



# **PlantNetwork**

## **The Plant Collections Network of Britain & Ireland**

### **Tree safety: legislation and developing your policy**

2<sup>nd</sup> & 3<sup>rd</sup> July 2015

The Yorkshire Arboretum

**[www.plantnetwork.org](http://www.plantnetwork.org)**

**PlantNetwork** is the national network of botanic and heritage gardens and arboreta and other documented plant collections

- promoting botanical collections in Britain and Ireland as a national resource for research, conservation and education
  
- facilitating networking and training among holders of plant collections through a programme of conferences and workshops and a regular newsletter.

Chairman: Dr Matthew Jebb

Vice-Chair: Dr Tim Upson

Hon. President: Dr David Rae OBE FRSE

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*PlantNetwork: The Plant Collections Network of Britain and Ireland is a company limited by guarantee, registered in England 3777793; registered charity 1081747.*

# Programme

Thursday 2<sup>nd</sup> July

**12.30 - 1.00pm Registration**

**1.00 – 1.20pm Welcome**

Pam Smith, Administrator PlantNetwork  
John Grimshaw, Director Yorkshire  
Arboretum

**1.20 – 1.50pm Yorkshire Arboretum**

John Grimshaw Director, Yorkshire  
Arboretum

**1.50 – 2.30pm Ezytreev Tree Management software**

Ian Underdown, ra information systems

**2.30 – 3.10pm Tree risk management at Royal Botanic  
Garden Kew.**

Tony Kirkham, Head of the Arboretum,  
Gardens and horticultural services RBG  
Kew

**3.10 – 3.30pm Discussion and questions**

**3.30 – 3.45pm Tea and coffee**

**3.45 – 5.45pm Tour of the Yorkshire Arboretum**

**5.45pm** Delegates make way back to their accommodation

**7.30pm** Optional meet up for evening meal at the New  
Malton, 4 Market Place, Malton.

## Friday 3rd July

- 9.30 – 10.10am** **Introduction to Tree safety policy for National Trust gardens and parks.**  
Phil Scott Forestry Adviser, National Trust
- 10.20 – 10.45am** **Discussion on delegates' experiences**
- 10.45 – 11.30am** **Workshop: Tree safety policy development**  
Phil Scott Forestry Adviser, National Trust
- 11.30 – 11.55am** **Tea and coffee**
- 11.55 – 12.40pm** **Workshop: Tree safety policy development continued.**
- 12.40 – 1.00pm** **Discussion and questions**
- 1.00 – 1.45pm** **Lunch**
- 1.45 – 2.25pm** **Tree and Tree Management at English Heritage**  
Michael Klemperer, Senior Gardens Adviser, English Heritage
- 2.25 – 3.05pm** **Observatree**  
Phil Scott Forestry Adviser, National Trust and member of Observatree
- 3.05 – 3.30** **PlantNetwork next steps and feedback**  
Pam Smith, Administrator PlantNetwork

# Speaker Biographies

## **Dr John Grimshaw**

Dr John Grimshaw has been Director of the Yorkshire Arboretum since 2012, and was previously Gardens Manager at Colesbourne Park, Gloucestershire.

He is principal author of *New Trees, Recent introductions to cultivation* (with Ross Bayton, 2009), and is heavily involved with the Bean Online project of the International Dendrology Society – see <http://beanstreesandshrubs.org/>), but writes on a wide range of horticultural subjects in print and online (<http://johngrimshawsgardendiary.blogspot.co.uk/>). He is a Vice-chair of the RHS Woody Plant Committee, Chair of the Nomenclature and Taxonomy Advisory Group and a member of the Gardens Committee.

[director@yorkshirearboretum.org](mailto:director@yorkshirearboretum.org)

## **Ian Underdown**

Business development Manager or ra information systems. Ra systems have over 27 years in the IT industry and an ever-growing number of established users driving the continued development of ezytreev; we at ra information systems take pride in keeping the system in line with current trends in both the IT and arboricultural industries. This on-going evolution of ezytreev, combined with its user-friendliness and flexibility, has been a major reason for its continuing success and well-earned position as market leader in the Tree Management Software arena.

[ian.underdown@ra-is.co.uk](mailto:ian.underdown@ra-is.co.uk)

## **Tony Kirkham**

Head of the Arboretum, Gardens and Horticultural Services, RBG Kew.

Following an apprenticeship in the forestry industry and 2 years as an arborist, in 1978 Tony started at The Royal Botanic Gardens Kew on the 3 year Diploma course, graduating in 1981. In 2001 he became the Head of the Arboretum and Horticultural Services, responsible for the management and curation of the 14,000 trees in the collections.

He has participated and led several plant collecting expeditions to Chile and the Far East of Asia, including China, Taiwan, Japan, S. Korea and Russia.

In 2004 he completed the revision of the "*Pruning of Trees Shrubs and Conifers*" with Timber Press. He featured in the BBC2 series "A Year at Kew" and presented the "Trees that made Britain" for BBC2. He represents Kew on the RHS bursaries and woody plant committee, the International Dendrology Society, and is a trustee of the Yorkshire Arboretum and TROBI, (Tree Register of the British Isles).

In 2009 he was awarded the Associate of Honour by the RHS for distinguished service to horticulture.

As Head of the Arboretum at the Royal Botanic Gardens, Kew he has written the corporate policy and procedures for the risk management of the tree collections and developed a tree risk assessment management system TRAMS that assists with the recording of hazard evaluation.

t.kirkham@kew.org

## **Phil Scott**

Forestry Adviser, National Trust.

Phil Scott provides tree and forestry expertise in the East of England and the Midlands National Trust's regions. He also represents the National Trust on the Observatree Project.

Phil.scott@nationaltrust.org.uk

## **Michael Klemperer**

Michael Klemperer was a student at both Pershore College and the Royal Botanical Gardens Kew.

He has worked for Welwyn Hatfield Parks, Sheffield University (where he both studied in landscape and archaeology, worked in the contracts division, and as a tutor/lecturer) In addition he has worked on the management plans of Brodsworth Hall, and on two major HLF projects, as Park Manager at Cusworth Hall for DMBC, and as Estate Manager at Wentworth Castle. These projects involved extensive landscape restoration including the creation of landscape teams and the recreation of farmland, monuments, parkland and woodland. In this process he has managed woodland and supervised EWGS and arboricultural programmes.

His post currently is for Senior Gardens Advisor for the North and Midlands for English Heritage where he covers a range of sites from Brodsworth Hall (Yorkshire), Belsay Hall (Northumberland), Witley Court (Worcestershire) to Wrest Park near Bedford.

Michael.Klemperer@english-heritage.org.uk

# **PlantNetwork Tree Forum**

PlantNetwork discusses arboriculture, arboreta and all matters silvicultural. Practical workshops are arranged to allow members to meet, compare notes and discuss problems. It was formed in 1998 under the leadership of Mark Flanagan and Tony Kirkham.

Workshops of the PlantNetwork Tree Forum, as with the other Forum groups, are only open to members of PlantNetwork – all members of PlantNetwork are welcome to attend.

We are currently looking for people to continue the work of the Tree Forum by feeding through tree related content and to help organise future Tree Forum events. Please contact Pam Smith, PlantNetwork Administrator.

## **PlantNetwork website**

All presentations from our training and conferences are shared through our website. [www.plantnetwork.org](http://www.plantnetwork.org). Our website search facility also allows you to find previous newsletter articles, presentations and downloads. As always, please get in touch if you have any suggestions for website content.

[office@plantnetwork.org](mailto:office@plantnetwork.org)

# Tree Management Resources

## Ezytreev

Ezytreev is a tree management system, suitable for any person or organisation responsible for the management and maintenance of a large number of trees. It is modular in design, allowing it to be incorporated into a wide range of tree management scenarios, from the independent tree consultant to a team of local authority tree officers within a corporate IT environment, or hosted within our Cloud solution.

[www.ezytreev.com](http://www.ezytreev.com)

## Observatree

The Observatree project aims to not only detect the occurrence of tree pests and diseases earlier, but encourage people to learn more about tree health. We will be encouraging everyone, from members of the public to foresters, to act as citizen scientists to report sightings of pests and diseases that are not usually found in the UK. We need more eyes on the ground looking out for these pests and diseases to ensure that they are spotted as early as possible. The project will use a network of 200 specialist volunteers who will help to verify reports of these pests and diseases. They will be trained over the four years to help analyse the data and will undertake survey work.

Observatree aims to protect the UK's trees, woods and forests from harmful pests and diseases – existing or new. The earlier we spot these, the quicker we can try to eliminate them or help control the spread. Observatree is a

project to harness people's love of trees to provide that early warning.

The project will:

- Focus on high priority pests and disease
- Encourage people to report sightings using the TreeAlert tool.
- Identify the most significant reports
- Share best practice

[www.observatree.org.uk](http://www.observatree.org.uk)

## **i-Tree**

A peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. The i-Tree Tools help communities of all sizes to strengthen their urban forest management and advocacy efforts by quantifying the structure of community trees and the environmental services that trees provide.

Since the initial release of the i-Tree Tools in August 2006, numerous communities, non-profit organisations, consultants, volunteers and students have used i-Tree to report on individual trees, parcels, neighborhoods, cities, and even entire states. By understanding the local, tangible ecosystem services that trees provide, i-Tree users can link urban forest management activities with environmental quality and community livability. Whether your interest is a single tree or an entire forest, i-Tree provides baseline data that you can use to demonstrate value and set priorities for more effective decision-making. Although a USA focused

initiative there are increasing examples of UK partners and projects.

<http://www.itreetools.org>

## **Tree safety**

What is the risk?

On average, each year 5 or 6 people in the UK are killed by trees. So the risk of being struck and killed by a falling tree or branch, or by driving into one, is extremely low.

The risk from a tree falling in a public space is even lower. Up to 3 people on average are killed each year by trees in public spaces, but as almost the entire population of the UK is exposed, the risk is about one in 20 million. The risk, per tree, of causing fatality is of the order of one in 150 million for all trees in Britain or one in 10 million for those trees in, or adjacent to areas of high public use.

*Source: Health and Safety Executive (HSE)*

The Health and Safety Executive has published advice to their inspectors and local authority enforcement officers as to the expected standards for management of the risk from falling trees.

[www.hse.gov.uk](http://www.hse.gov.uk)

## **Visitor Safety in the Countryside Group (VSCG)**

VSCG was set up in May 1997. Since then the group has been meeting regularly to exchange information and develop ideas. In particular, to look at how to create safe access to the countryside in ways that do not spoil the landscape and heritage, or lessen the visitor's sense of exploration and adventure.

### **Guiding principles**

The principles apply to individuals and groups visiting land, water, buildings and other structures. They are relevant to parks, gardens, country parks, historic houses and monuments, canals and rivers in urban and rural areas, as well as open countryside, nature reserves and forests. Visitors include people engaged in informal recreation as well as participants in various sports and activities.

- Take account of conservation, heritage, recreation, cultural and landscape objectives
- Do not take away people's sense of freedom and adventure
- Avoid restrictions on access
- Ensure that your visitors know the risks they face
- Inform and educate your visitors about the nature and extent of hazards, the risk control measures in place, and the precautions that they themselves should take

## VSCG Publications

Managing Visitor Safety in the Countryside is the established guide for owners and managers of open spaces, both urban and rural. It is written with years of practical experience of VSCG members.

The guiding principles and practical risk management techniques covered in this book have been endorsed by the Health and Safety Executive and recognised by courts as the basis for sensible risk management. The guiding principles have been adapted for use by the National Water Safety Forum and the National Tree Safety Group. Available from <http://vscg.co.uk/>

### VSCG guidance on tree safety management

- Tree safety management should be part of a comprehensive visitor safety plan for your site.
- You should have clear written policy and procedures that identify who is responsible for doing what.
- You must have a system to ensure that your policy and procedures are properly applied and monitored.
- Focus resources on areas of greatest risk to people and property – zoning in accordance with different levels of public use is a common approach.

Often it is not reasonably practicable to inspect and record every tree. To help prioritise inspections it is helpful to map areas with respect to the level of public access to trees. You can establish zones of high, medium and low use.

<http://vscg.co.uk>

# National Tree Safety Group

The National Tree Safety Group (NTSG) is composed of a number of organisations with an interest in tree risk management. The group came together in August 2007 to discuss the need for a nationally recognised approach to tree safety management. Early in the discussions one issue became the priority for the NTSG. This was the provision of guidance that is proportionate to the risk posed by trees and defensible rather than defensive.

## The National Tree Safety Group Aims

- carry out research into tree risk
- produce a set of basic principles as a framework for considering and managing tree safety in the public interest
- through the above, produce a widely-accepted, broad guidance document on tree safety management for landowners and managers with responsibility for trees

<http://www.forestry.gov.uk/forestry/INFD-7T6BPP>

Publications produced by the Forestry Commission for the National Tree Safety Group. These three documents provide guidance on trees and public safety in the UK for owners, managers and advisers.

**1. Common sense risk management of trees** (The main guidance document priced at £19.99 plus P&P) Free download and free summary also available.

**2. A Landowner Summary** (for estates and smallholdings available free)

### **3. Managing Trees for Safety** (For the domestic tree owner available free)

Available from Forestry Commission Publications  
forestry@theapsgroup.com

## **Case study: National Trust Tree Safety guidance**

The Trust owns around 250,000 hectares of land in England, Wales and Northern Ireland and cares for millions of trees. These are highly valued for their natural beauty, the wildlife they support, and their importance in the landscape

However, there are risks of injury to staff, volunteers and the public from falling trees and branches. There are also risks of damage to buildings, property and vehicles

Tree safety management is one aspect of visitor safety management. The Trust's approach to visitor safety management is based on the guiding principles contained in the booklet 'Managing Visitor Safety in the Countryside – principles and practice', published by the Visitor Safety in the Countryside Group.

### **Establishing and mapping usage zones**

For a programme of tree inspection and management to be practical, most resources need to be directed to areas where there is greatest risk to people and property. This is initiated by designating each part of the property to one of five Usage Zones. At some properties, all five zones will be

applicable; at others, three or four zones may be applicable. Assignment of usage zones is also the responsibility of the Property Manager/General Manager, with assistance from property staff and functional advisers. The Usage Zone is based on how the area is used and consequently the likelihood of people being injured, or buildings and other valued property being damaged in the event of failure of all or part of a tree.

These zones take account of different levels of use and types of activity, reflecting the numbers of people that use a particular area and the time they spend in that area.

**The following general factors will have an influence on whether tree failure due to mechanical weaknesses may occur:**

- **Wind speeds for the site.** Trees adapt their growth to site conditions so that on windy sites the trees are more wind tolerant. The rationale needs to state whether average or maximum gust wind speeds are used as the basis for decision making.
- **Wind direction.** Knowledge of prevailing winds will be part of the decision making.
- **The nature of the trees on site is significant.** The species, age and size of the tree, together with the rooting substrate and location all have an impact.
- **Other factors.** Could include the time of year i.e. are the trees in full leaf or not and is the ground saturated by recent heavy rainfall.
- **Knowledge of the site and a record of weather conditions** which relates to damage to trees and restrictions on access will help to inform the rationale. Details of post storm damage to trees should be included as part of Tree Safety Management (TSM).

- **Information from the UK Meteorological Office.**  
The Met Office issues weather reports including severe weather warnings. They also issue information which is very useful in predicting average and maximum gust wind speeds. The rationale should stipulate which report type will be used for decision making on the property. Active monitoring of forecasts will allow a property to be proactive and make a decision in advance.

## **Tree inspections: Usage Zones**

### **1. Very High Use**

For example:

- Constant very high volume road, rail or visitor use.
- Very high likelihood of visitors, staff/volunteers staying in the area

Areas close to or used as:

- Motorways, dual carriageways, major road junctions, main trunk railway lines.
- Major car parks, camp / caravan sites, adventure play areas, event areas.
- Very heavily used buildings, e.g. schools, mansions, NT visitor reception / shops / cafes
- Residential buildings including tenanted cottages and farm houses, holiday cottages, base camps, neighbouring private dwellings

### **2. High use**

For example:

- Frequent high volume of road traffic or visitor use.

- High likelihood of visitors, staff/volunteers staying in the area.

Areas close to or used as:

- A roads and busy road junctions.  
Busy car parks and adventure play areas.  
Large-scale, but infrequently used event areas.  
Gardens with very high visitor numbers.  
Picnic areas with extensive outside seating.
- High value structures, e.g. garden statuary, park follies, unique bridges.
- Heavily used footpaths, bridleways, way-marked trails and avenues.
- Areas close to heavily used staff working areas, e.g. estate yards, workshops.

### **3. Medium use**

For example:

- Generally moderate volume of road traffic or visitor use.
- Visitors tend to disperse rather than gather.

Areas close to or used as:

- Local roads, Footpaths, bridleways, avenues, way-marked trails.
- Medium / small-scale event areas.
- Gardens with moderate visitor numbers.
- Non residential buildings, e.g. barns.

#### 4. **Low use**

For example:

- Generally low volume road traffic or visitor use.
- Visitors well dispersed.

Areas close to or used as:

- Minor roads and quiet car parks. Footpaths, bridleways, way-marked trails, avenues
- Quiet areas of gardens.
- Areas restricted for public access, or impeded by natural or planted vegetation.

#### 5. **Very low use**

For example:

- Normally very low level of visitor use or infrequently used.
- All other areas not classified above. Often this land is arable, park, hill, moor, heath or woodland.
- 

**Inspect trees** during Sept and Oct when fungal fruiting bodies can be seen and deciduous trees still have sufficient foliage to enable their health to be assessed. Looking at trees in full leaf during the summer can also be helpful in assessing their general health, while inspecting deciduous trees in winter allows physical defects in the upper tree parts to be observed.

## Frequency of inspections

Usage zone	Frequency of inspection	Inspection type
1 Very high	Normally annually and after severe weather events	Formal inspection of every tree for defects with binoculars, tapping mallet and probe required to be available for use.
2 High	Normally two years and after severe weather events	Formal inspection of every tree for defects with binoculars, tapping mallet and probe required to be available for use
3 Medium	Normally every three years (with discretion up to 5 years) and after severe weather events	Walk by inspection of every tree looking for obvious defects
4 Low	During normal routine visits	Informal observation and awareness of the general condition of trees
5 Very low	No inspection required	No inspection required
Retained trees	At least annually, with additional inspections if appropriate	Formal or detailed inspection, often requiring a higher level of expertise

## **The Trees and Design Action Group (TDAG)**

An open collaborative facilitating cross-sector and cross-disciplinary dialogue and projects promoting the role of the urban forest throughout the United Kingdom.

The group shares the collective vision that the location of trees, and all the benefits they bring, can be secured for future generations through better collaboration in the planning, design, construction and management of our urban infrastructure and spaces.

Established in 2007 as a not-for-profit and apolitical collaborative forum, TDAG incorporated as a charitable trust in 2013. Its membership, online publications and information are free. This approach enables TDAG to assimilate ideas and knowledge independently of organisational hierarchy, profit or commercial interests.

In April 2011, for the first time in Britain, the relevant professional bodies concerned with trees and the built environment came together to hold a major international research conference hosted by the Institute of Chartered Foresters and titled Trees, People and the Built Environment (TPBE). A second conference, Trees, People and the Built Environment II (TPBEII) was held at the University of Birmingham in April 2014. A weblink to download the proceedings of each of these events can be found on our External resources page.

As a follow-up to the first TPBE conference TDAG set up a working party focusing on research investigating the natural and built environment issues that ought to be better understood for effective decisions on urban trees. The research working party focuses on identifying:

- Published research papers that have relevance
- Current research projects
- Gaps in research that needs to be filled

In June 2014 TDAG received a grant from Fund4Trees to undertake research on 'What we Know and Don't Know about the Physical Benefits of Urban Trees'. The findings will be published in peer reviewed journals and as a stand-alone report for TDAG which will be available on the website.

Sue James  
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[www.tdag.org.uk](http://www.tdag.org.uk)

# Training

VSCG members run in-house courses for their own staff. Basic training, typically for a day, is designed to enable participants to carry out basic tree surveys. Staff must be aware of their limitations and know when and how to get further advice. Course elements include:

- designating usage/risk zones
- frequency and level of inspections
- recognition of hazardous trees
- risk control – evaluation of options and planning actions
- knowing when and how to get further advice
- record keeping
- wildlife and habitat considerations

Staff also need to be competent and trained in procedures for:

- emergencies and accidents
- managing the site in the event of forecast high winds
- engaging tree contractors

The training should include practical exercises outside, to ensure that the theory is understood and can be competently applied.

The Arboricultural Association runs training courses accredited by Lantra, licensed by the government to represent the skills, business development and training needs of the environmental and land-based industries).

There is a one-day basic tree survey and inspection course for non-arboriculturists, such as park rangers; and a three-day training programme, with exam-based assessment, designed for more experienced professionals.

## **More useful websites**

Arboricultural Association     [www.trees.org.uk](http://www.trees.org.uk)

Ancient Tree Forum            [www.ancienttreeforum.co.uk](http://www.ancienttreeforum.co.uk)

The Tree Forum                 [www.treecouncil.org.uk](http://www.treecouncil.org.uk)

Institute of Chartered Foresters [www.charteredforesters.org/](http://www.charteredforesters.org/)

The Woodland Trust            [www.woodlandtrust.org.uk/](http://www.woodlandtrust.org.uk/)

London Tree Officers Association   [www.ltoa.org.uk](http://www.ltoa.org.uk)

# NOTES









# PlantNetwork membership

Membership is open to all who support the aims of PlantNetwork. Applications from gardens, staff, students, Friends' groups, trustees, personal members, colleges and those overseas are welcome.

In return for your subscription, you will receive:

- regular newsletters, currently four per year, containing news and information from botanic gardens, arboreta and other holders of plant collections in Britain and Ireland
- invitations to conferences, workshops and training sessions
- advice and support for yourself
- opportunities to take part in co-operative activities with other holders of plant collections

Please see our website for application forms and payment options. Online booking and payment now available.

## **Membership categories 2015**

Small garden/organisation £130 (less than 20 horticultural staff)

Large garden/organisation £350 (more than 20 horticultural staff)

Personal member £33

Personal member for those working in a member garden £15

Student £10

***<http://plantnetwork.org/about/join>***



# PlantNetwork

The Plant Collections Network  
of Britain & Ireland

## 2015 Training Events

- 22nd July **Plant Records training ‘What’s growing here then? How do we answer the everyday question – what is that?’**  
Royal Botanic Garden Edinburgh
- 22nd October **Seed Collection and Storage**  
Millennium Seedbank, Wakehurst Place
- 4<sup>th</sup> & 5<sup>th</sup> **PlantNetwork Autumn Conference**  
To include PlantNetwork AGM  
**Plant collections management:** relevance and collections policies, ethical sourcing, collections management, legislation and compliance.  
November Wollaton Hall, Nottingham