



Traditional Orchard Habitat Action Plan

1. Introduction

Traditional orchards were once a common feature of the Worcestershire landscape and along with Herefordshire and Gloucestershire the county held a significant part of the national orchard stock. Orchards were an important part of Worcestershire's rural economy and in spite of extensive losses studies have suggested that the county still contains about 8% of the England total (Robertson and Wedge, 2008).

Their high ecological importance and the significant threats to them were recognised by their inclusion in the UK BAP priority habitat list and subsequently within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2. Current Status

2.1 Description of habitat

Habitat structure is the defining feature of this habitat. Traditional orchards comprise a group of fruit trees planted on permanent grassland. Historically they were planted in a wide variety of situations and soil types for the production of a range of fruits. Orchards on full-standard (vigorous) rootstocks planted in the late 19th or early 20th centuries would have been managed 'traditionally' without the use of modern agricultural chemicals or machinery. Several centuries of British fruit production has created thousands of cultivars of apples, pears and plums, a number of which originated in Worcestershire. These historic cultivars are an important element of the biodiversity and heritage of the county.

Old, traditionally managed orchards support many features of high value for wildlife. Most trees are relatively short-lived (less than 100 years) and as a consequence produce decaying wood more quickly than most native hardwoods making them important refuges for saproxylic (requiring dead wood) invertebrates, hole-nesting and insectivorous birds and possibly bats. The trees are also valuable hosts for mistletoe, fungi and lichens. Worcestershire is one of the national strongholds for mistletoe, which is host to several important species in its own right as well as creating management challenges in some orchards where mistletoe growth is prolific and unchecked.

Orchards can provide important food sources for birds in autumn and winter (thrushes in particular being attracted to windfall apples) and, as their fruit decays, insects, especially coleoptera, hymenoptera and lepidoptera. Blossom is also an important nectar source for invertebrates in spring.

Orchards may contain herb-rich grassland managed as meadow or pasture. Shadier orchards can give rise to ranker communities more typical of hedge bank flora.

In contrast, modern commercial orchards are intensively managed and therefore less structurally diverse with fewer habitat niches. Pesticide and herbicide use can mean

they are of negligible value for wildlife but this can be improved with the adoption of integrated pest management systems and the planting of features such as hedgerows.

2.2 Distribution and extent

Historically the main concentrations of orchards were in Kent, Devon, Somerset and the three counties of Gloucestershire, Herefordshire and Worcestershire. However, the type of fruit grown has varied widely between and within these areas.

In Worcestershire, there are concentrations of orchards in the Teme Valley, the Alfrick and Suckley hills, the Severn Vale, the Vale of Evesham, and the Wyre Forest. The historic significance of fruit growing is apparent in much of the county's heritage, for example 'Persore' being so named as it was once the heart of pear growing country and the city of Worcester crest incorporating three black pears.

What remains of Worcestershire's traditional orchards represents an important resource, although its precise extent is difficult to document as many surviving traditional orchards are no longer associated with productive agriculture or horticulture and thus will not appear in land use census figures. Figures extracted by Natural England from Ordnance Survey data and the 2000 Agriculture Census suggested an estimated area of traditional orchard in the county of 2,236 hectares. Data from the 2011 Traditional Orchard Inventory compiled by People's Trust for Endangered Species suggests an area of 2,055 hectares, a potential loss of 8% in 10 years. It is likely that losses continue despite the uptake of creation, restoration and management options for traditional orchards within agri-environment schemes.

2.3 Protection of the habitat

Legal protection can be granted through the designation of a Site of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981.

Traditional orchards are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Sites not meriting SSSI status can be listed as a Local Wildlife Site (LWS). Although not a statutory designation LWS status does confer some protection through the planning system.

Tree Preservation Orders (TPO) may be used by Local Planning Authorities to protect fruit trees where it is in the interests of amenity to do so. TPOs can thus be used to protect fruit trees in relic orchards that are no longer cultivated for fruit production (the trees can be pruned in accordance with good agricultural practice).

Where development is proposed it is possible to protect existing orchards and include them as part of the public open space provision within the development.

Local Planning Authorities may identify and acknowledge old orchards as characteristic elements of a Conservation Area in Conservation Area Statements. They may use policies in their Local Plan for the protection of landscape character,

Conservation Area character and amenity open space, which can include those orchards identified as important.

Neighbourhood Plans may include policies that highlight the importance of orchards for wildlife and local distinctiveness.

Orchards can be declared Local Nature Reserves by Natural England. This is useful particularly in urban situations.

2.4 Summary of important sites

Some examples include:

- Melrose Farm orchard (part of Brotheridge Green Meadows SSSI) and Mutlows Orchard SSSI were both designated for their unimproved grassland
- Tiddesley Wood plum orchard and the orchard at The Knapp and Papermill both form part of Worcestershire Wildlife Trust reserves (orchard at The Knapp also falls within the SSSI designation)
- Many orchards within the Wyre Forest fall within the SSSI
- The Lenches Community Orchard owned by a group of local trustees
- Hipton Hill and Naunton Court orchards owned by Vale Landscape Heritage Trust
- Cleeve Prior Community Orchard owned by the Cleeve Prior Heritage Trust
- Daffurn's Community Orchard owned by Kemerton Conservation Trust and Lillans Orchard LWS managed by Kemerton Conservation Trust
- Rough Hill Orchard owned by People's Trust for Endangered Species

3. Current factors affecting habitat

The underlying cause of most destruction and neglect of traditional orchards is the loss of their commercial viability. Modern, intensively managed orchards are more economical to maintain and to harvest and these now provide the mass market with the limited choice of apple, pear and plum varieties expected by the modern consumer. As a result most markets for fruit from traditional orchards have been lost, although they can still be valuable as a source of heritage cider, perry and apple juice. The traditional orchards that remain face a range of threats:

- Gradual decline through neglect. Many orchards are in a derelict state and as trees finally die they are not replaced. Lack of appropriate mistletoe management can lead to tree damage or loss in certain orchards.
- A large proportion of surviving orchards exist close to the outskirts of villages or towns, such as in the Vale of Evesham, and they are threatened by both large-scale and smaller in-fill housing development.

- Agricultural intensification has caused the single greatest loss of orchards by far. Most of the traditional orchards that were vulnerable to loss in this way have been destroyed already but some are still at risk.
- Conflict between commercial and conservation objectives in the management of traditional orchards, as some of the features which are of most benefit to wildlife, particularly dead wood, can be damaging to fruit production.
- The financial implications of traditional management styles can make orchards costly to run commercially. They are therefore threatened by intensive management interventions including the use of sprays, dwarfing root stocks and more aggressive pruning to the detriment of the wildlife associated with older decaying trees.
- Instruments such as TPOs are under-used in the protection of orchards.
- There is a lack of appropriate skills and knowledge amongst many orchard owners, in particular those who have acquired an orchard incidentally to a house purchase.
- Many orchards are used as grazing paddocks, in particular for horse grazing. Livestock can cause considerable damage to trees if they are not adequately protected and inappropriate grazing can also damage species-rich grassland interest if present.

4. Current action

4.1 Local protection

A small number of traditional orchards in the county fall within SSSIs or are listed as a LWS. Some of these may be designated for other values associated with the site, particularly unimproved pasture. The Wyre Forest SSSI includes several orchards specifically incorporated into the designation due to the presence of old fruit trees. Most orchards however have no protection.

4.2 Habitat management and programmes of action

- Agri-environment payments have supported or are supporting the restoration and management of a large number of the largest and most valuable traditional orchards (although by no means all).
- In 2012-13 Worcestershire County Council and Natural England collaborated to offer a small grants scheme to orchard owners for restoration and management works. 110 hectares of habitat benefitted from the scheme, which enabled the planting of almost 1000 trees and the restorative pruning of 400 others. Training courses in orchard management and grafting techniques were also run.
- Since 2014 the Heritage Lottery funded Three Counties Traditional Orchard Project (TCTOP), managed by the Malvern Hills AONB Partnership, has worked to help people understand and celebrate traditional orchards across

- the three counties of Worcestershire, Herefordshire and Gloucestershire. It has encouraged the sharing of skills and expertise, worked with experts to survey orchards for wildlife and fruit varieties and with volunteers to restore neglected orchards, encourage an understanding of the history and heritage of our orchards and to grow and plant rare local variety trees into their areas of origin. Unlike most orchard projects the focus has been on working in private orchards where owners are no longer able to manage their trees.
- TCTOP has also overseen the development of an Orchard Champions course in partnership with Garden Organic. To date 40 champions have graduated from the course and in return for five days of training are giving volunteer time to traditional orchard projects. There is an intention to link the orchard champions scheme with the Parish Tree Warden network.
 - One of the greatest concentrations of traditional orchards remaining within the county are in the Vale of Evesham. A number are in conservation or community ownership and under active management: Tiddesley Plum Orchard recently restored and extended by Worcestershire Wildlife Trust; Hipton Hill plum orchard managed by the Vale Landscape Heritage Trust; and the Lenches Community Orchard owned and managed by a group of local trustees.
 - The Transition Orchard Workers are a volunteer group working predominantly in the centre and south east of the county to provide orchard training courses and assist private orchard owners with restoration and management. The group also run a series of apple juicing events throughout the harvesting season in different locations around the county.
 - The Wyre Community Land Trust was established in 2007 with one of its core aims being to enhance the biodiversity of orchards within the forest. The Trust works with owners to deliver restoration and management work through agri-environment schemes.
 - Kemerton Conservation Trust, working closely with local community groups such as the Kemerton Orchard Workers, owns or manages a number of traditional orchards and has built up a collection of around 200 varieties of fruit. The Trust hosts several events each year providing training and raising awareness of orchard management techniques.
 - The Whitbourne Top Fruit Group is working in orchards around the village of Whitbourne. They offer orchard advice to the many orchard owners in the area and provide practical assistance with maintaining them where possible. They also encourage orchard events and celebrations.
 - A 'mother orchard' of Worcestershire fruit varieties has been planted as a genetic bank on land belonging to the Vale Landscape Heritage Trust with funding from the TCTOP. A second collection will be planted at a new site in Evesham which is being developed as a market garden heritage centre.

- The Marcher Apple Network was formed by a group of people living in and around the Welsh Marches, to try to ensure the conservation of old varieties of apples and pears and to stimulate public interest in them. They offer assistance in identifying old varieties, propagate new trees of old varieties and assist with the establishment of traditional orchards where specimen trees of may be planted and managed and organise events that celebrate and encourage the revival of interest in traditional fruit varieties.
- The Teme Valley Apple Group is a small group of orchard owners and enthusiasts who aim to promote an understanding and appreciation of orchards in the Teme Valley and preserve local heritage varieties through grafting and new planting.
- A large number of community orchards have been planted across the county within the last 15-20 years. Some of these have very active associated community groups who run events and achieve a high level of engagement with local people. Worcestershire County Council's Countryside Service offers support and training to these groups.
- Worcestershire-origin varieties of fruit are specifically promoted by and available from Walcot Nursery.
- Events such as the annual Tenbury Applefest and a revival of the old tradition of Wassailing do a great deal to engage the public and raise the profile of orchards and local fruit growing.
- The National Perry Pear Collection at the Three Counties Show Ground was created in partnership between the County Council, the Three Counties Cider & Perry Association, the Three Counties Agricultural Society and local experts.

4.3 Survey, research and monitoring

- The National Orchard Inventory completed by PTES in 2011 plus the Worcestershire Habitat Inventory completed by Worcestershire County Council in 2008 provide the most up to date mapping of traditional orchard extent within the county.
- The Worcestershire's Flagship Orchard project (Worcestershire Biological Records Centre 2013-15) involved ground-truthing the National Orchard Inventory and undertaking surveys for orchard species such as noble chafer. A total of 19 orchards were subsequently listed as LWS due to their high biodiversity value.
- Advances in DNA testing have allowed the recent identification of unknown varieties in the county and the confirmation of others. Many of these local varieties have been selected over time because of their suitability for local soils and conditions and for being hardy. This work is important in building up an accurate genetic resource which may be of use in breeding new varieties

with good resistance to pests and diseases, as well as preserving trees which are part of our cultural landscape.

- The results of an ongoing project led by local orchard expert Wade Muggleton to locate, photograph and describe the fruit varieties originating in Worcestershire can be seen at www.worcestershireorchards.co.uk. A book 'The Apples and Orchards of Worcestershire' has also been published and is available from www.marcherapple.net/shop or by contacting the Worcestershire County Council Countryside Service.

5. Associated plans

Ancient and Veteran Trees, Urban, Grassland, Hedgerows, Noble Chafer, Bats.

6. Conservation Aim

The extent and condition of the traditional orchard resource in Worcestershire is understood, more sites have been brought into good, restorative conservation management programmes and new orchards have been created which incorporate the planting of locally distinctive varieties.

7. Conservation Objectives

- Establish a charitable/community interest trust to work county-wide to champion Worcestershire's orchard heritage
- Promote appreciation of the landscape character value to Worcestershire of traditionally managed orchards with 'standard' trees on vigorous rootstocks
- Provide training opportunities to increase the skills and knowledge of orchard owners and managers
- Promote the creation, restoration and management of orchards throughout Worcestershire and the development of functional habitat linkages between orchards
- Focus training and support on the users and managers of community orchards or orchards created for amenity/landscape reasons within development to address issues around lack of management or inappropriate management
- Continue good management of flagship orchard sites including the development and management of 'mother' orchards that preserve the genetic diversity of multiple varieties, in particular Worcestershire varieties
- Provide orchard skills training to county Tree Wardens and integrate the purpose and function of the Orchard Champions initiative into the Tree Warden scheme
- Secure further funding for the delivery of traditional orchard based projects

References and further information

Alexander, K (2011). *The noble chafer and traditional orchards: an old-growth species in the English cultural landscape*. British Wildlife 23(1):17-22.

Alexander, K. N. A (2008). *The spatial importance of traditional orchards for invertebrate conservation, with a case study of the BAP priority species the noble chafer *Gnorimus nobilis**. In: Rotheram, ID.ed. *Orchards and groves: their history, ecology, culture and archaeology*, 109-118. Sheffield: Wildtrack Publishing.

Bailey, D., Schmidt-Entling, M. H., Eberhart, P., Herrmann, J. D., Gabriela Hofer, G., Kormann, U and Herzog, F (2010). *Effects of habitat amount and isolation on biodiversity in fragmented traditional orchards*. Journal of Applied Ecology **47**: 1003–1013.

Horak, J., Andrea, P., Podavkova, P., Safarova, L., Bogusch, P., Romport, D and Zasadil, P (2013). *Biodiversity responses to land use in traditional fruit orchards of a rural agricultural landscape*. Agriculture, Ecosystems & Environment **178**: 71-77.

Johnson, H (2008). *The traditional British orchard; a precious and fragile resource*. Online article for Building Conservation.

<http://www.buildingconservation.com/articles/traditional-orchards/traditional-orchards.htm>

Lashley, R (2015). *Stories of Worcestershire Orchards: Celebrating old orchards in Worcestershire and the people who care for them*. Worcestershire Biological Records Centre.

Lush, M., Robertson, H. J., Alexander, K. N. A., Giavarini, V., Hewins, E., Mellings, J., Stevenson, C. R., Storey, M and Whitehead, P. F (2009). *Biodiversity studies of six traditional orchards in England*. Natural England Research Report 25. Natural England, Peterborough.

Rimmington, N (2010). *Traditional Orchards and the Historic Environment (A report for the Malvern Hills AONB to support the development of a Three Counties Traditional Orchard Project for Gloucestershire, Herefordshire and Worcestershire)*. Herefordshire Council.

Robertson, H and Wedge, C (2008). *Traditional orchards and the UK Biodiversity Action Plan*. In: Rotheram, ID.ed. *Orchards and groves: their history, ecology, culture and archaeology*, 109-118. Sheffield: Wildtrack Publishing.

Smart, M and Winnall, R (eds) (2006). *The biodiversity of three traditional orchards within the Wyre Forest SSSI in Worcestershire: a survey by the Wyre Forest Study Group*. English Nature Research Report 707.

<http://publications.naturalengland.org.uk/file/80011>

People's Trust for Endangered Species: traditional orchard survey and development of the National Orchard Inventory. <https://ptes.org/get-involved/surveys/countryside-2/traditional-orchard-survey/>

Three Counties Traditional Orchard Project <http://tctop.org.uk/>