WELSH GOVERNMENT TREE HEALTH STRATEGY

Introduction

In its strategy for trees and woodlands, *Woodlands for Wales*, the Welsh Government (WG) made a commitment to bring more woodlands into management, expand woodland cover and increase the resilience of Welsh woodlands and trees so that they deliver more benefit to the public.

The vision expressed in the strategy is that:

> 'Wales will be known for its high-quality woodlands that enhance the landscape, are appropriate to local conditions and have a diverse mixture of species and habitats.'

Pests and diseases have significant potential to impact on the health of trees and woodlands in Wales. Pests and diseases do not recognise political borders but are usually driven by changes in climate, weather patterns, inadequate control of imported plant material and the availability of suitable new habitats. Over the past decade, several new pests and diseases have been found in the UK, and some have become established with serious economic (e.g. Phytophthora ramorum), social (Oak Processionary moth) and environmental (Chalara fraxinea) consequences.

There are many pathways for pests and pathogens to enter the UK and Wales – we trade plants and timber globally and increasingly use wood-based packaging material. Awareness of the impact of climate change on the severity of some of our existing pest and disease problems is also crucial, since climate and weather has a major influence on behaviour and population dynamics of many organisms, both positively and negatively. Effective control methods must be practical at a range of spatial scales, while also conforming to woodland certification and more general policy demands to minimise chemical use.

Wales' reliance on a very narrow range of species makes it particularly vulnerable, especially if specific diseases take hold. We need to improve our understanding of species site type requirements and the relationships between species on a site Improving silvicultural systems, increasing the diversity of species, choice of site type and care over provenance choice as guided by the research will play a vital role in the future health of Welsh woodlands.

Objectives of the Tree Health Strategy for Wales

The key objective of the Welsh Government's Tree Health Strategy is to:

> 'Preserve the health and vitality of trees and woodlands in Wales through strategies which exclude, detect, and respond to, existing and new pests and pathogens of trees, whether of native or exotic origin. Take proactive measures to reduce the impact of pests and diseases on trees and woodlands in Wales.'

This objective will be achieved by a series of actions that include:

- ensuring our tree health policies are aligned with EU and GB policies where appropriate in order to provide a co-ordinated response to the threat of pests and diseases.
- ensuring our border controls are effective, and on the basis of available evidence, are proportionate to the risks posed by both known and unknown biosecurity threats;
- horizon scanning and monitoring for the presence of previously absent pests, or the spread of existing ones;
- supporting research to understand the potential of pests and diseases new to GB and Wales as well as the development of existing ones;
- supporting research to help understand the impacts of changing conditions on existing pests and diseases;
- assessing the potential of pests and diseases to cause damage to trees and woodlands in Wales based on the best scientific evidence available;
- establishing clear governance procedures to provide direction and accountability for dealing with existing and future pest outbreaks;
- encouraging the adoption of sound biosecurity practice in a consistent way on both the public and private forest estate through general awareness raising to stimulate cultural and behavioural changes;

- supporting the co-ordination of activity between public agencies and stakeholders to prevent gaps in biosecurity coverage for our forests, trees, woodlands and the wider environment generally;

- providing effective communication channels to keep stakeholders and the general public informed about tree health issues, and support early identification of potential problems; and

- determining how to best address the risks posed to forest and woodland health from imported trees, including those intended for urban planting.

Details of some of the current tree health issues and future threats are shown in Annex 3.

Species Diversification and Resilience

Woodlands play an important part in our ecosystems, particularly those woodlands with a diverse structure and species composition. Woodlands that lack diversity contribute less to the value of our ecosystems and tend to be more vulnerable to the impact of pests and diseases. Diversification of woodlands helps to improve both the environmental value of woodlands and their resilience to pests and disease.

Up until the mid-1970s, afforestation focussed on the uplands where species choice is limited resulting in the standardisation of species choice in British forestry and a heavy reliance upon a limited number of species. Recent increases in the number of introduced pests and diseases affecting our trees and forests, and projected impacts of climate change, have removed some important species (larch, ash, Corsican pine) from the options available to us and created a need to consider a wider portfolio of species as a component of management strategies aimed at adapting our forests and woodland for the future.

With these issues in mind we need to:

- work with others to identify contingency species and resistant genotypes that can substitute for species affected by current or future outbreaks of pests and diseases;

- diversify species composition and stand structures to increase the resilience of forests;

- assess a wider range of species and provenances likely to be more suited to the projected climate of the future;
- increase silvicultural skills among woodland managers in Wales to help them to diversify woodlands, and
- work with tree nurseries to ensure they have sufficient lead-in time to produce planting stock of a wider range of species.
- when introducing new tree species, or making greater use of minor species, the need to evaluate evidence about their susceptibility to pests and diseases as well as their ability to produce usable timber.

Delivery

The delivery of the Wales Tree Health Strategy will be managed by the Wales Tree Health Steering Group established by the Welsh Government in July 2013

The purpose of the Group is to advise and support the Welsh Government in setting out WG policy and developing its strategic response to outbreaks of pests and diseases affecting trees, including consideration of their potential impact on plants in the wider environment.

Further details of terms of reference and membership of this group as well as its relationship with other relevant groups is shown in the section on governance in Annex 2.

Annex 1

Roles and Responsibilities

The need to have a clear strategy for the management of a given pest or disease is of over-riding importance in order to be able to respond rapidly to an increased threat of attack. These strategies need to take into account the wider environmental and economic consequences of the infection and not see management of pests and diseases as an end in itself. Once the strategy is defined, its implementation and the delivery of any associated statutory duties is the responsibility of all the organisations concerned with woodlands in Wales.

The Welsh Ministers have a general duty to have regard to the national interest in maintaining and expanding forestry resources in Wales. Managing the impact of pests and disease plays a key role in the application of this duty.

In addition to its responsibilities for tree health, NRW has a general statutory duty to promote the interests of forestry, the development of afforestation and the production and supply of timber in Wales and to promote the establishment and maintenance of adequate reserves of growing trees.

A section 83 agreement under the Government of Wales Act 2006 has been agreed between the Welsh Ministers and the Forestry Commissioners to define these arrangements and a Memorandum of Understanding between the Welsh Government, Forestry Commission and Natural Resources Wales describes their shared understanding of how they will co-operate to deliver their roles and responsibilities for tree health in Wales.

The Welsh Government has policy responsibility for tree health in Wales and therefore owns this strategy and any disease specific plans for the management of pathogens in Wales. The Welsh Government Natural Environment and Agriculture Team are responsible for plant health in Wales and the Forestry Policy Team leads on tree health issues.

As of the 1st April 2013 the Welsh Ministers' tree health functions are delegated to both the Forestry Commissioners and Natural Resources Wales. They are each responsible for different functions as shown in the flowchart in Annex 3.

The Forestry Commissioners are responsible for functions as they relate to the import of material from third countries and the movement of material into the European Union, including the issue of plant passports and the registration of forestry traders.

Both bodies are responsible for the authorisation of persons as inspectors, but for different purposes: those authorised by the Forestry Commissioners undertake inspection and enforcement activity in relation to the premises of registered forestry traders (companies that import the timber of controlled tree species into the UK) and those authorised by Natural Resources Wales to undertake inspection and enforcement activity in relation to all other premises.

Annex 2

Governance

The Wales Tree Health Steering Group (WTHSG)

The Group is to advise Welsh Government on the following matters:

- Finding ways of building resilience against pests and diseases in trees and woodlands in Wales (both public and private) in the short, medium and long-term;

- Linking with other EU and GB groups to review the threat to Wales presented by new and emerging tree and tree related plant pests and diseases so that WG can co-ordinate the development of response plans to specific pests and diseases;

- Considering the resource implications of pests and disease and the cost and deliverability of control strategies;

- Co-ordinating the actions of strategic and operational groups involved in managing tree pests and diseases in Wales to ensure that their actions are aligned with the needs of Wales. In relation to the management of Phytophthora ramorum, the Wales, the Phytophthora Operational Response Team (PORT) is responsible for recommending any change in management of the disease in Wales to the Wales Tree Health Steering Group and for liaising with the GB Outbreak Management Team (OMT) to ensure it is aware of the position in Wales;

- Identifying potential barriers such as the lack of adequate import controls to protect the health of trees and woodlands and suggesting ways of resolving them;

- Building skills and capacity in Wales to support tree health surveillance, detection and horizon scanning, including through appropriate training and the use of citizen science;

- Developing and monitoring the contingency planning and emergency response arrangements and recommending improvements as required;

- Monitoring the implementation of the Welsh Government's strategic response to pests and diseases to ensure they meet the needs of the Welsh forestry sector (both public and private) and protect the wider environment of Wales.

- Developing and delivering a Communications Plan to inform and engage the public and forestry sector partners of the action that the Welsh Government is taking to protect trees and woodlands.

The Group is chaired by the Deputy Director, Land, Nature and Forestry Division, Welsh Government and reports to the Minister for Natural Resources and Food.

The group's place within the governance structure for the management of tree health in Great Britain is shown in the attached pdf file.

Plant health in Great Britain

Group Chairpersons

(Will be subject to change over time)

Strategy

UK Plant Health Strategy Board
Julie Hitchcock (Defra)

UK Plant Health Advisory Forum
Martin Ward (Defra)

Science Co-ordination Workstream
Gemma Harper (Defra)

International Workstream
Steve Ashby (Fera)

Risk Management Workstream
Richard McIntosh (Fera)

UK Seed and Propagating Material Co-ordination
Liz McIntosh (Fera)

FC Biosecurity Programme Board
Roger Coppock (FC(GB))

UK Wood packaging Advisory Council
Ian Brownlee (FC(GB))

Operations

Phytophthora ramorum
- Industry Liaison Group
- David Slawson (Fera)
- England and Wales programme Board
- David Slawson (Fera)
- OMT
- Roger Coppock (FC(GB))

Chalara ash dieback OMT
Roger Coppock (FC(GB))

Oak Processionary Moth
- Advisory Group
- Sue Ireland (City of London)
- OMT
- Nick Mainprize (FC(GB))

Phytophthora lateralis OMT
Nick Mainprize (FC(GB))

Phytophthora austrocedrae England/Wales OMT
Adrian Jowitt (NE)

Phytophthora austrocedrae Scotland OMT
Hugh Clayden (FC(S))

Dothistroma Programme Board
Roger Coppock (FC(GB))

Legislation

PLANT HEALTH LEGISLATION (Forest trees, wood, wood products and bark) EU Plant Health Regime Council Directive 2000/29/EC

The Plant Health (Forestry) Order 2005 is the principal instrument in Great Britain implementing this Directive and in Northern Ireland the Plant Health (Wood and Bark Order) (Northern Ireland) 2006 applies.
In Great Britain powers are conferred to Commissioners and to Welsh Ministers by the Plant Health Act 1967.
In Northern Ireland powers are conferred to Ministers by the Plant Health Act (Northern Ireland) 1967.

FOREST REPRODUCTIVE MATERIAL LEGISLATION
EU Regime for Plant Reproductive Material – Council Directive 1999/105/EC

Implemented in Great Britain by the Forest Reproductive Materials Regulations 2002 and by similar regulations in Northern Ireland

Governance

EU Plant Health Standing Committee
EU Standing Committee on Seeds and Propagating Material for Agriculture, Horticulture and Forestry

UK Ministers

FC Executive Board

DA Ministers (Scotland, Wales & N. Ireland)

Defra SRO (Chief Plant Health Officer)

FC (GB, England)

Natural Resources Wales, FC Scotland, DARDNI

Strategy

UK Plant Health Strategy Board
(inc. UK Plant health Strategy, Action Plan, Phytophthora, EU Review etc)
Defra, FC, Fera, DAs, JNCC

UK Plant Health Advisory Forum
(inc. UK Plant Health Strategy EU Review, Action Plan etc.)
Stakeholders, Fera, FC, DAs

Tree Health & Plant Biosecurity Action Plan

Tree Health & Plant Biosecurity Expert Taskforce

FC Biosecurity Programme Board
FC (GB, England, and Scotland)
NRW, DAs, Defra, Stakeholders

Scottish Tree Health Advisory Group

Science Coordination Workstream
Defra, Fera, FC, FR, DAs

Plant Health Risk Group Defra, DAs, FC, Fera inspectorate, Fera Science, FR

Defra's plant health strategy for England

UK Wood Packaging Advisory Council
FC (GB), Stakeholders

Wales Tree Health Steering Group

International Workstream
Defra, Fera Science,
Fera Inspectorate, FC, Defra Legal

UK Seed & Propagating Material Co-ordination (including Forest Reproductive Material)

Forestry Commission
Interim Tree Health Strategy

Operations

Phytopthora ramorum*
- Industry Liaison Group (Defra, FC, Stakeholders)
- England & Wales Programme Board (Defra, Fera Inspectorate, Science FC(GB), FC(E), NRW, NE, WG)
- OMT FC(GB), FC(E), NRW, NE, DAs), Stakeholders

Chalara** – ash dieback**
OMT: FC(GB), Defra, *FC (E), FC (S), FR, NRW, Fera Inspectorate and Science

Chalara Management Plan for England
Defra, Fera, FC(GB), FC(E), FC(S), NRW, Stakeholders

Chalara management
Scottish Chalara action plan
Wales action plan
All-Ireland action plan

Oak processionary moth***
Advisory Group
OMT: Bromley & Croydon

Phytopthora lateralis*
OMT: Scotland FC(GB),FC(S), FR, SG

Asian longhorn beetle*
Defra, Fera, FC(GB), FR

Phytopthora austrocedrae*
Two separate OMTs for England/ Wales (NE, Fera, FC (E), FC (GB)) and for Scotland (FC(S), FC (GB), SNH, FR)

Dothistroma Needle Blight (DNB)**
Programme Board: FC (GB), FC (E), FC(S), FR, SNH, Stakeholders

Protected zone surveys (annual)
Tree health monitored at a national level, for quarantine pests, in accordance with EC Directive 92/70/EEC.

Forestry Commission
Plant Health Service Operating Plan

Control of timber imports from countries outside the EU
(Applies to the landing of wood, wood products and bark).
Function carried out by FC (GB)
Plant Health Inspectors

Pine tree lappet Management Group
FC(S), FC(GB), FR, Stakeholders

Research

FC Defra tree health and plant biosecurity action plan

Defra research programme £4m
Defra tree health and plant biosecurity evidence plan
CTX1201: Improved understanding of the causes, distribution and scale of acute oak decline in the UK
TH0104: Tree health and plant biosecurity: mapping, analysis and improved understanding of stakeholders and the public to help protect tree health
TH0107: Supplementary research to support the better detection and identification of Asian longhorn beetle (Anoplophora Glabripennis) In The Field*
TH0111: Social and economic analyses supporting the implementation of the Great Britain Dothistroma needle blight strategy**
TH0112: Research supporting risk analysis, contingency planning and preparedness for future priority pest threats (tree health)
TH0124: LWEC TH Phase 1 - Adding tree health value to UK monitoring networks
TH0125: LWEC TH Phase 1 - Understanding the challenges and opportunities for better detection and enhanced biosecurity in tree health
TH0129: Observa-tree Feasibility Study: Exploring citizen science for tree health surveillance
TH0132: Rapid screening for Chalara resistance using ash trees currently in commercial nurseries****
FFG1143: Stakeholder analysis (tree health)
FFG1146: Tree health: review and analysis of control strategies for established pests and pathogens of trees to inform current and future management

LWEC tree health and Plant Biosecurity Initiative

£9.1m funding from Defra, FC, SG, NERC, BBSRC, and ESRC to support research into:
- Biology
- Detection
- Systems approaches
- Biosecurity

Higher education institutions (HEIs)
Research Council institutes
RCUK-approved Independent Research Organisations (IRO)
UK Public Sector Research Establishments - FR, Fera
Scottish Government Main Research Providers – JHI, SASA
SMEs and industry

Research Council funded work

NERC funded Ash tree genetic code sequencing with Queen Mary University

BBSRC funding for Chalara fungus genetic sequencing

The Joint Nature Conservation Committee (JNCC), has commissioned research on the direct impact on species that depend on ash and the ecological responses to a range of management scenarios in responding to Chalara.

European and International activity

International Quarantine Forestry Research Group

The International Forestry Quarantine Research Group was established to provide a mechanism where critical forestry quarantine issues can be addressed through discussion and collaborative research. It serves to bring together scientists and phytosanitary officials to foster multi-disciplinary approaches to forest quarantine-related problems of global significance.

EU COST Actions
FRAXBACK
Chalara
PERMIT
Pest and disease pathways

EUPHRESCO is a European Research Area Network (ERA- NET) project for research policy development and implementation in the field of statutoryand emerging plant pests, diseases and invasive species (but not: GMO's).

FC Research Strategy Management Board

Science and Innovation Strategy for British Forestry

FR Research programme – Advice & Scientific Support for Tree Heal

Work Area 1 – DNB**
Work Packages:
Disease monitoring and impact
- Disease management
- Disease epidemiology
- Advice, technical transfer and bid preparation

Work Area 2 – Phytopthora diseases*
Work packages:
- Diagnosis of symptomatic trees
- Epidemiological studies
- Genetic analysis of Phytopthora genotypes
- Provision of advice and analysis

Work Area 3 – Oak declines, Acute Oak Decline
Work packages:
- Identification and pathogenicity of organism associated with declined oak trees
- Distribution, surveying and monitoring of oak decline

Work Area 4 – Horse Chestnut Bleeding Canker
Work packages:
- Genetic analysis and biological characterisation
- Infection, survival and contamination hazard

Work Area 5 – Regulated forest pests***
Work packages:
- Surveys and genetic analysis of Pine-tree Lappet Moth
- Surveys including improvements of surveillance methods

Work Area 6 – Advisory and Extension Service
- Work packages:
- Disease and diagnostic Advisory Service
- Pest Identification and Advisory Service
- Knowledge transfer and training
- Hylobius - advice and alternative pesticide testing

Annex 3

Duties and functions of WMs, FC and NRW for Plant/Tree Health in Wales

Natural Resources Body for Wales

Statutory duties and functions under Forestry Act 1967

General Duty

- to promote the interests of forestry, the development of afforestation and the production and supply of timber in Wales;
- to promote the establishment and maintenance of adequate reserves of growing trees.

Welsh Woodland Estate

- power to manage land placed at its disposal by Welsh Ministers for the purpose of its functions;
- can only acquire or dispose of land as agent of the WMs subject to constraints of s.83 arrangement;
- WMs general duty to have regard to the national interest in maintaining and expanding forestry resources in Wales.

Plant Health

European Obligations

Directive 2000/29/EC – measures against introduction and spread of

Domestic Legislation

Plant Health Act 1967 – framework Act to control pests and diseases in trees,

Subordinate Legislation – Two Regimes:

Forest Trees and Timber

Other Plants

Plant Health (Forestry) Order 2005

- WMs now "appropriate authority"
- s.83 arrangements* in place with FC and NRW to exercise WM functions.
- Inspection by FC Plant Health Team
- operation of transitional provisions.

Plant Health Regulations

- parallel regulations England and Wales
- same regime as for tree health;
- inspection, investigation and enforcement;
- FERA's Plant Health & Seeds Inspectorate;
- operate in Wales under s.83 arrangement.

Statutory Plant Health Notices

- issued by an inspector to owner/occupier of land requiring infected trees to be killed;
- failure to comply is a criminal offence with a penalty fine of up to £5,000;
- can be amended or withdrawn by an approved FC or NRW inspector;
- decision must accord with public law principles (reasonable, rational etc);
- control of disease by SPHN can be negated by the rapid spread of a disease;
- alternative control to restrict movement of infected bark and timber.

Current Tree Health Issues and Future Threats

1. **Currently most active and presenting a serious problem**

- Of current particular concern in Wales at present is the genera Phytophthora (Greek for ‘plant destroyer’) which has over the last two decades significantly increased its impact upon European forest ecosystems.

- In Wales P ramorum has spread rapidly in the last two years in larch and is now at a level where it is likely that almost all larch in Wales will become infected in the next decade. The Wales Phytophthora Operational Response Team (PORT) is responsible for advising the Wales Tree Health Steering Group on the delivery of the WG strategy for managing this disease in Wales and recommending any change in approach depending on the position of the disease.

- Chalara fraxinea disease of ash is not currently causing as much damage in Wales as in other parts of the UK but has the potential to increase its impact on our woodlands. A Chalara Management Plan for Wales is in place and is reviewed by the Wales Tree Health Steering Group as required by changes in the position of the disease.

2. **Established tree health threats which are currently stable and under routine management but liable to change depending on climate or weather changes.**

- Red Band Needle Blight (caused by the fungus Dothistroma septosporum) is of increasing concern with a widespread impact in Britain, mainly on Corsican pine, but also on other species of pine, and may become more acute in Wales in the future. It causes premature needle defoliation, resulting in loss of yield and, in severe cases, tree death but can be managed by good thinning practise.

- Large Pine weevil (Hylobius abietes) and Hylastes spp are particular problems associated with clearfell and restock regimes with all conifer species affected. They jointly represent the most serious pests of newly planted trees in the UK. Woodland managers are advised to adopt integrated forest management approaches to reduce chemical usage and non-chemical strategies that afford protection against Hylobius where these are dependable and cost-effective.

- Great Spruce bark beetle (Dendroctonus micans) is a well-established pest in western Britain that was accidentally introduced from continental Europe. Spruce is our most important commercial tree species and managing this pest would be a high priority for action if the current control measures do not continue to contain its impact..

- A number of Phytophthora species are present in GB and causing problems to a range or plant/tree species e.g. P cinnamomi and P cambivora.

3. Emergent plant health threats with the potential to become very serious at some point in the future

- Acute Oak Decline (AOD) affects both of Britain's native oak species and is being found in mature trees in the English midlands but is spreading more widely. The casual mechanisms are not understood and therefore it is not currently subject to regulation.

- Asian & Citrus Longhorn Beetle are wood borers that attack a wide range of deciduous trees, notably Acer spp. There are currently outbreaks in Italy and The Netherlands. An outbreak in SE England was successfully dealt with.

- As the climate becomes more favourable (milder wetter winters), outbreaks of oak processionary moth Thaumetopoea processionea, gypsy moth Lymantria dispar and the European spruce bark beetle Ips typographus (a very serious potential pest of spruce in Wales), could necessitate the need for rapid action.

A Generic Contingency Plan describing how the Welsh Government works with partners such as the Forestry Commission and Forest Research to identify and meet the threat from new pests and diseases of trees in Wales has been developed.

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