



The tree health landscape in Scotland

Hugh Clayden
Forestry Commission Scotland



- Current main pests**
- Looking to the future**
- Tackling uncertainty**
- Keeping things in perspective**

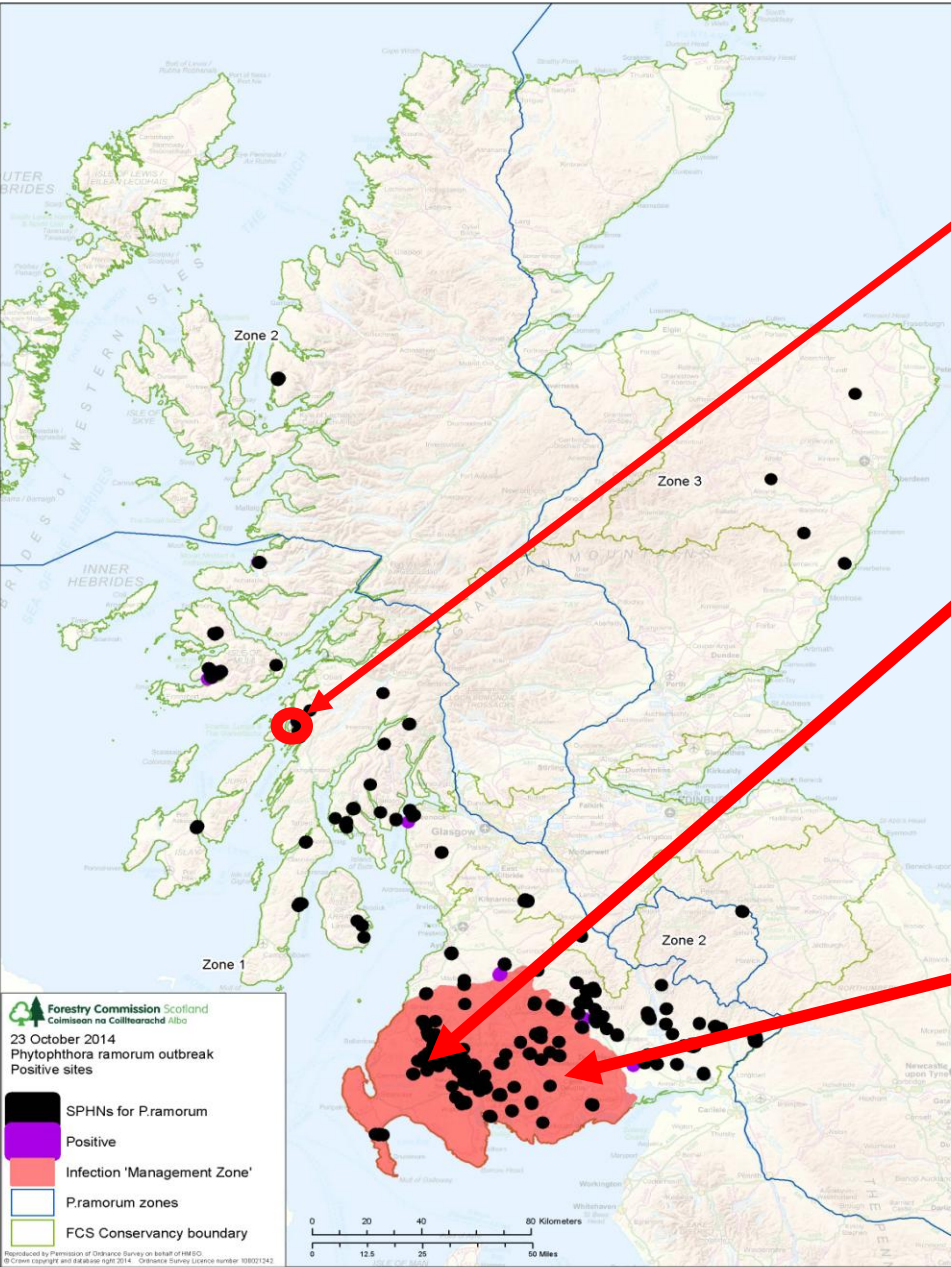


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**1st finding on larch in Scotland
November 2010**

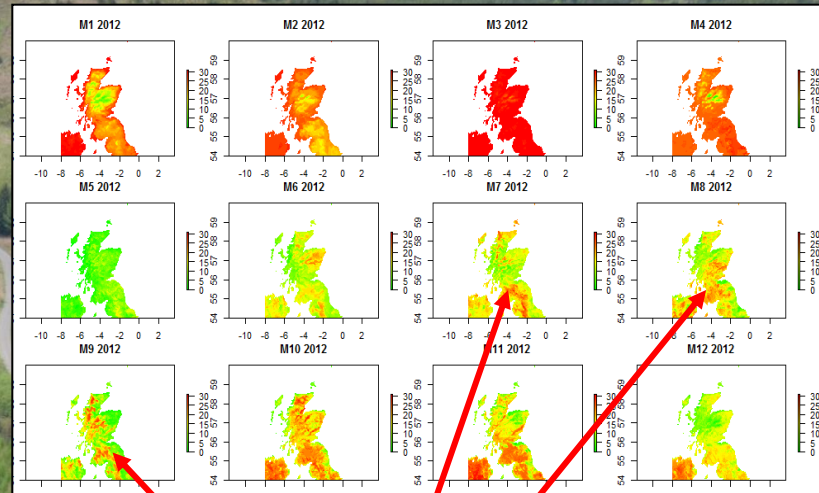
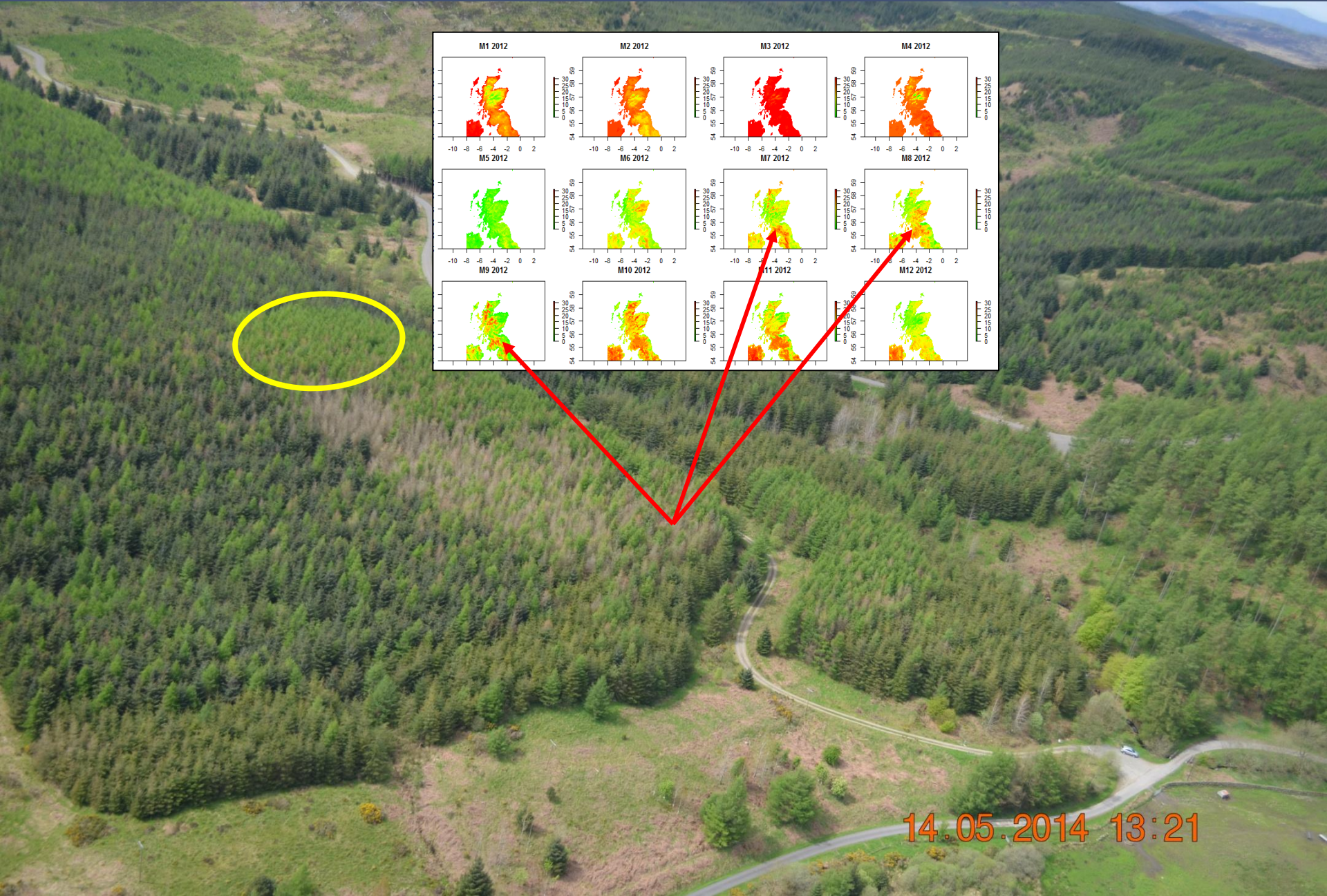
**EU2 lineage identified
(2011)**

**Surge in spread/impact
(2013)**





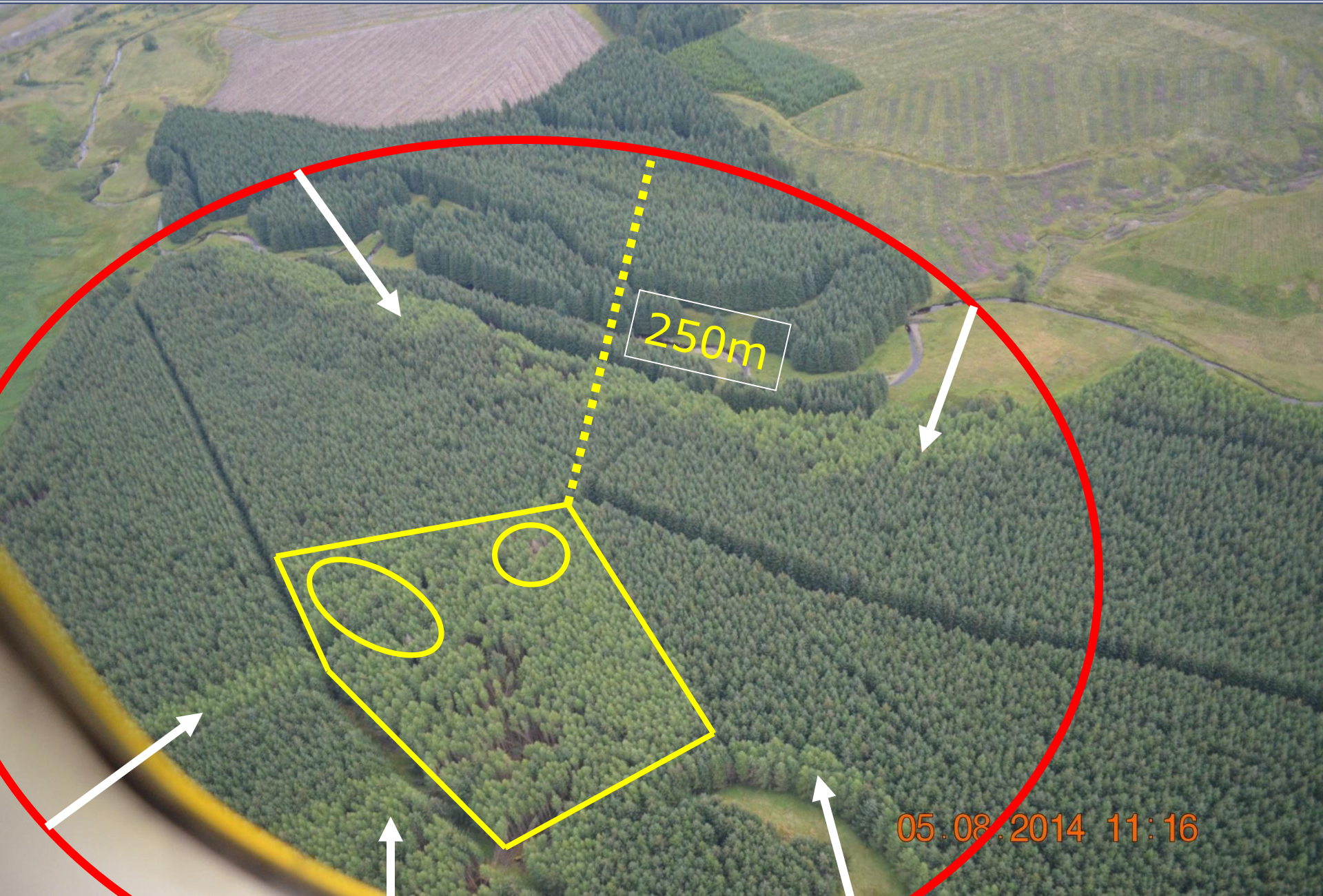
23.05.2013 14:47



14.05.2014 13:21



05.06.2014 16:23



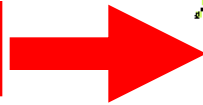
250m

05.08.2014 11:16

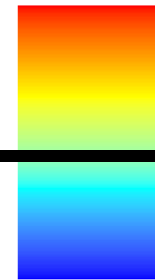
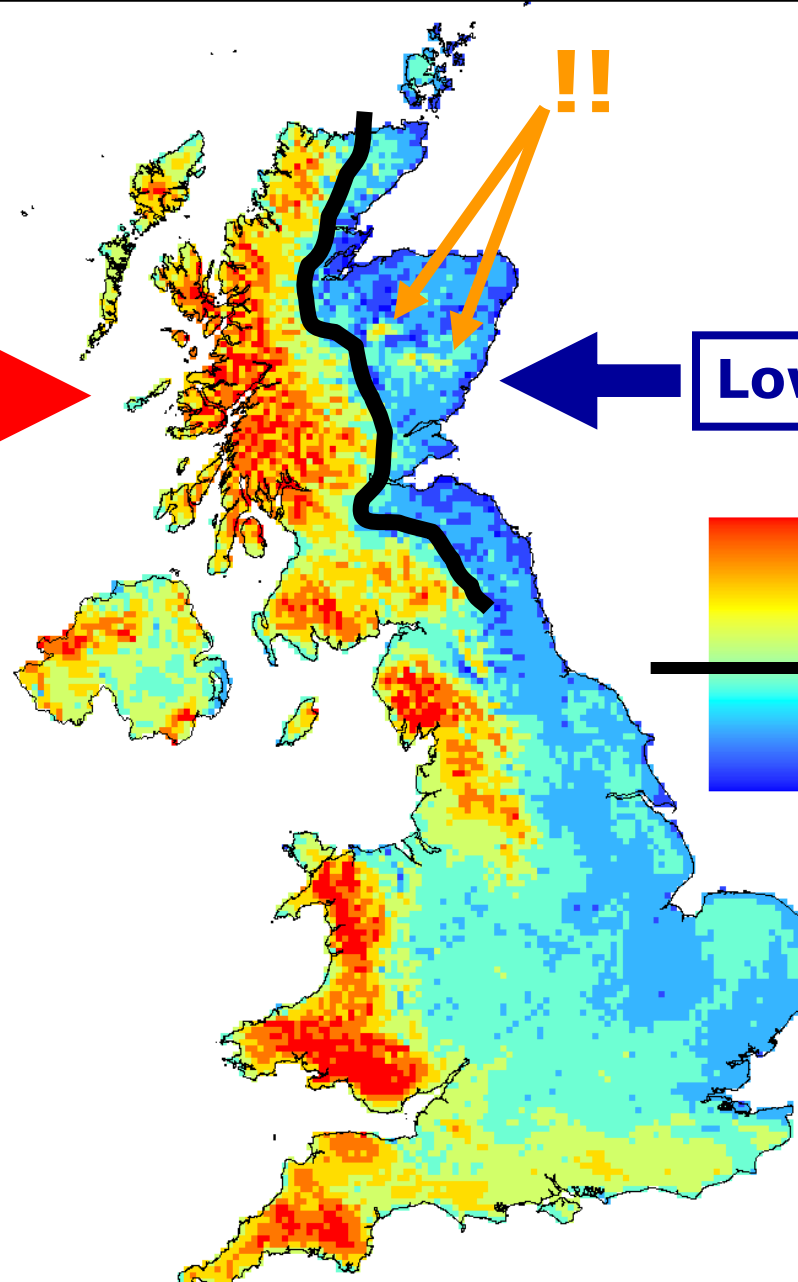
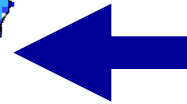


January - December
Average Climate Risk

High risk zone



Lower risk zone

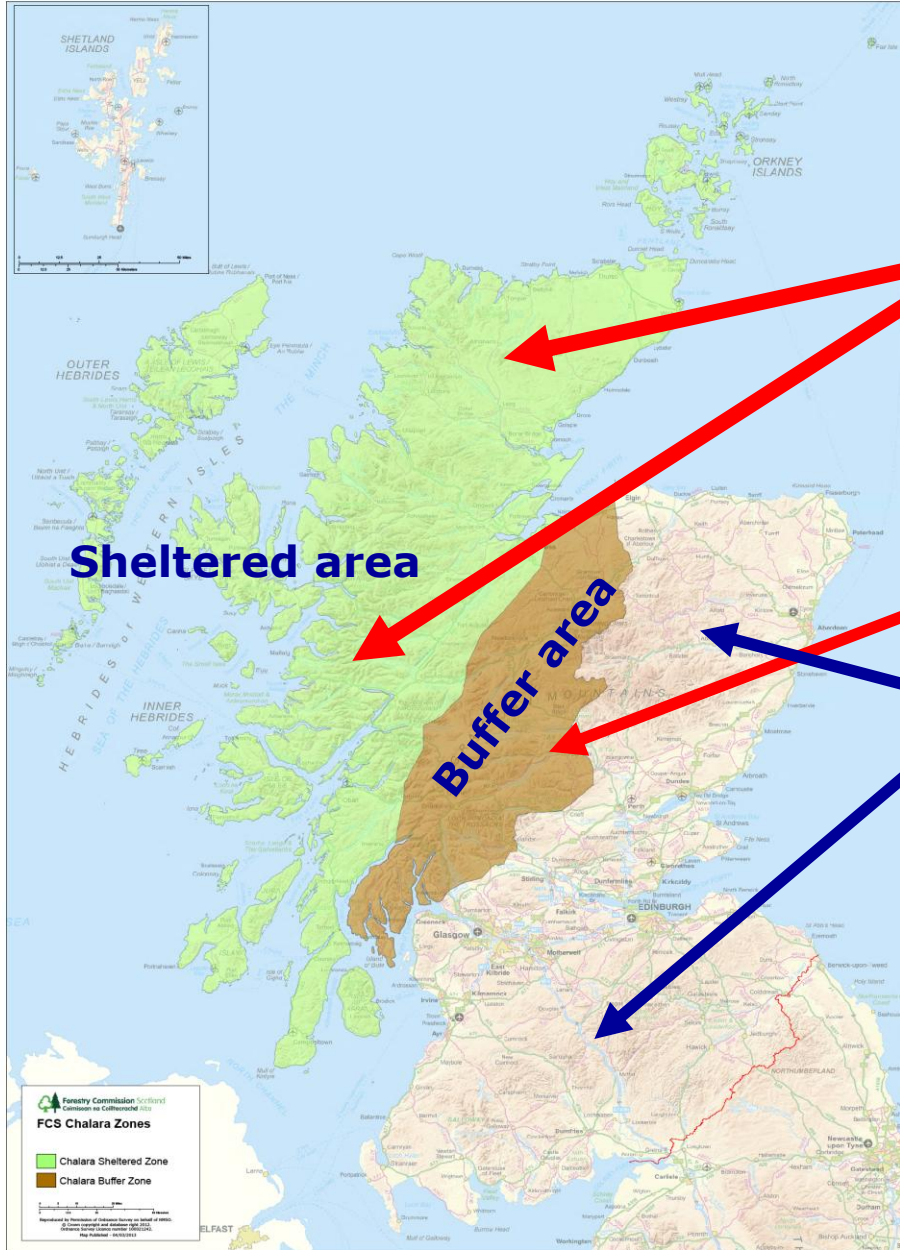


High

Moderate

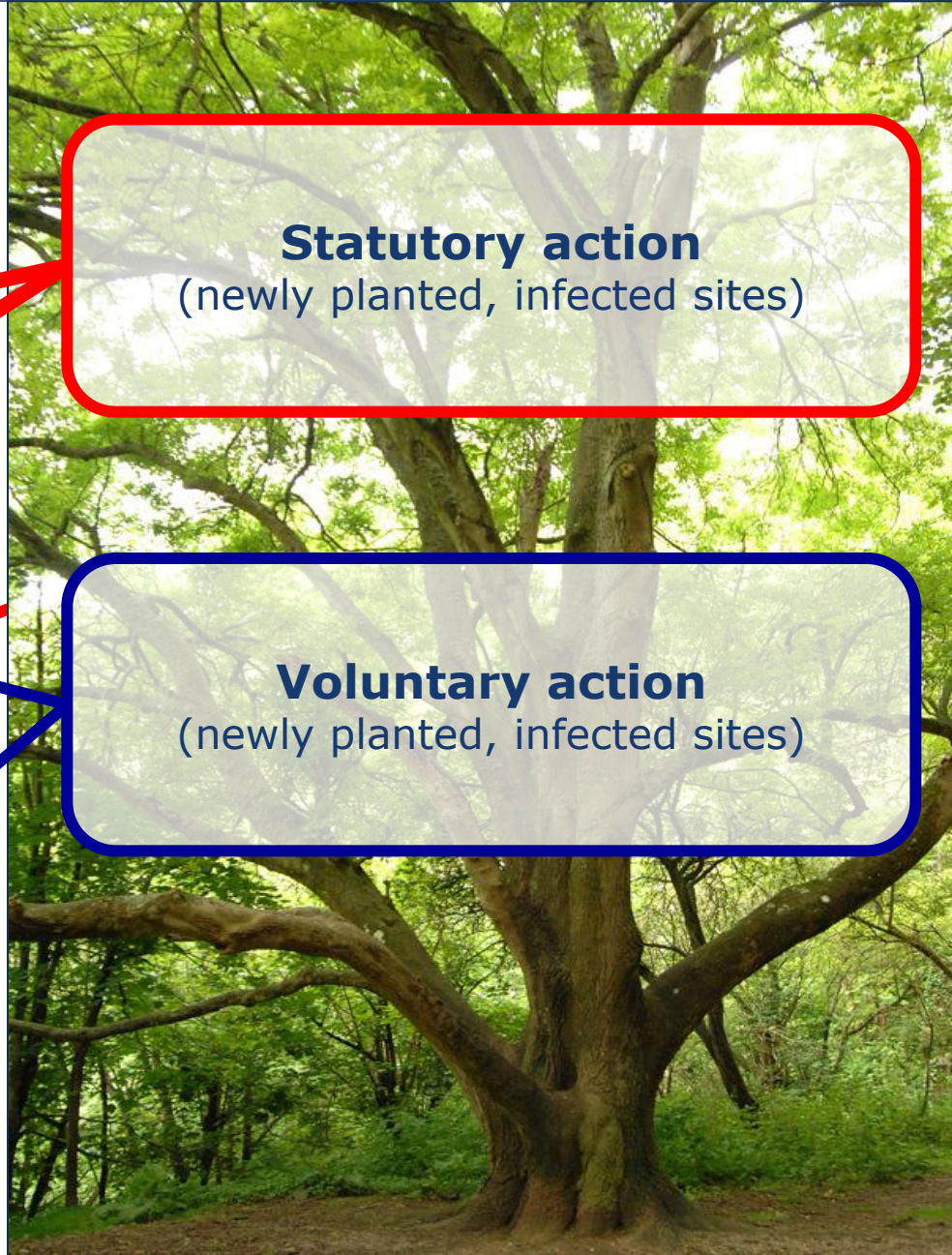
Low

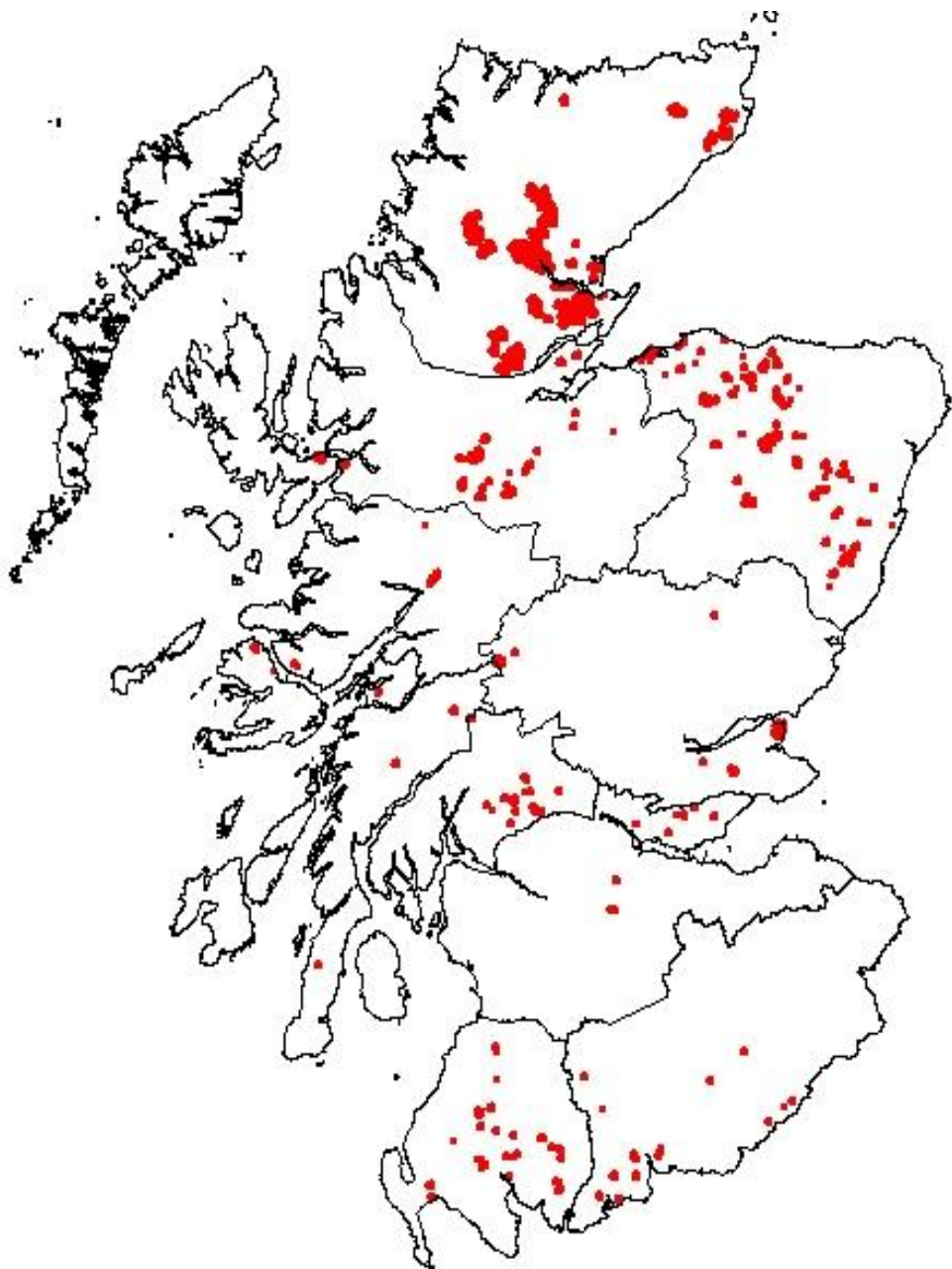




Statutory action
(newly planted, infected sites)

Voluntary action
(newly planted, infected sites)





**86 (out of 129) *Pinus* species
known to be susceptible**

Key actions

- Training, surveys and **nursery inspections**
- **Presumption against pine planting in CPI sites**
DNB detected in 25% of Caledonian Pinewood Inventory sites
- Encourage removal of high inoculum loads
- Encourage thinning
- 'Toolbox' development
- Aerial application of fungicide – trials
- Maintain research capacity (e.g. susceptibility, treatments, epidemiology, modelling)

- **Continue (and extend) surveys**
- **Statutory action suspended**
(pending further surveys)
- **Biosecurity awareness**
- **Planting guidance**
- **Maintain research capacity**

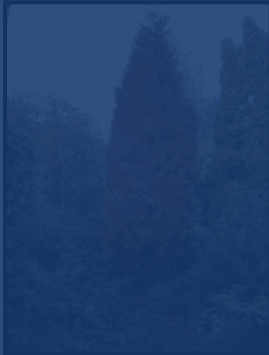


Phytophthora lateralis





Phytophthoras



Fungi

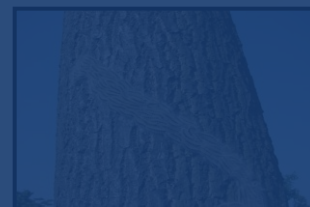
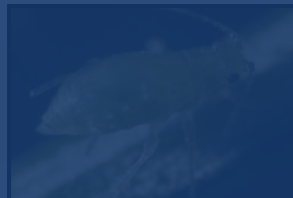
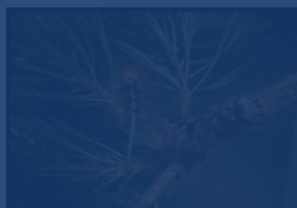


731 pests in the UK Plant Health Risk Register

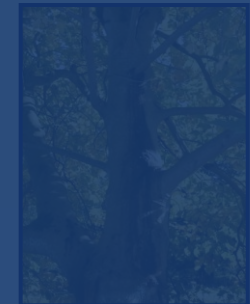
Complexes

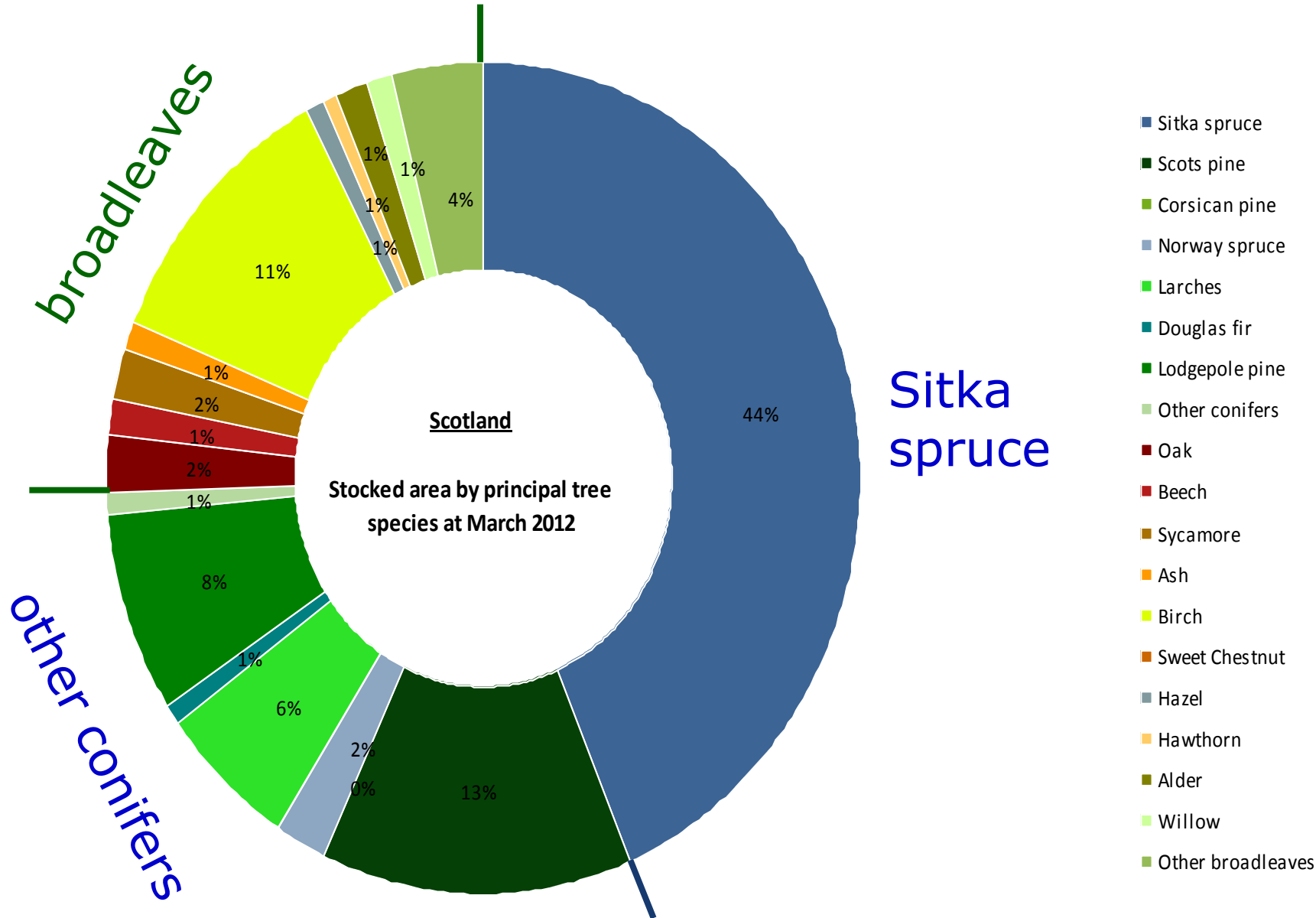
(8 December 2014)

Insects



Bacteria





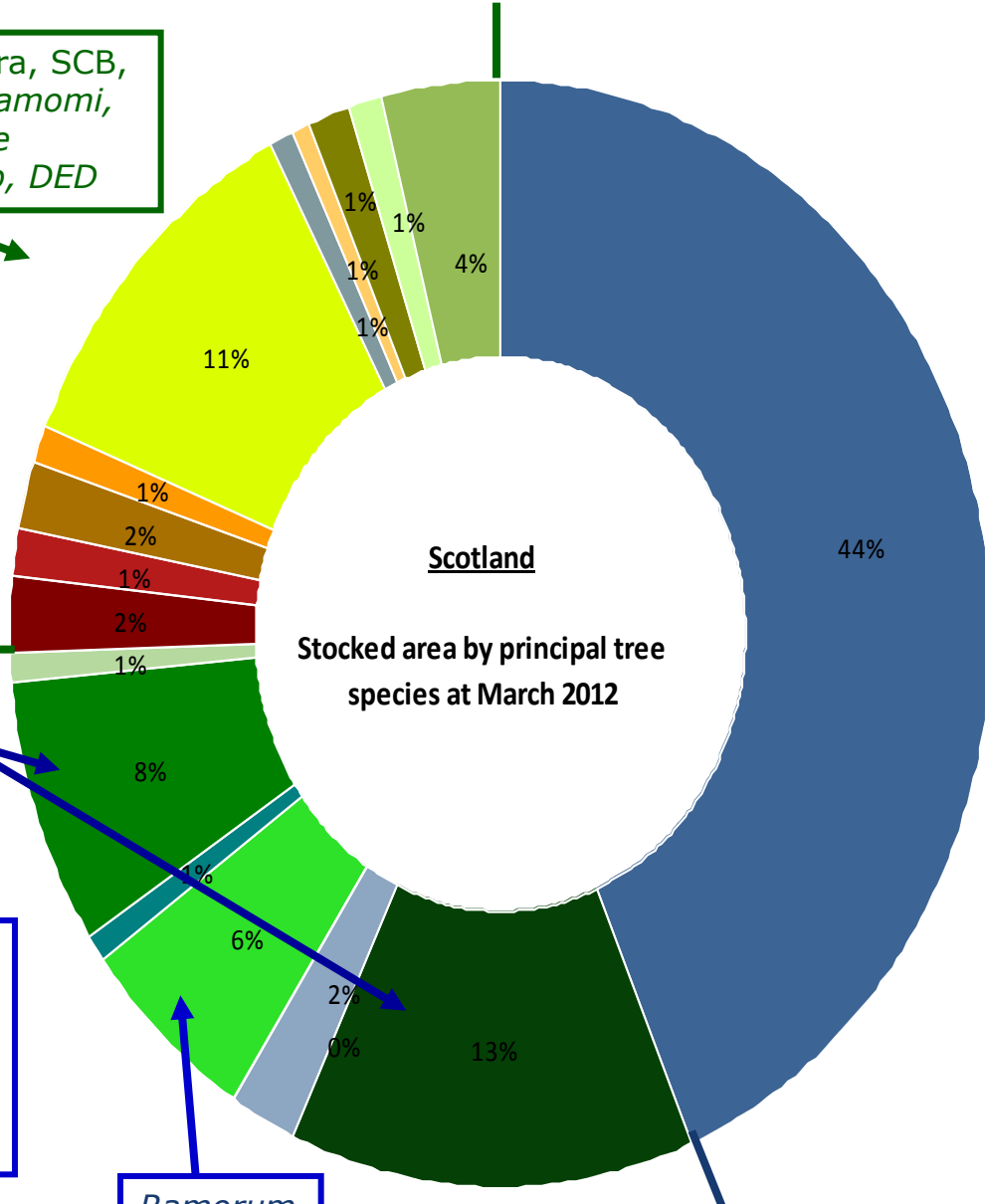
AOD, OPM, Chalara, SCB, ALB, CLB, *P. cinnamomi*, *P. pseudosyringae*, *Pseudomonas spp*, DED

Dothistroma

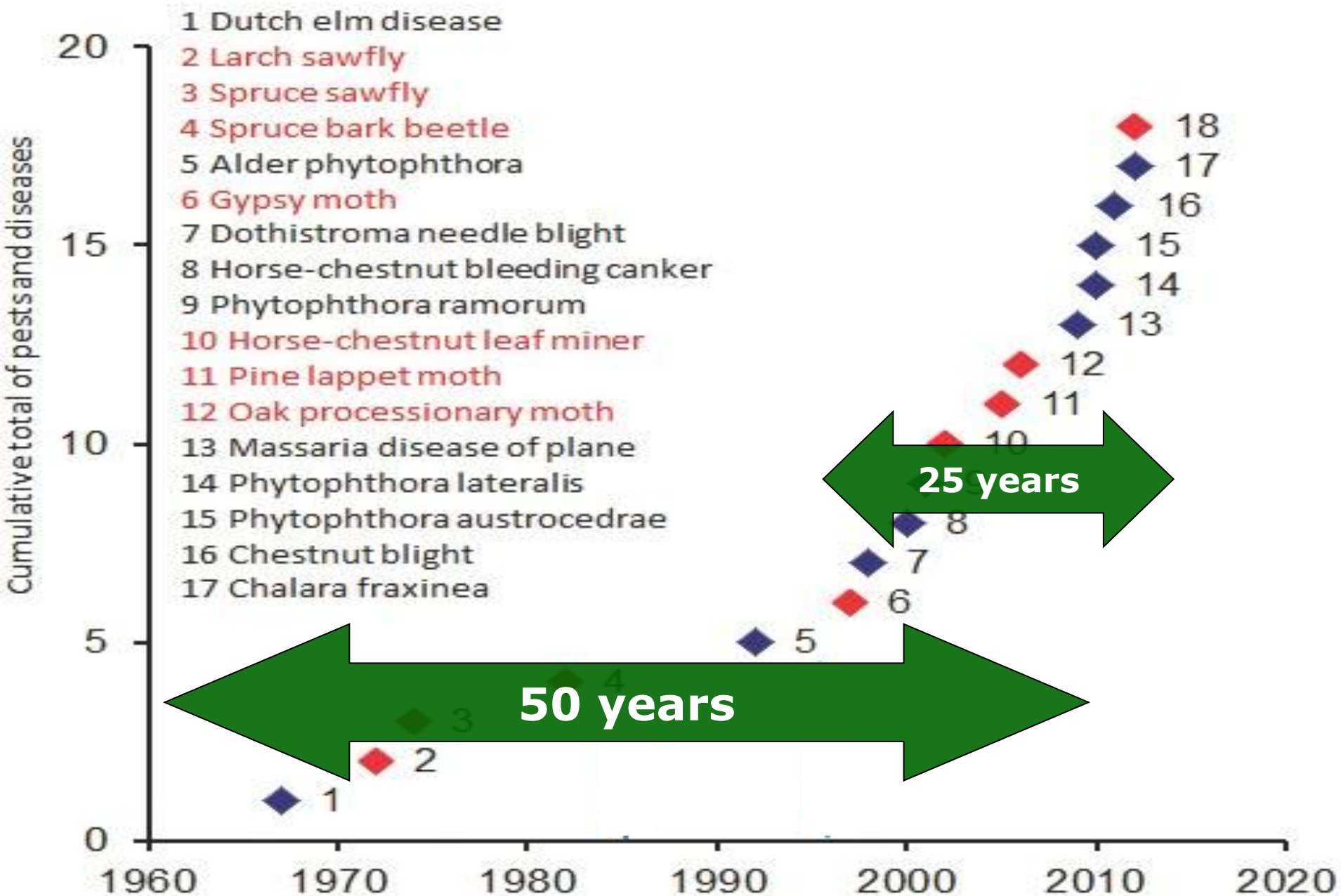
D. micans
P. lateralis
P. austrocedrae
Pine tree lappet
Pine beauty
Fusarium

Ramorum

Low(er) risk?
High impact



- Sitka spruce
- Scots pine
- Corsican pine
- Norway spruce
- Larches
- Douglas fir
- Lodgepole pine
- Other conifers
- Oak
- Beech
- Sycamore
- Ash
- Birch
- Sweet Chestnut
- Hazel
- Hawthorn
- Alder
- Willow
- Other broadleaves





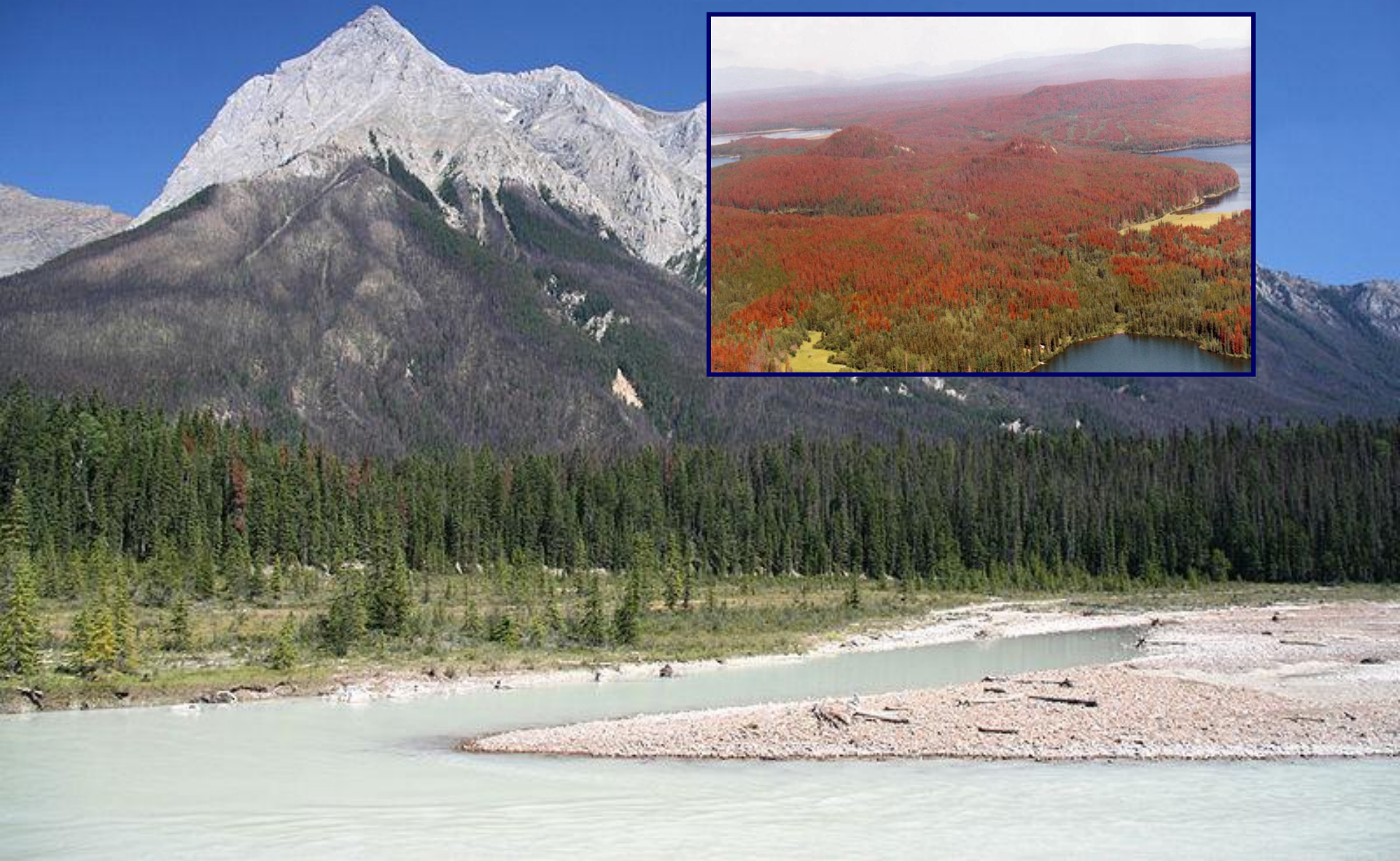
- ❑ Current main pests
- ❑ **Looking to the future**
- ❑ Tackling uncertainty
- ❑ Keeping things in perspective







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Select the most suitable species and genotypes

Reduce other pressures on forests

Maintain or add diversity in structure and species


Forestry Commission Scotland
 Coimisean na Coilltearachd Alba




Research Note


Impacts of climate change on forestry in Scotland – a synopsis of spatial modelling research

Duncan Ray January 2008

Climate change is now one of the greatest global challenges, and research is underway to establish the likely impacts on all aspects of the environment. Forestry Commission Scotland has commissioned Forest Research to determine how forests and forestry in Scotland will be affected by climate change. This Research Note provides an initial synopsis of the likely impacts, with preliminary recommendations to support development of a climate change action plan for forestry in Scotland. Climate change will create many challenges and opportunities for Scotland's forest industry. Productivity will increase in some areas and a wider selection of species will become suitable. However, there are also potential threats, including drought, increased insect and disease damage, and wind damage, hence new techniques to combat these will be necessary. There are many uncertainties associated with climate change, and its likely impact on trees, management systems and forest operations. A key basis for risk planning and management is diversification: from broadening the choice of genetic material, mixing tree species in stands, to varying management systems and the timing of operations. Scotland's aspiration to expand woodland from 17% to 25% of land area by 2050 provides an opportunity to target reforestation within habitat networks. This will reduce woodland fragmentation and thereby help improve the resilience of woodland ecosystems to climate change.

FCRN101 1 


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Practice Guide

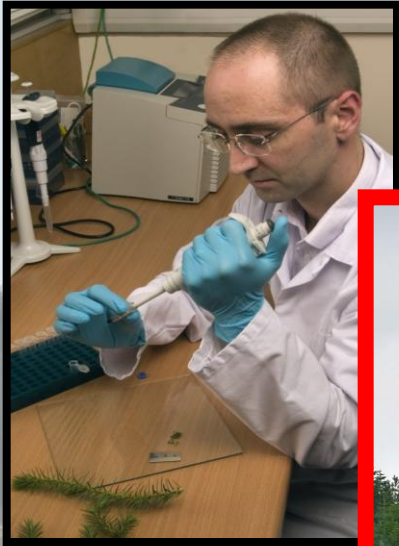
Achieving diversity in Scotland's forest landscapes

Dr. Scott McG. Wilson MICFor
 Consultant Forester and Forest Ecologist






Using alternative conifer species for productive forestry in Scotland



Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Don't give bugs a lift home

These pests and diseases are putting the health of trees at risk in Scotland.

You can prevent them spreading to other forests as well as your local area by:

- staying on the path or trail (dogs too)
- brushing off mud and dirt from your footwear, clothing or bike before you leave
- thoroughly cleaning footwear (and bike!) at home, before your next visit
- leaving wood and plant material where it is

Thank you

Tel: www.forestry.gov.uk/scotland



- **Review of the EU Plant Health Regime**
- **Expert Taskforce on Tree Health and Plant Biosecurity**
- **Sir Mark Walport Review**
(Animal & plant health in the UK – assessment of future national capacity)
- **UK Chief Plant Health Officer**
- **UK Plant Health Risk Register**
- **Plant Biosecurity Strategy for Great Britain**
(Scottish Plant Health Strategy to follow)
- **Scottish Tree Health Advisory Group**
- **Potential 'Centre for Expertise in Plant Health' (Scotland)**
- **GB & NI Tree Health Adviosry Group**



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Irish potato famine 1845



