



**NFWI-WALES NATURAL HERITAGE
PROJECT TO PRESERVE, PROTECT AND
PLANT URBAN TREES**

Project Pack



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PROJECT PACK

Foreword

The WI has a proud and rich history of standing up for the natural environment which has been a central theme for many WI campaigns and projects, with members dedicated to protecting and promoting the countryside, limiting their own environmental footprints, and taking action on climate change.

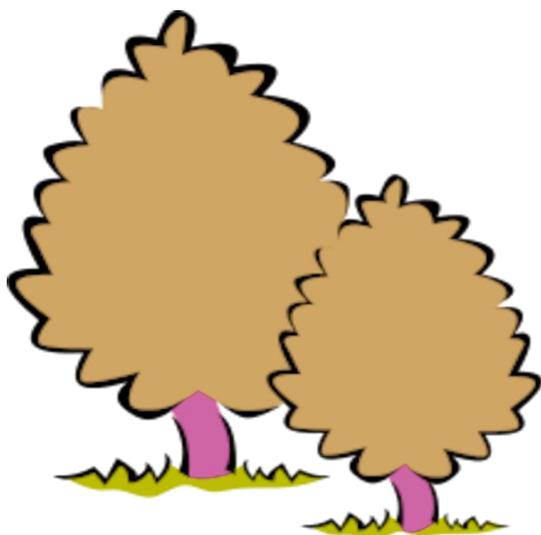
During the WI's Centenary year, the report 'The WI at 100: A Century of Inspiring Women' examined WI members' views on some of the big issues facing Britain today. 76% of WI members believed that action to tackle climate change cannot wait, 58% were concerned about the challenges that future generations were set to inherit such as a warmer and more chaotic planet, 50% of WI members were concerned about the impact of climate change on UK citizens' health and 56% were extremely worried about how UK wildlife is suffering from climate change inaction.

The importance of individual action and a belief in personal agency rings true for WI members who almost universally believe that each individual is able to help reduce climate change. An awareness of the legacy that we leave with the choices we make has been a constant theme within the WI for over 100 years. As WI members you remain convinced that we need to be responsible for our actions and that we all have a personal responsibility towards the planet. It is against this background that the NFWI-Wales is working with Natural Resources Wales (NRW), the Woodland Trust, Open University, Open Air Laboratories and Voluntary Arts Wales to deliver an exciting environmental project which aims to preserve, protect and plant urban trees in Wales.

This pack is full of useful tips for your project and I hope that you will enjoy taking part whilst realising the difference you can make to your local environment.

Mair Stephens, Chair NFWI-Wales

Background



Wales is one of the least wooded countries in Europe. Woodlands make up 14% of the landscape and less than half of these are native broadleaved. Ancient woodland makes up less than 5% of the land area in Wales. With regard to urban areas, Wales' mean urban tree cover was estimated at 16.3% for 2013.

Natural Resources Wales (NRW) has mapped the tree canopy cover in all its towns and cities, the first country in the world to do so and just as it's becoming clearer how much trees deliver for us, and how they contribute to climate change mitigation, health and wellbeing, and

our economy, the most recent study (using aerial photographs from 2013) shows that 73% of urban areas in Wales have lost trees since 2010, and 159 towns were showing evidence of canopy loss, that's 72% of towns. Between 2006 and 2013, 7,000 large trees appear to have been lost, this suggests an ongoing erosion of Wales' Victorian and Edwardian tree legacy.

Trees are amongst the most versatile natural assets that planners policy makers, business and communities can use to cost-effectively raise the quality of Welsh towns and cities, but until NRW's report 'The Tree Cover in Wales' Towns and Cities' (TCWTC) and the 22 county reports which compliments the report by providing specific local focus to the canopy cover findings, little was known about Wales' urban tree resource – its extent, location and whether current provisions are adequate to effectively support the sustainable growth, health and well-being of Welsh urban communities. The TCWTC study provides decision-makers around the country with baseline information they need to strategically plan and manage Wales' urban tree resource.

Research shows us that trees in Wales' towns and cities deliver many social benefits – as well as mitigating the effects of climate change.

For example, they:

- remove air pollution – saving the NHS millions of pounds each year by reducing asthma and heart disease. Children living in areas with more street trees have lower prevalence of asthma. The Department for the Environment, Food and Rural Affairs estimates that the annual economic cost from impacts of air pollution in the UK is £9-19 billion every year.
- intercept millions of litres of rainfall – reducing the risk of flooding and saving millions of pounds each year in sewerage charges. Every 5% increase in tree cover reduces water run-off by 2%.
- capture and store carbon from the atmosphere – again worth millions every year.
- help to mitigate excessive warming - increasing green-cover by 10% can reduce surface temperature of a city by 3 – 4°C.

However, despite their multi-purpose benefits to society, the urban environment places considerable pressure on trees, with the reasons for their potential removal and loss of cover varied. Drivers for removal include:

- an aging tree population leading to dying and dangerous trees
- increased threats from diseases
- lack of understanding on the benefits that trees bring to society and of available solutions to better integrate them into urban infrastructure when dealing with issues such as subsidence, pavement heave, blocked drains, loss of light and slippery paths due to leaf and fruit drop
- demand for new building development and work to utilities infrastructure
- right tree right place approach not being adhered to at planting

The loss of large long-lived trees is concerning. The maturing Victorian and Edwardian legacy whilst at some point in need of replacement, does offer urban society the greatest benefits. The danger is that these trees are not being replaced and where they are, small, short-lived trees offering fewer overall benefits take their place. A consistent, resourced and planned approach is needed to:

- Protect and care for the Victorian and Edwardian legacy of large trees
- Promote planting of large canopy specimens.

There is also the potential to identify ‘green land’ sites for planting, and if all these sites were utilised and ‘the right tree in the right place’ was planted, then there would be an increase in cover in towns by 35-52%.

The Heritage

The project will focus on our natural heritage in particular urban trees or the 'urban forest'. The urban landscape has gone through many different fashions through the decades that still persist today, from high maintenance Victorian trees to the flowering cherry of the 1950's to the more naturalistic ecological landscapes of the 1980's. There have been many influences on the development of trees in Britain, from the landed Gentry planting on their estates to the English landscape movement creating green parklands, to the Industrial Revolution, with business owners wanting to show off their wealth, and the advent of the motor vehicle and the developing road network which incorporated the planting of trees, often with safety considerations in mind e.g. blocking out headlights from the opposite carriageway.



One of the biggest influences on the planting of trees were the Victorians and Edwardians, many prominent horticulturalists planted trees in urban areas, in particular planes which they believed were not only aesthetically pleasing but also had health benefits by providing shade from the sun, and purifying the air by removing elements from the 'miasma', a form of noxious air believed as late as 1850 to be the cause of diseases such as cholera. They also populated our town and city streets with, horse chestnut, sycamore, common lime and English elm.



Image - Frankie Owen-Pavitt

The Edwardians had a more modern approach to horticulture with more natural less formal perennials, shrubs and climbers. Our native species planted many years ago are mainly broadleaved, deciduous species, including birch, oak, ash, willow, as well as evergreens such as holly, yew, scots pine and juniper, and the main advantages of native trees and shrubs over non-native species such as exotic conifer are now widely appreciated. They maintain our local landscape heritage and conservation value and support a wider range of plants and animals e.g. willow and birch all support over 200 native insect species, a single mature oak can support more than 500 species and trees with nuts and berries such as rowan, hazel and beech provide a food source for birds and mammals throughout the year.

Native species are more likely to thrive than most introduced species, particularly in more challenging conditions and they produce more sustainable economic benefits, whether from quality hardwood timber or as a multitude of coppice wood and non-timber forest products. Trees in town centres and on busy streets provide much higher level of local benefits than if they were out in the distant countryside. Woodland corridors running through and around towns provide many additional wildlife and greenspace benefits, especially where towns are very densely built up with few spaces for trees, for example they connect people with nature, improve health and wellbeing and community cohesion, encourage exercise, lower crime levels, contribute to climate change mitigation and our economy. Trees remove air pollution, intercept millions of litres of rainfall, capture and store carbon from the atmosphere and help to mitigate excessive warming.

Aim:

This exciting project aims to engage WI members in becoming champions of trees in their local community and will encourage them in a range of activities.

Members Can:

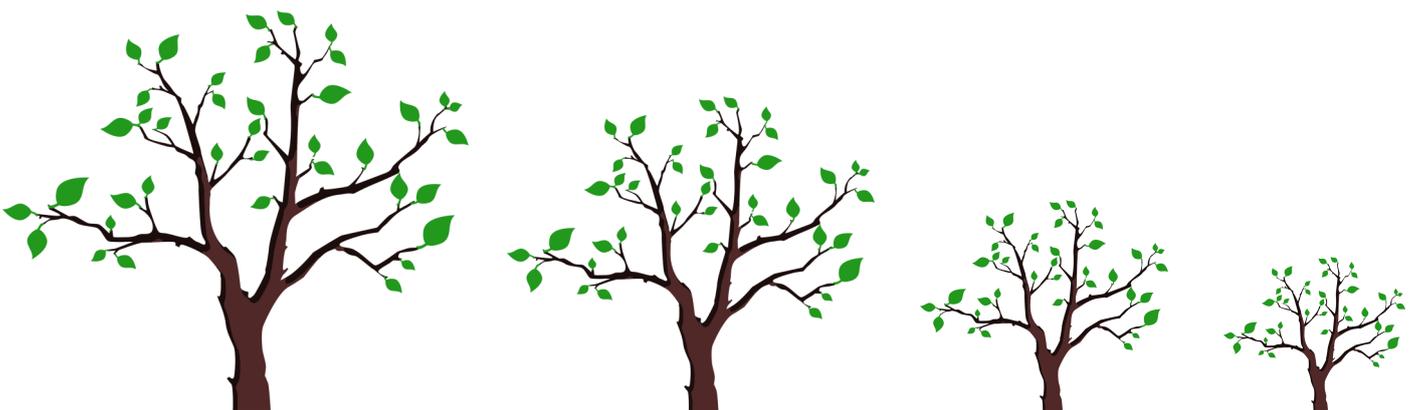
- ◆ Become champions of their trees and green spaces in their local community
- ◆ Adopt a tree/trees in the local community and using the OPAL tree guide do a survey of the trees e.g. what species are they, what is their condition and value, who owns them
- ◆ Measure it and observe it through the seasons, its leaves, flowers, fruits, what creatures live on it or in it
- ◆ Celebrate it, photograph it, draw or paint it, make a bark rubbing, make a craft item inspired by it, write about it, do a digital story on it, or yarn bomb it, keep a diary
- ◆ Share your stories on social media
- ◆ View the Tree Charter online for additional recent information (Link on page 19)

Monitor your adopted tree/trees

- ◆ Find out what planning proposals are in the pipeline which could effect your tree/trees
- ◆ Ask your local council or local authority if they have a tree strategy and what plans they have for the trees in your community and how many trees in your community have a preservation order on them. There is a sample letter on page 19 to guide you.
- ◆ Identify the 'green land' sites in your community and work with other providers to plant a tree/trees. Wouldn't it be wonderful to plant one tree for every WI member in Wales, that's 16,000 trees!

'Ground-truthing' of the study data – what's really happening?

- ◆ Inform NFWI-Wales, NRW, local biodiversity record centres and your local authority of your findings
- ◆ Upload the information you have on to Treezilla and OPAL maps which record trees near you and find out how they benefit the local environment



How the Project will work:

This is a two year project, running from **September 2017 to September 2019**. It operates on three levels, national, federation and local level.

- The Head of NFWI-Wales and a Project Administration Assistant will support the delivery the project with federations, WI members and partner organisations throughout Wales.
- The project will be guided by a steering committee throughout the lifetime of the project. The committee will be made up of WI staff and members and project partners.
- Two Federation Project Co-ordinators will be appointed in each federation and trained to lead the project locally and provide information and support to WIs.
- WIs will be encouraged to become champions of trees in their communities by protecting, preserving, monitoring, planting and celebrating them, and looking for opportunities to plant new trees.
- WIs will need to demonstrate that they have achieved their aims, by producing the result of their project in the form of a record. More details are available on page 19.

How to Plan your Project:

- Appoint one or two members within your WI to take responsibility for carrying the project forward in your WI
- Agree what you're going to do
- Decide on how you are going to carry out the project – who is involved in doing what, how long each part of the project will take, and how the parts fit together (project planning)
- Prepare a written project plan and use the OPAL tree survey pack to help you record information on the tree/s
- Upload the information you find onto the OPAL website and Treezilla
- Decide how else you are going to record what you have done – some ideas are listed on page 11.
- Develop partnerships with other organisations and groups within the community – e.g. schools, colleges, gardening clubs, community councils, etc. See useful contacts lists on page 19.
- Work out how much your project will cost (if it has a cost)
- Keep a record of all you have achieved, a form on pages 20-22 will help you
- Let your Federation Co-ordinator know what you are doing

Useful Guide for WIs

Attend a Training Day in your Federation



Identify tree/s in your area



Survey the tree/s using the OPAL Tree Survey Pack



Upload the information onto the OPAL website



Upload the information onto Treezilla



Decide how else you want to record and celebrate the tree/s



Identify space for planting new trees, and order trees from the Woodland Trust
www.woodlandtrust.org.uk/plant-trees/in-your-community or purchase some locally



Decide on what and when you will plant your tree/s



Consider local publicity for the work that you are doing



Complete the data capturing form and return it to your Federation Co-ordinator

Ways of Recording your Results

- Computer records
- Surveys
- Audio-tapes
- Exhibition/display boards
- Collages
- Visual presentations
- Reports
- Records
- Poems
- Photographic records
- Maps
- Digital stories
- Video
- Scrap books
- Drawings/paintings
- Models/sculptures
- Diary

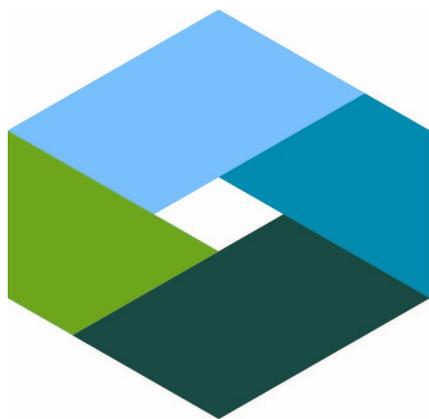
treezilla
the monster map of trees



Project Partners

Natural Resources Wales

Natural Resources Wales (NRW) is the Welsh Government Sponsored Body. Its purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future. The NRW will advise on the delivery of the project and be a member of the project steering committee. The NFWI-Wales will feed back the evidence gathered on trees to NRW which will help to 'ground-truth' the information captured in the 2016 'Tree Cover in Wales' Towns and Cities'. www.naturalresourceswales.gov.uk



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**



Established in 1969, The Open University (OU) is a world leader in modern distance learning and a pioneer of teaching and learning methods. The OU enables people to achieve career and life goals through studying anytime, anywhere.

With a mission to be 'open to people, places, methods and ideas' the OU continually innovates to create high quality, accessible learning, which is underpinned by excellence in research. This expertise has been extended to citizen science with platforms including Treezilla which map trees while calculating their ecosystem value; and iSpot – a successful online community where participants share wildlife observations while learning and building species identification skills.

The NFWI-Wales tree project in liaison with the OU will provide learning resources and support to train its members in how to use the Treezilla and iSpot platforms. Both Treezilla and iSpot, through their online communities, will also support the public engaged by the WI both during and after project. The OU will also be a member of the project steering committee and input to the development of the toolkit. <http://treezilla.org/>
www.open.ac.uk

Treezilla is an Open University project in partnership with Forest Research and Treeconomics. It is part of project VITAL, supported by the Natural Environment Research Council.



What is a tree worth?

Dr Phil Wheeler, the Open University

We all get a lot from nature, some of which is familiar, other things less so. For example plants provide the oxygen we breathe, the food we eat, things we build our houses from and materials we wear. Much of our culture, traditions, history and art are intertwined with the natural world. So nature is

valuable, but how do we value it? We should start by asking what 'value' means. On a simple level, it refers to the amount of money someone is willing to pay for something. At deeper levels, value refers to things of importance or significance, and 'values' to the way we live our lives. The value of nature relates to all three of these meanings.

In recent years scientists have teamed up with economists to try and understand some of the values of nature and to put a pound sign on some of the things that nature gives us. They have termed these things 'ecosystem services': the goods and services that the natural world provides humanity. The sum of natural things which provide value to people is called 'natural capital'. The purpose of using these terms hasn't been to turn nature into a commodity, but to ensure that it is accounted for as economies and societies develop. Bringing the language of economics into nature has not been uncontroversial, but it has allowed economic decisions to include impacts on the natural world.

'Treezilla, the monster map of trees' (<https://www.treezilla.org/>) is trying to map urban trees across the UK and put a monetary value on some of the ecosystem services they provide. It uses allometric relationships and the latest data on ecosystem services values to calculate the value of individual trees based on their species and trunk circumference. It is open for anyone to add trees to and explore the results. Of course with hundreds of different types of trees being grown in different conditions throughout our towns and cities we cannot know precisely what the monetary value is, but the outputs from Treezilla give a reasonable ballpark estimate of the value of an individual tree. Treezilla doesn't account for the cultural and amenity values of trees, which for many of our grandest, most important specimens are where their main value lies, but there are recognised approaches to do just that. So if you want to dig deeper into the value of the trees on your street, in your park or town centre, think about identifying them, measuring and adding to Treezilla to better understand the value of what they do for us. And don't forget that monetary value is just one part of the way that trees in villages, towns and cities enrich our lives.



An ancient oak tree in the suburbs of Milton Keynes

Trees are part of our natural capital: they provide ecosystem services like taking up carbon dioxide from the atmosphere, removing air pollutants, reducing flood risk and making our environment look nicer. In urban areas these services can be particularly important in improving human health, protecting property and keeping people in touch with nature. But how can we put a value on a tree? A starting point is to think about how trees interact with the wider environment. Trees take up carbon dioxide through their leaves and use it for growth. Pollution particles in the air land on the leaves and trunk and a proportion are washed by rain into the soil, removing them from the air. So if we know how quickly a tree grows we can estimate how much carbon dioxide it has absorbed. If we can measure the area of its leaves and trunk we can estimate how much particulate pollution might land on it. Years of work on the characteristics of our most common trees has provided these data and shown how they change as trees grow.

Because trees of a particular species tend to have a particular shape we can use easy to measure characteristics like trunk circumference to estimate trickier things like leaf area. These 'allometric' relationships allow us to estimate figures for a wide range of trees of all sizes. Once we have those figures, we have the difficult job of putting a pound sign on them. In the UK, the treasury has carried out detailed economic analysis of the effects of things like increased carbon dioxide, air pollution, flood risk and produced a range of monetary values for them. Similar initiatives have been carried out worldwide.

Roadside trees can be important in taking pollution out of the air and improving visual amenity in urban areas.



Project Partners

Coed Cadw/Woodland Trust

The Woodland Trust is the UK's leading woodland conservation charity. They encourage people to plant trees, protect woods and inspire people to enjoy the nature on their doorstep.

The Woodland Trust can help by providing training for members to become woodland creation champions to help with community engagement using the free tree packs they make available to schools and community groups, and by sign-posting members through the toolkit to numerous resources such as tree packs, the Tree ID app, the FSC ID charts and various projects such as the Tree Charter, Nature Detectives, Talking Trees and Ancient Tree Hunt. The Woodland Trust are partners with Keep Wales Tidy in the Long Forest Project and can assist with co-ordination with related activities undertaken in the priority areas for this project. They will be a part of the steering committee. www.woodlandtrust.org



Project Partners

Voluntary Arts Wales

Voluntary Arts promotes participation in creative cultural activities across the UK and Ireland. Voluntary Arts Wales will share ideas on how members can engage with craft and the arts as a part of the urban tree project e.g. the Woollen Woods project which is a fun way to bring craft and nature together, engaging communities with their local area, both as participants and visitors as they invite people to get creative with nature and spin a yarn about their local woodland as part of Voluntary Arts Festival.

The tree project will encourage the members with an interest in craft and the arts to participate in the tree project. Voluntary Arts Wales will also be a member of the steering committee. <https://www.voluntaryarts.org/?vanpkg=Wales>



Voluntary Arts Wales
Celfyddydau Gwirfoddol Cymru

Image - Voluntary Arts Wales:

The Woollen Woods



Project Partners



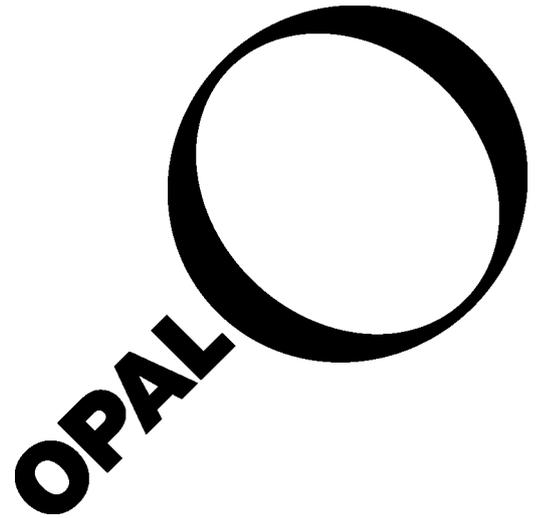
The Open Air Laboratories (OPAL). The OPAL network is a UK-wide citizen science initiative that allows people to get hands-on with nature, whatever their age, background or level of ability. They develop activities and resources, including national surveys, which allow people to get closer to their local environment while collecting important scientific data.

They also arrange and take part in nature events and workshops around the country. OPAL have given us permission to use their ID Guides and Tree Health Survey resources which WI members will use to undertake their surveys. They will also be members of the steering committee.

www.opalexplornature.org

Active Surveys available on the following link; <https://www.opalexplornature.org/surveys>

Also, follow this link to view a video for a whistle-stop tour of the OPAL Data Explorer's features, or download the user guide (PDF) https://www.opalexplornature.org/sites/default/files/7/file/OPAL_data_explorer_guide.pdf for step by step instructions.



Local Biodiversity Record Centres

Local Biodiversity Record Centres. We have received support from the Local Biodiversity Record Centres who have told us that the data collected would be useful for them.

www.biodiversitywales.org.uk/Local-Record-Centres

USEFUL CONTACTS AND RESOURCES:

- Information on the OPAL Tree Guide - <https://www.opalexplorenature.org/> Please see separate pack which you will be given.
- Treezilla website: <https://www.treezilla.org/treezilla/map/>
- Voluntary Arts Wales – Please look at the website for ideas and suggestions including Woollen Woods and also briefings on Social media.
<https://www.voluntaryarts.org/>
- Woodland Trust Resources - free tree packs and various resources available <https://www.woodlandtrust.org.uk/>
- Welsh Government PLANT Scheme, Woodlands for Wales: <http://gov.wales/topics/environmentcountryside/forestry/plantatree/?lang=en>
- National Assembly for Wales’ Climate Change, Environment and Rural Affairs Committee’s report – Branching out: a new ambition for woodland policies www.assembly.wales
- Size of Wales www.sizeofwales.org.uk
- Local Authorities and Community Councils www.wlga.gov.uk
- Tree Council and Tree Wardens www.treecouncil.org.uk
- Forest Schools <https://forestschoools.com>
- Actif Woods <https://www.coedlleol.org.uk>
- Llais y Goedwig <http://llaisygoedwig.org.uk>
- Keep Wales Tidy www.keepwalestidy.org
- National Parks <http://www.nationalparkswales.gov.uk/>
- Campaign for the Protection of Rural Wales www.cprw.org.uk
- Commission for Future Generations <https://futuregenerations.wales/>
- Young Farmers Clubs www.yfc-wales.org.uk
- Schools and Colleges
- Farming Unions www.nfu-cymru.org.uk www.fuw.org.uk
- FSC (Forest Stewardship Council) <http://www.fsc-uk.org/en-uk>
- OPAL (Open Air Laboratories) <http://www.observatree.org.uk/> <https://www.opalexplorenature.org/treesurvey>
- Local Biodiversity Record Centres
- Actif Woods <https://www.coedlleol.org.uk/>
- Forestry Commission - Itree <https://forestry.gov.uk>
- Tree Charter - <http://treecharter.uk/home.html>
- OPAL Data Explorer - <https://www.opalexplorenature.org/dataexplorer/>
- Tree & Design Action Group (TDAG): Trees in Hard Landscapes A Guide for Delivery: http://www.tdag.org.uk/uploads/4/2/8/0/4280686/tdag_trees-in-hard-landscapes_september_2014_colour.pdf

Template Letter

(Insert address of Community Council or Local Authority Tree Officer)

(Insert Date)

Dear (Name of Community Council/ Local Authority Tree Officer)

I am a member of (INSERT) WI and am currently participating in the NFWI-Wales Natural Heritage Tree Project to Preserve, Protect and Plant Urban Trees. The aim of the project is to engage WI members in assessing the state of urban trees, by promoting active management, providing the eyes and ears for public bodies and taking action to safeguard this incredibly valuable natural heritage. The project will engage 200 WIs throughout Wales who will survey, observe, preserve, protect and engage communities in tree planting and on-going monitoring, and spread the word about the value of trees to the wider public.

The WI is the largest voluntary women's organisation in the UK with some 220,000 members in over 6,300 WIs across England, Wales, and the Islands. In Wales, we have about 16,000 members belonging to close to 600 WIs. The WI plays a unique role in enabling women to develop new skills, giving them opportunities to campaign on issues that matter to them and their communities, and provides wide-ranging activities for members to get involved in.

Just as it's becoming clearer how much trees deliver for us, the most recent study (using aerial photographs from 2013) shows that 73% of urban areas in Wales have lost trees since 2010. Trees and public green spaces in our towns and cities are increasingly under threat as budgets are reduced and management regimes change accordingly.

We realise that as a (LOCAL AUTHORITY/COMMUNITY COUNCIL) you have a role in maintaining and managing the trees in your area and we would be grateful if you could tell us about your tree strategy, what plans you have for the trees in our community and if any have preservation orders in force. Also are you aware of any planning proposals which may effect the trees in our community. We would be grateful for any information you could give us.

We look forward to hearing from you.

Yours sincerely

(NAME)
(FEDERATION/WI)

Data Capture Sheet

Name of WI:

Federation:

How many members were involved in the project?

Where did your survey take place?

What date did you undertake your survey?

How many trees did you survey?

Did you complete the OPAL Tree Survey and upload the information onto the website?

Did you upload the information onto Treezilla?

Did you write to your local authority to ask if they have a tree strategy?

Did they have a tree strategy? If so what are their plans for the trees in your area?

Data Capture Sheet

Are any of the trees in your community endangered?

Have you been able to calculate the value of the trees in your community?

Was there anything significant about the tree/s that you surveyed e.g. were they memorial trees, or planted by a significant person, or were they veteran and near veteran trees etc?

What have you done to celebrate the trees e.g. have you produced any items of art or craft inspired by the trees, did you yarn bomb them or celebrate them in any other way e.g. make a digital story? Have you got any photographs of the items?

Have you identified any suitable sites for planting?

What will you plant, how many trees?

Did you purchase the trees or were they free? If so from where?

Data Capture Sheet

When will you plant your trees?

Have you forged links with any other organisations?

How do you plan to look after your tree when the project ends?
