pest Alert
Main subject:	PESTS
Subjects:	PEST; PEST DIAGNOSIS; PEST MANAGEMENT; PLANE WILT; CANKER STAIN DISEASE; PLANE TREES; PLANE WILT; CERATOCYSTIS PLATANI; CERATOCYSTIS PLATANI; FUNGUS; TREE ALERT; TREE DISEASES; TREE DISEASE; AMERICAN SYCAMORE; ORIENTAL PLANE; LONDON PLANE; PLATANUS ACERIFOLIA; PLATANUS ORIENTALIS; PLATANUS OCCIDENTALIS; UNITED STATES; EUROPE; UK; FCRA; 2016-FR-CAT-3
Abstract:	Plane wilt, also known as canker stain disease, is a serious disorder of plane trees, which are important amenity trees in the parks and avenues of many European cities. The disease is caused by the fungus Ceratocystis platani, which is present in the USA and Europe, but considered to be indigenous only to North America. It is thought to have been introduced into Europe in the Naples area of southern Italy during World War II, possibly arriving in infected wood from the USA used to package military supplies. Since then plane wilt has gradually spread to other European countries. In 2014 the UK became a Protected Zone to provide extra safeguards against accidental introduction of this disease on imported trees or the wood of plane. http://www.forestry.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=%28FCPH-PW%29&count=999&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE
ISBN:	9780855389345
Country:	uk
Bib type:	M
GMD:	FC Publication
Entered:	17/09/2015 b00000317

Record ID	4011082
Title:	**Thinning Control**
Other titles:	Field Guide: Thinning control
Author:	Forestry Commission
Company:	Forestry Commission
Edition:	4th
Imprint:	Edinburgh: Forestry Commission, 2015
Description:	56 pages ills.
Series:	Field Guide
Main subject:	THINNING
Subjects:	YIELD CLASS; THINNING PRACTICE; ; UK; FORESTRY COMMISSION; 2016-FR-CAT-3
Notes:	A5 colour, spiral bound.
Abstract:	This Field Guide provides guidance on the control of volume to be removed when marking a thinning and a guide to thinning yields. There are four sections: the first describes the yield class system and how yield class is assessed in a stand. The second covers thinning practice, including the type, intensity and cycle of thinning, how to calculate the thinning yield, the timing of thinning, and how the thinning is controlled. The third describes the field procedures for estimating top height, basal area and volume marked, and how to calculate mean diameter. The final section presents general yield class curves for a selection of common species. A summary of the office and field procedures to be followed when marking a thinning is printed on the inside front cover
Class:	FC Publ. 'F' FLD GDE (4) 2015 http://www.forestry.gov.uk/website/publications.nsf/searchpub/?SearchView&Query=(thinning+and+control)&count=999&SearchOrder=4&SearchMax=0&SearchWV=TRUE&SearchThesaurus=TRUE

ISBN: 978-0-85538-930-7
Country: uk
Bib type: M
GMD: text
Entered: 19/11/2015 b00000317
Updated: 19/11/2015 b00000317

Record ID 4011085
Title: **Future forest: The Black Wood, Rannoch, Scotland**
Author: Collins, T.
Co-author: Goto, R. and Edwards, D.
Company: Forest Research
Imprint: UK: Landscape Research Group / Forest Research, 2014
Description: 51 pp. refs. ills. fold out maps.
Main subject: FORESTRY
Subjects: BLACK WOOD OF RANNOCH; NATIVE PINEWOODS; NATURE CONSERVATION; ECOSYSTEM SERVICES; SCOTLAND; UK; FCRA AUTHOR; 2016-FR-CAT-3
Abstract: This report brings together the findings and reflections from a year-long creative enquiry into the ecological and cultural meanings and values associated with the Black Wood of Rannoch in Highland Perthshire.
Class: FC PUBL. Scotland 'F' 2014
ISBN: 978-0-9931220-0-2
Country: uk
Bib type: M
GMD: FR Publication
Entered: 07/12/2015 b00000317

Record ID 4011092
Title: **Pan-European strategy for genetic conservation of forest trees and establishment of a core network of dynamic conservation units**
Author: de Vries, S.M.G.,
Co-author: Alan, M.; Bozzano, M.; Burianek, V.; Collin, E.; Cottrell, J.; Ivankovic, M.; Kelleher, C.T.; Koskela, J.; Rotach, P.; Vietto, L.; Yrjänä, L.
Imprint: Rome, Italy: European Forest Genetic Resources Programme (EUFORGEN), Bioversity International, Rome, Italy, 2015
Series: EUFORGEN Publications Thematic Publications
Main subject: FOREST
Subjects: GENETIC CONSERVATION; FORESTRY; GENETIC DIVERSITY; TREE SPECIES; 2016-FR-CAT-3
WWW: http://www.euforgen.org/publications/publication/pan-european-strategy-for-genetic-conservation-of-forest-trees-and-establishment-of-a-core-network-o/
ISSN: 978-92-9255-029-5
Bib type: A
GMD: text
Entered: 30/12/2015 b00000317
Updated: 06/01/2016 b00000317

Record ID 4011093
Title: **Use and transfer of forest reproductive material in Europe in the context of climate change**
Author: Konnert, M.
Co-author: Fady, B.; Gömöry, D.; A'Hara, S.; Wolter, F.; Ducci, F.; Koskela, J.; Bozzano, M.; Maaten, T. and Kowalczyk, J.
Imprint: Rome, Italy: European Forest Genetic Resources Programme (EUFORGEN), Bioversity International, Rome, Italy, 2015
Series: EUFORGEN Publications Thematic Publications

Main subject: FOREST
Subjects: FORESTRY; GENETIC DIVERSITY; TREE SPECIES; FOREST REPRODUCTIVE MATERIAL; CLIMATE CHANGE; FOREST MANAGEMENT; 2016-FR-CAT-3
WWW: http://www.euforgen.org/publications/publication/use-and-transfer-of-forest-reproductive-material-in-europe-in-the-context-of-climate-change/
ISSN: 978-92-9255-031-8
Bib type: A
GMD: text
Entered: 30/12/2015 b00000317

Record ID 4011097
Title: **Climate change and land regeneration**
Author: Moffat, A.J.
Company: Forest Research
Imprint: UK: Forest Research, 2015
Description: 3pp
Series: Forest Research Best Practice Guidance for Land Regeneration BPG No. 21
Main subject: LAND RECLAMATION
Subjects: CLIMATE CHANGE; LAND REGENERATION; GREENSPACE; BROWNFIELD SITES; FCRA AUTHOR; 2016-FR-CAT-3
Abstract: Authoritative reviews of weather data over the past 40 years show that Britain's climate has been changing, in some regions markedly. There has been a clear trend towards warmer conditions, and increased winter and reduced summer rainfall. In tandem, storminess has increased in frequency and intensity (Jenkins et al., 2008; Figure 1). These trends are expected to continue into this century – by 2080 UK climate projections from UKCP09 (see Useful links section) show a likely increase in mean summer temperature of between 2.5 and 4.2°C and a decrease in summer rainfall of up to 40% in southern England. In contrast, an increase in winter precipitation of up to 33% is expected in the west of Britain. Climate change is being taken seriously by the UK Government and its devolved administrations, and there are now significant policies both to reduce further global warming, and to ensure effective adaptation of existing systems and services.
Country: uk
Bib type: M
GMD: text
Entered: 04/01/2016 b00000317
Updated: 04/01/2016 b00000317

Record ID 4011153
Title: **Forest Research Best Practice Guidance Note FCPN20.**
Other titles: Drought tolerant tree species and land regeneration
Author: Ashwood, F.
Co-author: Albertini, A.; Doick, K.J.
Company: Forestry Commission; Forest Research
Imprint: Forestry Commission Edinburgh, 2015
Description: Forest Research Best Practice Guidance Note
Main subject: LAND USE
Subjects: LAND REGENERATION; FCRA AUTHORS; 2016-FR-CAT-3
Abstract: Drought can be defined as 'a meteorological occurrence characterised by below normal rainfall' (Cregg, 2004); if prolonged, it can lead to soil water deficits causing wilting and eventual death of vegetation. Soil water content is governed by climate (precipitation and evaporation), soil permeability, effective rooting depth and soil water-holding capacity. For a given volume of soil, the principal factors that affect water availability for plant growth are soil texture and soil organic matter content. Soils and soil-forming materials on brownfield land are generally stony, compacted and have a low organic matter content.
Class: Electronic resource
Country: uk

Bib type: M
GMD: FC Publication
Entered: 23/02/2016 B00000115

Record ID 4011158
Title: **Carbon impacts of biomass consumed in the EU: quantitative assessment**
Other titles: Final report, project: DG ENER/C1/427
Part A: Main Report
Author: Matthews, R.
Co-author: Mortimer, N.; Leschen, J.P.; Lindross, T.J.; Sokka, L.; Morris, A.; Henshall, P.; Hatto, C.; Mwabonje, O.; Rix, J.; Mackie, E.; Sayce, M.
Imprint: Forest Research, December 2015
Description: Report 362 pages
Main subject: BIOMASS
Subjects: GHG; GREENHOUSE GAS EMISSIONS; LCA; LIFE CYCLE ASSESSMENT; BIOENERGY; BIOENERGY; EUROPE; EU; FCRA AUTHORS; 2016-FR-CAT-3
Abstract: This report has been prepared in fulfillment of a European Commission project, ENER/C1/427-2012 on 'Carbon impacts of biomass consumed in the EU'. The principal objective of this project is to deliver a qualitative and quantitative assessment of the direct and indirect greenhouse gas (GHG) emissions associated with different types of solid and gaseous biomass used in electricity and heating/cooling in the EU under a number of scenarios focusing on the period to 2030, but also extended to 2050, in order to provide objective information on which to base further development of policy on the role of biomass as a source of energy with low associated GHG emissions.
Bib type: M
GMD: text
Entered: 29/02/2016 b00000317

Record ID 4011210
Title: **Biodiversity and rotation length: economic models and ecological evidence**
Author: Barsoum, N.
Co-author: GILL, R.; HENDERSON, L.; Peace, A.; Quine, C.; Saraev, V.; Valatin, G.
Company: Forest Research
Imprint: Forestry Commission, March 2016
Description: Research note
Main subject: BIODIVERSITY
Subjects: BIODIVERSITY; forest rotation; STAND AGE; ROTATION LENGTH; FCRA AUTHORS; 2016-FR-CAT-3
Abstract: This Research Note presents the findings of a study which examined how biodiversity changes with stand age, with a view to incorporating it into optimal forest rotation length modeling. The study reviewed relevant literature and analysed Forestry Commission Biodiversity Assessment Project data. The review revealed no simple or universal response of biodiversity to stand age. However, there was more evidence of biodiversity increasing with stand age than falling (or not changing) and, with regard to habitat requirements for birds and mammals in British forests, there is evidence that after a brief initial increase, biodiversity declines until around 20 years and thereafter increases again. While only a limited number of economic models were found which linked biodiversity and rotation length, two distinct approaches to such work were identified: first, a direct approach which accounts for biodiversity values when estimating net present values and, second, an indirect approach which employs biodiversity management constraints in the modeling. The data analysis also revealed, in most cases, no evidence of significant changes in biodiversity with stand age. Upland Sitka spruce stands were an exception, where biodiversity levels were higher in young forests and again in more mature forests and at a minimum at around 40 years old. Overall, the study found that both the ecological evidence linking biodiversity and stand age and the economic modeling accounting for that linkage are limited. Therefore, a substantial challenge remains to

incorporate biodiversity into rotation length models, and recommendations are made to address this.

Bib type: M
GMD: text
Entered: 08/04/2016 b00000317
Updated: 11/04/2016 b00000317