

Growing Places



The Newsletter of the **Social and Economic Research Group**

Autumn 2013

Welcome to the SERG newsletter.

This autumn edition focuses on the social dimensions of tree health.

Last year's outbreak of *Chalara fraxinea*, the fungus that causes dieback of ash, has highlighted the issue of tree pests and diseases. Ash makes up a large proportion of British trees and the potential loss of some of this resource will have an impact on the many people who value ash as well as on parts of the forestry and nursery sectors. There is also a range of other pests and diseases that are a concern, including Asian longhorn beetle, Dothistroma needle blight and Oak processionary moth.

The social dimensions of tree health are an important area of study because human activities, in particular international trade and global travel, have increased the ease of pest and disease introduction. It is therefore crucial to understand the different types of stakeholders and how to involve them in safeguarding tree health. For example, the help of citizen volunteers is increasingly sought to contribute to providing early warnings of new diseases as well as long-term surveillance of existing diseases. Forest Research's Social and Economic Research Group (SERG) is increasingly involved in research relating to the social dimensions of tree pests and diseases. We are working in close collaboration with a wide range of natural scientists and in partnerships with various institutions.

Key themes in our current tree health research:

- Who is involved in tree biosecurity and what is their stake?
- What is the awareness and understanding of tree pest and disease threats amongst different stakeholders?
- How can responses to tree health pests and diseases be made more effective and appropriate?
- How can we engage with and use the skills of citizens in mapping pests and disease introduction and spread?

The projects featured examine some of these questions.

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Beyond the forest edge

SERG has recently published a study looking at how beliefs in climate change in the private sector have influenced forest management practices. We studied private forest owners and managers in North Wales and found that perceptions of risk and uncertainties in forestry are more influenced by experiences of tree disease than climate change itself. One woodland owner was delighted that ash was increasing in his woodland, citing this as a good bet for climate change; one year on, the spread of *Chalara fraxinea* now makes that unlikely. Half of respondents mentioned *Phytophthora ramorum*, which is having a major impact on forestry in Wales; landowners with infected trees have been issued with statutory notices to fell infected areas. Despite a complex of causal factors, for forest owners in Wales, uncertainty about species choice and the economic impact of disease outbreaks are the tangible effects of climate change. For more details, contact Anna Lawrence (anna.lawrence@forestry.gsi.gov.uk).

Social and economic analyses of Dothistroma needle blight management

Dothistroma needle blight (DNB) is a fungal disease of conifers that results in the death of foliage, reducing tree growth and vigour, and in some cases resulting in tree death. Over the past twenty years, its geographic and host range has increased throughout Europe and it appears that DNB (*Dothistroma septosporum* particularly) is here to stay. However, effective management can reduce its spread and intensity as outlined in a recent GB strategy. SERG is undertaking an 18-month project to identify the range of social and economic factors and challenges that are important for the management of the disease.



Chemical control of Dothistroma needle blight.

In the UK, the increase and spread of DNB has had a profound impact on important commercial species such as Corsican and lodgepole pine. The disease has also spread to native species such as Scots pine, leading to concerns about the risk to the Caledonian pinewoods as well as commercial woods. The challenge now is to mobilise the diverse range of woodland and nursery owners across large spatial scales to adopt DNB management methods. Such methods may include surveillance and monitoring, species diversification, early thinning and felling, pruning and possibly chemical control (e.g. copper fungicides).

This project will explore in detail the beliefs, values and practices of these stakeholders in relation to tree health generally and DNB specifically. The project will also include a cost-benefit analysis to identify financial barriers impeding implementation of the DNB GB strategy. Understanding the costs involved is important for owners and managers when assessing their strategies, investments and operations against the benefits of intervention and existence of incentives and regulation.

The overall aim of this work is to provide a better understanding of the key barriers to adoption of DNB management recommendations and how stakeholder engagement can be improved. Barriers to management may include lack of awareness or knowledge of the disease, lack of conviction that management is worthwhile, the acceptability of the measures or affordability.

For further information please contact Mariella Marzano (mariella.marzano@forestry.gsi.gov.uk) or Chris Quine (chris.quine@forestry.gsi.gov.uk).

Developing an early warning system for tree health

Recent tree pest and disease outbreaks have raised public awareness of the threats to tree health and the need to build resilience. Forest Research is leading a project called ObservaTREE, which has secured EU funding to develop a UK integrated Tree Health Early Warning System (THEWS).

The 2011 joint Defra–Forestry Commission Tree Health and Plant Biosecurity Action Plan identified the need to mobilise a wide range of expertise and resources to develop a THEWS to speed up operational and policy responses to tree pest and disease outbreaks. The Action Plan also highlighted the cross-sectoral need for a

centralised system to provide quick access to data on tree health and plant biosecurity.

ObservaTREE is a partnership with the Forestry Commission, the Food and Environment Research Agency (Fera), the Woodland Trust and the National Trust, and has received strong support from the Action Plan and from Defra for preparatory actions. Its key objectives are to:

- engage citizens, volunteers and civic societies in the reporting of tree health incidents, so they can play a greater role in protecting trees, woods and forests
- promote knowledge sharing and communications integration within a single, risk-based system that brings the main actors together in one project



SERG is currently taking a project management role, and our social scientists will be playing a key part in the design of the project's citizen science component, as well as in wider engagement, collaboration, project extension and evaluation activities.

ObservaTREE is funded by LIFE, the EU's financial instrument that supports environmental policy and nature conservation projects.

For further information visit: www.forestry.gov.uk/fr/observatree or contact Jake Morris (jake.morris@forestry.gsi.gov.uk).

Social analysis of the Asian longhorn beetle outbreak

From March to September 2012, a small community in Kent became the focus of a programme to eradicate the first population of Asian longhorn beetles (ALB, *Anoplophora glabripennis*) to become established in the wild in Britain. SERG was subsequently asked to undertake social research to identify stakeholders in the ALB case study and investigate their awareness and understanding of the beetle.

A small-scale case study was conducted in May and June 2013 in which a questionnaire was distributed to local residences (n=250) and nine semi-structured interviews were carried out with those directly affected by, or involved in, the eradication programme. The interviews resulted in interesting qualitative data on residential experiences of the outbreak. Several themes emerged, in particular the importance of communication and trust with the local community during a 'rapid response' eradication programme. These will be described and explored in a peer-reviewed paper, which is currently being written. The survey had a 21% response rate, which provided an indication of local residents' awareness of the ALB outbreak and how it was managed, as well as their knowledge and awareness of tree health more broadly. Despite the small sample size, there were many parallels between the results of the ALB survey and the results of a public online survey (n=1000) that was done through Imperial College as part of the tree health stakeholder research that SERG is carrying out for Defra (see page 4). The ALB survey showed wide approval for eradication as a course of action, although very few respondents said they were directly impacted.

For further information, please contact Norman Dandy (norman.dandy@forestry.gsi.gov.uk).



Trees felled within ALB outbreak management area.

ALB 2012 outbreak

A lone adult beetle was initially found by a local resident on the northern edge of Paddock Wood in 2009, and although no sign of infestation was found at that time, annual monitoring of the site resulted in discovery of the beetle population in 2012. An action plan was quickly developed by Fera and the Forestry Commission. Forest Research and Fera staff were at the heart of managing the intense eradication programme. This resulted in the removal and incineration of 2166 trees from over 14 hectares, affecting several residential properties and businesses.

Tree health stakeholders

In co-operation with Imperial College London, Fera and others, SERG are involved in a two-year research project centred on analysing the tree health stakeholder landscape. This work is in response to the 2011 *Tree Health and Plant Biosecurity Action Plan*, which called for new forms of engagement with tree health stakeholders, to enable them to play more active and effective roles in the prevention and management of pest outbreaks. Traditionally, such management has been the preserve of a limited number of specialists such as forest scientists and policy-makers. However, changes in human 'behaviours' such as trade and tourism, technology (especially mobile diagnostics and monitoring) and the scale of tree health problems, have created the need and capacity for others to get involved.



Increased international trade is one way human behaviour has affected tree health.

In parallel with overarching analysis of tree health at national and international scales, our approach to this project focuses on three outbreak case-studies: great spruce bark beetle and chestnut blight in the UK, and emerald ash borer in North America and elsewhere. SERG is also conducting complementary analyses of *Dothistroma* needle blight and Asian longhorn beetle via other projects (see elsewhere in this issue). As a whole, these cases have enabled the team to identify the breadth of stakeholdership and to develop ways to categorise varied stakes. Further to this, surveys are being used to assess awareness levels amongst key stakeholders such as gardeners and woodland owners, and the wider public. The structure of the nursery trade and its stakes in tree health are being investigated via interview analysis. All of these research strands will be brought together towards the end of the project to inform both the design of a communications plan and assessments of the potential effectiveness of strategies and methods to engage the varied stakeholders.

The research team are producing a series of project Working Papers, which will be available soon, followed by peer-reviewed outputs. For further details of this project please contact Norman Dandy (norman.dandy@forestry.gsi.gov.uk) or visit www.forestry.gov.uk/fr/INFD-9AKCDM

If you need this publication in an alternative format, for example in large print or another language, please telephone us on **0131 314 6575** or send an e-mail request to: **diversity@forestry.gsi.gov.uk**

Recent SERG publications

O'Brien, L. and Morris, J. (2013). Well-being for all? The social distribution of benefits gained from woodlands and forests in Britain. *Local Environment*. doi: 10.1080/13549839.2013.790354

O'Brien, L., Marzano, M. and White, R. (2013). 'Participatory interdisciplinarity': Towards the integration of disciplinary diversity with stakeholder engagement for new models of knowledge production. *Science and Public Policy*. doi: 10.1093/scipol/scs120

Lawrence, A., De Vreese, R., Johnston, M., Konijnendijk van den Bosch, C., Sanesi, G. (2013). Urban forest governance: towards a framework for comparing approaches. *Urban Forestry and Urban Greening*. In press. <http://dx.doi.org/10.1016/j.ufug.2013.05.002>

Moseley, D., Marzano, M., Chetcuti, J. and Watts, K. (2013). Green networks for people: Application of a functional approach to support the planning and management of greenspace. *Landscape and Urban Planning*, **116**, 1–12.

Lawrence, A and Ambrose-Oji, B. (2013). *A framework for sharing experiences of community woodland groups*. Forestry Commission Research Note, Forestry Commission, Edinburgh.



Imported trees found to be infected with disease.

Where to find out about us:

What we do

www.forestry.gov.uk/fr/peopleandtrees

Who we are

www.forestry.gov.uk/fr/INFD-5XNATV

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lucy.turner@forestry.gsi.gov.uk