

# Introduction to



Ana Perez-Sierra - Forest Research

The Arboricultural Association's 50th Annual Amenity Arboriculture Conference  
Keele University, 4-7 September 2016

# What is Observatree?

- Aim: To create a tree health early warning system using citizen science



# Partners and Funding

## Partners:



## Funded by:



- Oct '13 – Sept '17
- €2,193,909
- 50% funded

## Supported by:



Department  
for Environment  
Food & Rural Affairs



Animal &  
Plant Health  
Agency



**Cyfoeth Naturiol Cymru**  
**Natural Resources Wales**



# Why citizen science?

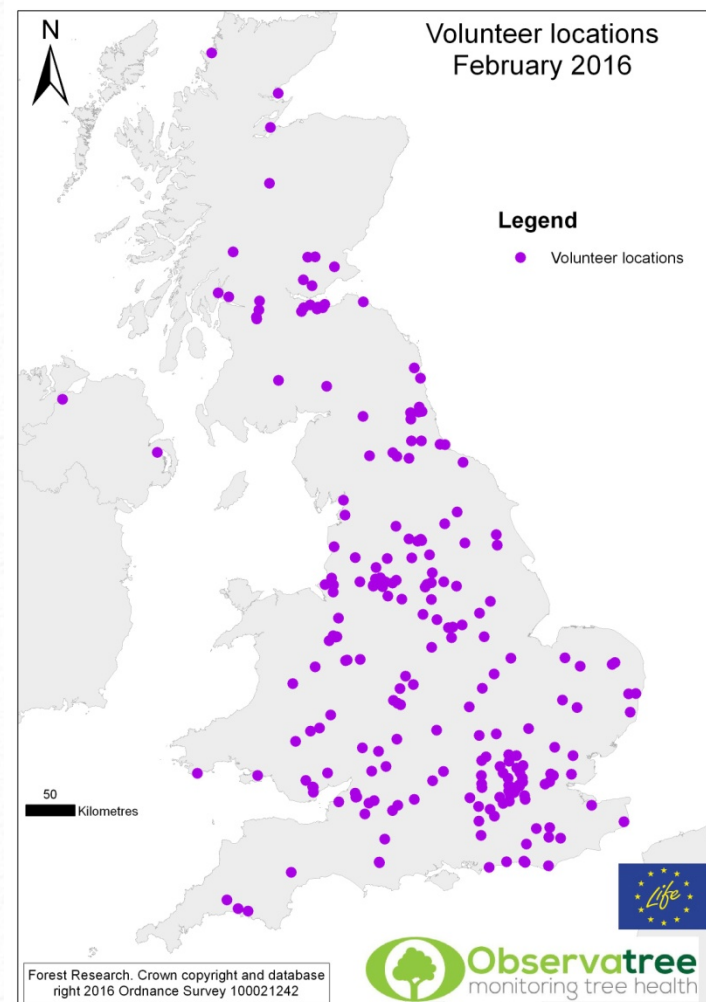
- Early detection requires increased surveillance
- Checking more of the UK's trees, forests and woodlands
- Professional Tree Health  
Inspectors can't be everywhere
- Harnessing knowledge  
of people in regular contact with  
trees





# Our specialist volunteers

- Over 230 volunteers
- Many with relevant experience and qualifications
- Extensive face-to-face training
- Significant resource library
- Access to the scientists



# Observatree priority pests and diseases



Asian Longhorn Beetle



Bronze Birch Borer



Dothistroma Needle Blight



Oak Lace Bug



Red-necked Longhorn Beetle



Plane Lace Bug



Emerald Ash Borer



Great Spruce Bark Beetle



Phytophthora austrocedri



Chalara Dieback of Ash



Oak Processionary Moth



Phytophthora lateralis



Sweet Chestnut Blight



Mountain Ash Ringspot



Acute Oak Decline



Sweet Chestnut Gall Wasp



Plane Wilt



Horse Chestnut Leaf Miner



Pine Processionary Moth



Citrus Longhorn Beetle



And Sirococcus tsugae

Funded by the EU's LIFE programme



You can help to spot these threats sooner.  
If you think you have spotted a tree pest or disease use Tree Alert to report it:  
[www.forestry.gov.uk/trealert](http://www.forestry.gov.uk/trealert)





# What do the specialist Observatree volunteers do?



# Role 1 – Conducting surveys

- Capturing any P&D symptoms
- Priority P&D
- Survey form
- Reporting mechanisms
- Health and Safety
- Insurance
- Land access
- Full-time volunteer coordinator

Observatree Volunteer Site Survey Form

Observatree monitoring tree health

1. Site Details

Site No:		Ten-figure OS Grid Ref:	
Land Ownership:	WT, NT, other	Tree species being investigated:	
Site Name:		Trees affected:	<input type="checkbox"/> Individual tree <input type="checkbox"/> Few trees <input type="checkbox"/> Many trees
Date of site visit:		Age class:	New Planting / Regeneration / Young Tree / Mature Tree Other: (please state)
Surveyor(s) full name(s):		Site Type:	Woodland / Park / Garden / Heathland / Urban / Nursery / Hedgerow / Farm land / Plantation Other: (please state)
Tel:			
Surveyor email:			

2. Contact Details

Land Owner:		Tel:	
Other Contact:	(please state role)	Tel:	
Comment:	Please enter ownership or site notes (eg. split site ownerships, knowledge of site conditions, access)		

3. Photo Information

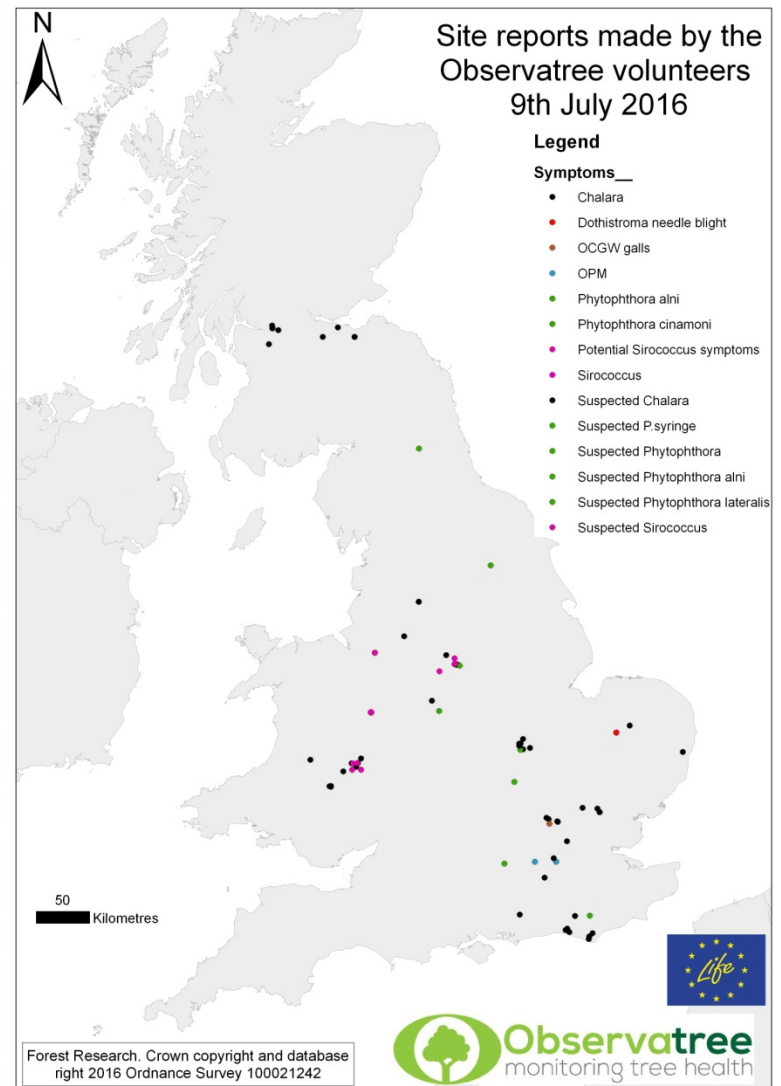
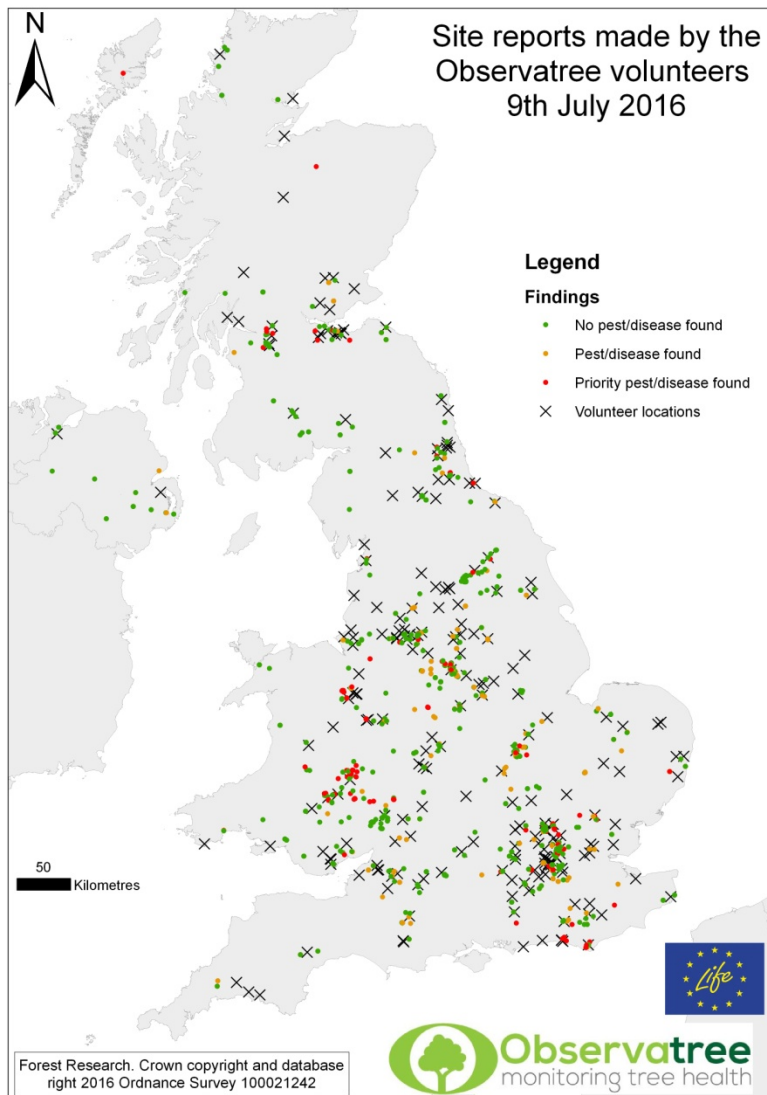
Tree in contact:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Please use these boxes for additional details e.g. photo numbers
Symptoms in contact:	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Close-up of symptom:	Yes <input type="checkbox"/> No <input type="checkbox"/>	

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Version 2.0 issued 25/11/14



# Surveys



# Tree Alert: An online reporting tool



## Tree Alert

Tree Pest & Disease sighting reporter



This site has been set up to gather information about the health of the nation's trees, woodlands and forests. This information will support important tree health monitoring and surveillance work, contribute to ongoing scientific research in this field and, ultimately, support efforts to protect the nation's trees.

For an overview of what information will be required, get info here (opens a new tab)

**This site uses cookies. We have already set cookies which are essential for the operation of this site.**



Submit a general report of a problem affecting the health of a tree(s), including Oak Processionary Moth and Oriental Chestnut Gall wasp.



Submit a report of a specific tree pest or disease that you have seen.



If you own or manage trees you can request a diagnosis of a pest or disease problem. This may be a chargeable service.

You are here: [Home](#)

[Home](#)

[Forestry Commission](#)

[Observatree](#) – an early warning system for tree health

### Resources For Report Submission

[UK Grid Reference Finder](#)

[What You Need To Make A Report](#)

### Useful information

[Forestry Commission - tree identification guide](#)

[Forest Research - research into tree pests and diseases](#)

[Forestry Commission - top tree pests and diseases](#)

[Chalara map](#)

[UK Plant Health Risk Register](#)

[Plant Health \(Forestry\) Order 2005 \(pdf download\)](#)

### Login Form

☐ Remember Me

[Log in](#)

[Create an account](#) >

[Forgot your username?](#)

[Forgot your password?](#)



# Role 2 – Scientific support

- TA reports checked daily by FR Tree Health Diagnosis Advisory Team
- If the TA report needs additional info you may be passed to an Observatree volunteer
- Observatree volunteers may be asked to visit site or take samples following a TA report
- Volunteers may be asked to undertake additional, targeted tasks / surveys

# Results: Scientific support

- Targeted survey work:
  - Oriental Chestnut Gall Wasp survey – 2015 (found the 2<sup>nd</sup> UK outbreak site!)
  - Surveys in woodlands sounding OCGW outbreak
  - Surveying for Chalara in Scotland
  - Surveying for *Sirococcus tsugae*





# Training and supporting resources

- Significant investment in training
- We use a variety of training methods because:
  - Different individuals learn in different ways
  - Wide range of skills, ability and knowledge
  - Different time constraints



# Training delivery methods

- Face to face training - including practical activities e.g. tree ID, surveying, GPS and sampling
- Training films – convenient for volunteers
- Webinars – responsive to outbreaks
- On-line forum- access to tree health professionals
- Access to information - on-line portal



# Training and supporting resources

- Face to face training includes:
  - Biosecurity
  - Survey techniques and planning
  - Health and Safety





# Do you know your conifers?





# Survey and GPS





# Sampling workshop



Taking bark samples



Sampling for AOD



# Training and supporting resources

- Additional resources available online

<http://www.observatree.org.uk/resources/>

and others are being developed:

- Field ID guides for all Observatree's priority species
- Downloadable posters
- Online videos on pest and disease id and look-a-likes
- Webinar recordings
- E-learning





	January	February	March	April	May	June	July	August	September	October	November	December	
 Dethiostroma needle blight						Needle symptoms/banding most obvious now							
 Oak processionary moth	Look for old nests and egg plaques while leaves are absent			Look for the caterpillars especially at dawn/dusk and signs of feeding damage			Check traps as adult moths now flying						
						Survey for nests/trails while they are still white							
 Pine processionary moth	Survey for nests in pine trees				Adults flying - check traps						Caterpillars are active - mainly at night but look for feeding damage on needles		
									Caterpillars are active - mainly at night but look for feeding damage on pine needles				
 Chestnut gall wasp	Look for brown woody galls and retained leaves with "scrunched up" appearance				Current years galls (green and pink/red) visible for the season - look for leaf distortion too					Look for brown, woody galls and retained leaves with "scrunched up" appearance			
 Chalara (Ash dieback)	Look for bark lesions while leaves are absent				Leaf infections visible			Chalara leaf infections most visible now			Look for bark lesions while leaves are absent		
					Look for the fruiting bodies on rachis in the litter								
 Asian longhorn beetle						Look for adult beetles, frass, signs of feeding damage on leaves and fresh exit holes in upper trunk and branches							
	Larvae present all year round - look for exit holes when leaves are absent												
 Citrus longhorn beetle						Look for adult beetles, frass, signs of feeding damage on leaves and fresh exit holes in lower trunk and exposed roots							
	Larvae present all year round - look for exit holes when leaves are absent												
 Redneck longhorn beetle						Look for adult beetles, frass, signs of feeding damage on leaves and fresh exit holes							
	Larvae present all year round - look for exit holes when leaves are absent												
 Horse chestnut leaf miner						Pale and brown leaf mines visible on leaves							
 Phytophthora lateralis	Symptoms (bark lesions and foliage death) can be visible all year round												
 Phytophthora austrocedri	Symptoms (bark lesions and foliage death) can be visible all year round												
 Plane wilt					Look for wilting and discoloured (yellow) leaves and abnormal leaf fall								
	Bark lesions visible all year round												
 Plane lace bug					Look for rows of eggs along leaf veins, foliar feeding damage, small black specks of frass on leaf undersides, wingless nymphs and nymphal skins								
	Adults overwintering in leaf litter					1st and 2nd generation adults emerge to produce further generations				Overwinter to start cycle again in the spring			
 Oak lace bug					Look for rows of eggs along leaf veins, foliar feeding damage, small black specks of frass on leaf undersides, wingless nymphs and nymphal skins								
	Adults overwintering in leaf litter					1st and 2nd generation adults emerge to produce further generations				Overwinter to start cycle again in the spring			
 Bronze birch borer	Larva/larval galleries below bark - other bark signs/symptoms e.g. D shaped exit holes present all year round					Adults emerge and are present in canopy			Larvae/larval galleries below bark - other bark signs/symptoms e.g. D shaped exit holes present all year round				
					When trees are in leaf look for thinning, yellowing and stunted leaves in upper crown and also twig and branch dieback and epicormic growth								
 Emerald ash borer	Larva/larval galleries below bark - other bark signs/symptoms e.g. D shaped exit holes present all year round					Adults emerge and are present in canopy - look for feeding damage on leaves			Larvae/larval galleries below bark - other bark signs/symptoms e.g. D shaped exit holes present all year round				
					When trees are in leaf look for thinning, yellowing and stunted leaves in upper crown and also twig and branch dieback and epicormic growth								
 Great spruce bark beetle	Any stage of the life cycle may be seen throughout the year (adults externally and larvae/pupae within galleries under bark). Adults only active at temperatures above 12 degrees C. Look for resin tubes and resin bleeds on bark. Browning and death of foliage over some/all of the crown												
 Chestnut blight	Bark lesions more visible in the winter			Look for leaf collapse and patches of retained dead foliage and also epicormic growth						Bark lesions more visible in the winter			
				Look for small orange fruiting bodies on the bark lesions from spring through to autumn (you may need hand lens). Yellow tendrils may also be present in wet conditions									
 European mountain ringspot virus				Look for foliar symptoms while the tree is in leaf; yellow mottling/speckling, yellow ringspots, oak leaf discoloration pattern and any signs of general decline in the tree									
Acute oak decline	Old bleed stains may be visible		Fresh bleeds			Old bleed stains may be visible			Fresh bleeds		Old bleed stains may be visible		
	Other signs and symptoms such as D shaped exit holes, larval galleries beneath bark, callus growth over galleries and signs of general tree decline may be visible all year round												

\* Visibility / appearance of signs and symptoms are dependent on weather; for P&Ds not here yet behaviour and timings are not fully determined

 Present in UK

 Not present in UK

Funded by the EU's LIFE Programme



Partners



Supported by



Designed and prepared for Observatree by Suzanne Sanceli-Frey, Forest Research 2016

# Partnership working

- Advantages
  - Benefit of shared expertise
  - New collaborations
  - Different perspectives
  - Mutual learning
  - Shared belief in the project and a common goal



Funded by the EU's LIFE programme



# Project challenges

- Reporting systems fit for use
- Partnership working
  - Different organisations, structures and changes
  - Differing processes and priorities
- Maintaining volunteer enthusiasm
- Ensuring good quality data
- Encouraging tree professionals to report P&D



# Working with you?

- Do you have a similar project we could learn about?
- If not, would a Citizen Science based Early Warning System project be of interest?
- We can work with you and give you access to the Partner's expertise

Contact - Peter Crow, Observatree Project Manager

[Peter.crow@forestry.gsi.gov.uk](mailto:Peter.crow@forestry.gsi.gov.uk)

# Thank you



<http://www.observatree.org.uk/>