Cynulliad Cenedlaethol Cymru | National Assembly for Wales
Y Pwyllgor Newid Hinsawdd, Amgylchedd a Materion Gwledig | Climate Change, Environment and Rural Affairs Committee
Ymchwiliad Rhandiroedd | Allotments Inquiry
All13
Ymateb gan : Ymddiriedolaeth Natur Cymru
Evidence from : Wildlife Trusts Wales

**Introduction**

We welcome Mark Drakeford's manifesto commitment to

- Focus on the small things which can create local, accessible green spaces: wild flower planting; changes to mowing practices by local authorities; creating meadow areas on sloping land.
- Doubling allotments and promoting community orchards.

Allotments and community orchards are multidimensional and are important for urban wildlife. Local sustainable food production close to where the bulk of our population live, is integral in securing a healthy future for our communities and our planet. Although allotments will always be mainly used for growing food, they have other values that are now gaining greater recognition.
Traditional orchards, although essentially a crop, can provide remarkable havens for wildlife.

They are great places for healthy exercise, provide good opportunities for socialising, reducing isolation, education and community building and put us back in touch with the earth. Allotments are also an increasingly important resource for wildlife. Many of the plants and animals that struggle to survive on intensively managed farmland find a refuge on allotment sites.

Allotments and community orchards are a key part of green infrastructure which delivers on all the seven Well-being goals[1]. Increasing allotments and community orchards would help implement section 6 of the Environment Act, to maintain and enhance biodiversity and promote the resilience of ecosystems.

**Healthy and Cohesive Communities**

Time spent in nature has a hugely positive impact on key social indicators. For example, accessible high-quality greenspace make neighbourhoods more attractive, relaxing, comfortable and welcoming places and help to[2][3];.

- increase levels of social contact and socialintegration[4]
- create community cohesion and enhance social ties especially within disadvantaged communities[5]
- provide a sense of community[6]
- engage individuals from different social groupings that may not normally interact, particularly in underprivileged neighbourhoods
- create opportunities forcommunity participation and volunteering

In one study, greenspace in a housing complex was shown to encourage more social activity and more visitors, residents also knew more of their neighbours and said that their neighbours were more helpful and supportive[7]. In another survey, 92% of respondents said it was fairly or very important for them to have public gardens, parks, commons or other green spaces nearby[8].

[1] Wildlife Trusts Wales (WTW) - Green Infrastructure – A Catalyst for Well-being of Future Generations in Wales http://www.wtwales.org/greeninfrastructure
[2] Sullivan, Kuo and Depooter (2004) - The fruit of urban nature: Vital neighbourhood space. Environment and Behaviour 36(5): 678-700;
[3] Pretty, Peacock, Hine, Sellens, South and Griffin (2007) - Green exercise in the UK countryside: Effects on health and psychological well- being, and implications for policy and planning - Journal of Environmental Planning and Management 50(2): 211-231
[4] Fredrickson and Anderson (1999) - A qualitative exploration of the wilderness experience as a source of spiritual inspiration - Journal of Environmental Psychology. 19. 21-40
[5] Dines, Catell, Gesler and Curtis (2006) - Public spaces and social relations in East London - Joseph Rowntree Foundation
[6] Pikora, Giles-Corti, Knuiman, Bull, Jamrozik and Donovan (2005) - Neighbourhood environmental factors correlated with walking near home: using SPACES - Medicine and Science in Sports and Exercise 2005;38(4):708-714
[7] Sullivan, Kuo and Depooter (2004) - The fruit of urban nature: Vital neighbourhood space. Environment and Behaviour 36(5): 678-700
[8] DEFRA (2011) - Survey of public attitudes and behaviours towards the environment

Providing spaces where people can enhance their wellbeing, have access to healthy exercise, meet other people and find companionship are vital in addressing issues such as increasing health costs, loneliness and division within local communities. Parks, orchards, allotments and green spaces provide a wealth of opportunities to get closer to nature, meet up with friends, play, take physical exercise, or even just have some quiet time in the fresh air.

This is particularly important as a recent survey on wellbeing by the Office of National Statistics reported compared with the UK,

- a larger proportion of people in Wales reported "poor" personal well-being ratings across all measures
- Wales also had more people reporting high anxiety (6 to 10 on an 11-point scale), compared with the UK.

**Socio-economic -** There is a lot of evidence that strongly suggests that high quality green spaces can help reduce health and social inequalities. **New research has shown that there is significantly higher pollinator abundance in gardens located in neighbourhoods with higher median household income[9].** This is consistent with the so-called 'luxury effect'[10][11] whereby socioeconomic status is often positively correlated with urban biodiversity.

Good quality greenspace can be unevenly distributed in urban areas, often benefiting people living in affluent parts of a town or city. It has been shown that the most deprived communities are significantly less likely to live in the greenest areas[12]. Allotment rents can be expensive and thus a barrier to people from low- or no-income backgrounds.

Therefore, we would suggest that increasing allotments and community orchards by looking at areas with high deprivation, making it hyper-local, and making them economically accessible rather than a affluent hobby. This should be coupled with education on horticultural techniques to encourage non-green thumbed people to join.

**Education**

A recent study[13] found **a positive association between vegetation cover and better academic performance in both English and Maths**. They also stated that benefits from exposure to green spaces translate into a supportive environment for academic achievement in children such as increased physical activity, increased social contacts, reduced psychophysiological stress and depression, decreased noise, microclimate regulation (moderation of ambient temperature and urban heat island effects), and reduced air pollution levels.

Another study[14] revealed **consistent and systematically positive relationships between nature exposure and student performance**. Specifically, views with greater quantities of trees and shrubs from cafeteria as well as classroom windows are positively associated with **standardized test scores, graduation rates, percentages of students planning to attend a four-year college, and fewer occurrences of criminal behaviour**. In addition, **large expanses of landscape lacking natural features are negatively related to these same test scores and college plans**. These featureless landscapes included large areas of campus lawns, athletic fields, and parking lots. All analyses accounted for student socio-economic status and racial/ethnic makeup, building age, and size of school enrolment.

[9] Baldock, Katherine CR, et al. "A systems approach reveals urban pollinator hotspots and conservation opportunities." *Nature ecology & evolution* (2019): 1. https://www.nature.com/articles/s41559-018-0769-y

[10] Leong, M., Dunn, R. R. & Trautwein, M. D. Biodiversity and socioeconomics in the city: a review of the lu xury effect. *Biol. Lett.* **14**, 20180082 (2018).

[11] Hope, D. et al. Socioeconomics drive urban plant diversity. *Proc. Natl Acad. Sci. USA* **100**, 8788–8792 (2003).

[12] Mitchell and Popham (2008) – Effect of exposure to natural environment on health inequalities: an observational population study - The Lancet 372 (9650): pp 1655-1660

[13] Wu, C.-D., et al., *Linking student performance in Massachusetts elementary schools with the "greenness" of school surroundings using remote sensing.* PloS one, 2014. **9**(10): p. e108548

[14] Matsuoka, R.H., *Student performance and high school landscapes: Examining the links.* Landscape and urban planning, 2010. **97**(4): p. 273-282.

Other research has shown that a natural play environment at school also helps reduce bullying, increases creative play, improves concentration and a feeling of self-worth in children[15].

Therefore, we should look at schools and school grounds to create allotments and community orchards (see annex 2 and 3).

**Biodiversity**

**Community orchards**[16] - Traditional fruit tree orchards resemble mini-parklands, wood pastures or woodland edge. Whilst of artificial origin, they have often escaped agricultural intensification and are important refuges for a wide range of wildlife. Individual trees are long-lived and managed, and the ground layer is lightly used and hopefully free of chemicals. The result is orchard grassland that often includes abundant wildflowers, and trees with veteran features, including rot holes, split bark and hollow trunks – beneficial for fungi and invertebrates – that may be subtly coloured with a range of lichens.

They are home to a number of species that are conservation priorities under the Environment Act section 7 list including dormouse, lesser spotted woodpecker, bullfinch, great crested newt and insects. For apple lovers, there are over two thousand different varieties of apple and 500 varieties of pear to spot. NRW have a Traditional Orchard Habitat Inventory of Wales[17].

**Allotments** form some of the best habitat mosaics and wildlife corridors, often linking up with parks, tracks, hedgerows, churchyards and rivers. **They are also shown to be very important for hedgehogs, amphibians and reptiles and birds. They are very important for insects also. Pollinators are currently the focus of international concern as numerous studies document their declines and the multiple threats they face[18][19][20][21][22][23]. Habitat loss is a major driver of pollinator declines and urbanization and intensive agriculture (including the use of pesticides) is regarded the main threats to biodiversity**[24][25] (See Annex 1). However, towns and cities can contain high levels of biodiversity[26][27][28][29][30].

[15] Fjørtoft, I. and J. Sageie, *The natural environment as a playground for children: Landscape description and analyses of a natural playscape.* Landscape and urban planning, 2000. **48**(1): p. 83-97.
[16] http://publications.naturalengland.org.uk/publication/24006
[17] https://cdn.naturalresources.wales/media/685908/eng-report-018-traditional-orchard-habitat-inventory-of-wales-2014.pdf
[18] Sánchez-Bayo, Francisco, and Kris AG Wyckhuys. "Worldwide decline of the entomofauna: A review of its drivers." Biological Conservation 232 (2019): 8-27. https://www.sciencedirect.com/science/article/abs/pii/S0006320718313636
[19] Dicks, L. V. et al. Ten policies for pollinators. *Science* **354**, 975–976 (2016).
[20] Potts, S. G. et al. Safeguarding pollinators and their values to human well-being. *Nature* **540**, 220–229 (2016)
[21] IPBES. *The Assessment Report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on Pollinators, Pollination and Food Production.* (eds Potts, S. G., Imperatriz-Fonseca, V. L. & Ngo, H. T.) (Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany, 2016).
[22] Ollerton, J., Erenler, H., Edwards, M. & Crockett, R. Extinctions of aculeate pollinators in Britain and the role of large-scale agricultural changes. *Science* **346**, 1360–1362 (2014).
[23] Knop, E. et al. Artificial light as a new threat to pollination. *Nature* **548**, 206–209 (2017).
[24] Sánchez-Bayo, Francisco, and Kris AG Wyckhuys. "Worldwide decline of the entomofauna: A review of its drivers." Biological Conservation 232 (2019): 8-27. https://www.sciencedirect.com/science/article/abs/pii/S0006320718313636
[25] Seto, K. C., Guneralp, B. & Hutyra, L. R. Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools. *Proc. Natl Acad. Sci. USA* **109**, 16083–16088 (2012)
[26] Aronson, M. F. J. et al. A global analysis of the impacts of urbanization on bird and plant diversity reveals key anthropogenic drivers. *Proc. R. Soc. Lond. B* **281**, 20133330 (2014).
[27] Baldock, K. C. R. et al. Where is the UK's pollinator biodiversity? The importance of urban areas for flower-visiting insects. *Proc. R. Soc. Lond. B* **282**, 20142849 (2015).
[28] Fortel, L. et al. Decreasing abundance, increasing diversity and changing structure of the wild bee community (Hymenoptera: Anthophila) along an urbanization gradient. *PLoS ONE* **9**, e104679 (2014).
[29] Hall, D. M. et al. The city as a refuge for insect pollinators. *Conserv. Biol.* **31**, 24–29 (2017)
[30] Turrini, T. & Knop, E. A landscape ecology approach identifies important drivers of urban biodiversity. *Glob. Change Biol.* **21**, 1652–1667 (2015).

New research[31] indicates that residential gardens and allotments (community gardens) are **pollinator 'hotspots'**, gardens due to their extensive area, and allotments due to their high pollinator diversity. It found that allotments and gardens often had 10 times more bees than parks, cemeteries and even urban nature reserves. It highlighted that;

- allotments and gardens supported the highest bee and hoverfly abundances.
- bees were more abundant in allotments than in all other land uses except gardens
- bee abundances were between 4 and 52 times higher in allotments and gardens than in other land uses.
- floral abundance are significantly higher in allotments and gardens than in all other land uses.
- the richness of flowering plant taxa was significantly higher in allotments and gardens than in all other land uses.

**The research also identified native plants favoured by pollinators including brambles, buttercups, dandelions, creeping thistle, common hogweed and ox-eye daisies underlining that untidy, weedy corners are important for pollinators**. Non-native plants that attracted the most pollinators being lavender, borage, butterfly bushes and common marigolds. Hydrangeas and forget-me-nots were among the least favourite.

**The results underpin urban planning recommendations to enhance pollinator conservation. There are two main opportunities** to improve conditions for pollinators in urban areas;

1. increase the quantity of land favourable to pollinators by converting currently ecologically unfavourable land to better-ecological quality land uses and
2. improve the quality of existing land through better management of current land uses for pollinators rather than green concrete such as mown grass and green concrete[32][33][34]

The research showed that increasing the area of allotments resulted in the greatest increase per 10 ha in city-scale robustness of plant–pollinator communities. Therefore, increasing the area of allotments could be, due to their small area (1–2% of cities) and the benefits they provide for both pollinators and people, a practical conservation measure.

**Their research also suggests that improved management of public greenspaces holds the greatest potential for increasing pollinator habitat quality**. They modelled the effect of increasing three abundant and commonly visited plant species found in parks, other greenspaces and road verges in all four cities: common daisy, dandelion and white clover. These plants have the added benefit of being species whose floral abundances can easily be increased by reduced mowing[35], providing an easy way to implement this treatment, with the potential for reduced management costs. Their model predicts that adding flowers will increase city-scale robustness of plant–pollinator communities.

**A public perception survey was undertaken by EFTEC that showed that 98% of people felt it was important to manage areas for wildlife and 95% agreed increasing the quality of local green space makes an area a more desirable place to live**[36]. Its cost effective also as Monmouthshire County

[31] Baldock, Katherine CR, et al. "A systems approach reveals urban pollinator hotspots and conservation opportunities." *Nature ecology & evolution* (2019): 1. https://www.nature.com/articles/s41559-018-0769-y

[32] COMBA, LIVIO, et al. "Garden flowers: insect visits and the floral reward of horticulturally-modified variants." Annals of Botany 83.1 (1999): 73-86. https://academic.oup.com/aob/article/83/1/73/2587916

[33] Prof Dave Goulson - Flowers don't contain enough nectar to feed bees https://en.mogaznews.com/Technology/654538/Flowers-dont-contain-enough-nectar-to-feed-bees.html

[34] **Green concrete** - many of our most popular ornamental bedding plants have been bred for big blooms, extra petals and colours at the expense of nectar and pollen supplies. They no longer contain enough nectar to feed insects and are often drenched in pesticides. Brightly-coloured pansies, petunias, tea roses, begonias have little or no nectar.

[35] Garbuzov, M., Fensome, K. A. & Ratnieks, F. L. W. Public approval plus more wildlife: twin benefits of reduced mowing of amenity grass in a suburban public park in Saltdean, UK. *Insect Conserv. Divers.* **8**, 107–119 (2015)

[36] Don't Mow, let it Grow https://dontmowletitgrow.com/dmlig-public-survey-3rd-year/

Council has reduced the frequency with which it cuts certain areas of grassland, which encourages wildflowers to grow and helps save over£30,000 a year[37].

However, biodiversity needs to be a key outcome of increasing allotments in Wales as without consideration and proper design new allotments may be damaging by taking up existing habitat and allowing the use of pesticides.

Therefore, an environmental plan should be part of any new community orchard and allotment scheme. Also, every opportunity to link wildlife habitats with the creation of new community orchards and allotments should be made. To enable this Urban Nature Map of Wales need to be undertaken to identify opportunities for creation. The NRW Area Statements or Local Planning Authorities Green Infrastructure Assessments could help.

**Recommendations**

- The expansion of allotments and community orchards should not be at the expense of important wildlife habitats.
- Urban Nature Maps should be created to help select suitable sites to avoid development on existing wildlife sites and to increase habitat connectivity.
- Local Authorities should seek to secure new land for community orchards and allotments through using existing poor-quality greenspace, convert unused tarmac/concrete areas, leasing/buying wildlife poor agricultural land for use as allotment and community orchard sites.
- Consider new thinking to up-date the image and concepts of allotments to include -
    - **Pop up allotments** - Stalled development, abandoned or derelict plots or under-used areas of land could be used more creatively to bring temporary or long-term benefits to the people and the community e.g. pocket gardens, parks or pop up allotments[38][39][40]. Pop-up allotments, used as 'meanwhile' spaces (until more permeant solutions are found), are used frequently around the world in inner city sites with the use of raised beds as well as provision of a greenhouse and shelter.
    - **Community empowerment** - temporary areas and enabling the conversation of tarmacked areas and 'green concrete' can help to showcase community greening work carried, raising awareness of how vacant land can be used as community assets for urban revival. They inspire others to use horticulture to beautify and renew neighbourhoods.
    - **Allotments in the Sky** - In urban areas, roofs account for 40-50% of impermeable surface area – this space can be used to create allotments with no additional land-take required. This has multiple other benefits as rainfall retention capability of green roofs on a yearly basis may range from 45% to 75%[41]. Therefore, creating or retrofitting roof allotments / green roofs presents a major opportunity to decrease urban run-off. Green roofs are also known to absorb greenhouse gases and reduce air pollution, reduce energy costs, reduce noise, create local jobs, improve the marketability of and reduce opposition to new developments and are good for wildlife.
- Local Authorities should promote initiatives to **create new parks, community orchards and allotments** in lower-income neighbourhoods. These initiatives could include preferential investment by councils in greenspace enrichment in poorer areas, free seed

[37] Monmouthshire Council (2015) - Flowers to help Monmouthshire 'bee' friendlier - http://www.monmouthshire.gov.uk/2015/07/23/flowers-to-help-monmouthshire-beefriendlier

[38] Ruchill Pop Up Allotments - Ruchill Pop Up Allotments: Make It Happen, Get Involved! https://ruchillcc.wordpress.com/ruchill-pop-up-allotments/

[39] London's Pocket Gardens - https://www.london.gov.uk/ priorities/environment/greening-london/improving-londonsparks-green-spaces/pocket-parks

[40] Barbican pop up garden - http://www.westerntelegraph.co.uk/ news/12937065.London_Underground_s_first_pop_up_garden_creates_mini_oasis_at_Barbican_Tube_station

[41] Mentens, Raes and Hermy (2006) - Green roofs as a tool for solving the rainwater runoff problem in the urbanized 21st century? Landscape and Urban Planning, 77(3), pp.217-226

schemes or demonstration plantings in public spaces. Allotments need to be affordable for people with low or no incomes.

- Look at schools and school grounds to create allotments and community orchards
- Encourage community buy-in by
    - Encourage produce to be sold or offered as volunteer 'payment' to gain further community buy-in.
    - Enable provision of access and facilities for all, to encourage wider public use.
    - Undertake allotment training days and enable seed and sapling sharing.
- Local Authorities and public bodies should improve the quality of their existing land holdings through pollinator friendly planting and management. For example, they could
    - increase the number and quality of floral resources available in publicly managed greenspaces)
    - turn green concrete[42] such as mown grass and bedding plants 'drenched in pesticides with no nectar or pollen into areas with wildflowers or longer grass with dandelions and clover.
- Encourage wildlife friendly allotments by
    - Encouraging local authorities and NRW to publish and distribute an 'Encouraging wildlife and natural pest control onto allotments type booklet similar to Natural England's 'Wildlife on Allotments' publication[43] and give this out to new allotment owners and run sessions on wildlife friendly food production.
    - encouraging a significant reduction in pesticides and herbicides. This could be achieved by reducing or eliminating the use of chemicals by encouraging companion planting[44] and physical removal to combat pests such as aphids, slugs and sawfly.
    - Create habitats for wildlife; bee-boxes, bat and bird boxers, ponds, hedgehog homes, compost heaps log and stone piles for invertebrates, toads and slow worms. This will encourage some of nature's best pest controllers.
    - Plant late, mid-season and early blooming nectar rich flowers to attract pollinators and beneficial insects all year round, this could be especially achieved in boundary features of any allotment

**Annex 1 - Decline in Pollinators**

Resent research[45] has shown that there are dramatic rates of decline that may lead to the extinction of 40% of the world's insect species over the next few decades. The main drivers of species declines appear to be in order of importance:

1. habitat loss and conversion to intensive agriculture and urbanisation;
2. pollution, mainly that by synthetic pesticides and fertilisers;

The repercussions this will have for the planet's ecosystems are catastrophic to say the least, as insects are at the structural and functional base of many of the world's ecosystems. The research states that we need a rethinking of current agricultural practices, in particular **a serious reduction in**

[42] **Green concrete** - many most popular ornamental bedding plants have been bred for big blooms, extra petals and colours at the expense of nectar and pollen supplies. They no longer contain enough nectar to feed insects and often drenched in pesticides. Other flowers now have nectar tubes that are too long for bees to reach inside. Intensive selection has made these flowers useless to insects; they have lost their organic function which evolved to attract bees. Some plants like lavender and catmint are buzzing with bees and other insects. But if you make a different choice of plant, there will be silence and no insects attracted to it at all for example, brightly-coloured pansies, petunias, tea roses, begonias have little or no nectar. See https://academic.oup.com/aob/article/83/1/73/2587916

[43] https://www.nsalg.org.uk/wp-content/uploads/2012/05/wildlife_on_allotments1-Natural-England1.pdf

[44] Planting a variety of species and types of plant together has many benefits. It helps to increase biodiversity, improves productivity and takes advantage of the natural control plants can give to each other. This is known as companion planting. The main principle behind companion planting is to create a community of plants that provide each other with nutrients and protection from the elements, pests and diseases. Many plants are attractive to beneficial insects, such as lacewings, ladybirds and hoverflies. By planting these among food crops, the predators control unwanted guests and eliminate the need for pesticides. One of the best species is the widely-available yarrow. This widespread perennial has scented clusters of white flowers, popular with many beneficial predatory insects

[45] Sánchez-Bayo, Francisco, and Kris AG Wyckhuys. "Worldwide decline of the entomofauna: A review of its drivers." Biological Conservation 232 (2019): 8-27. https://www.sciencedirect.com/science/article/abs/pii/S0006320718313636

**pesticide usage and its substitution with more sustainable, ecologically-based practices**, is urgently needed to slow or reverse current trends, allow the recovery of declining insect populations and safeguard the vital ecosystem services they provide. Therefore, expansion of allotments should not be at the expense of important wildlife habitats. We also need to encourage a significant reduction in pesticides and herbicides. This can be achieved by educating people on sustainable ways of growing food as well as increasing the number of allotments.

**Annex 2 – Case Study**

North Wales Wildlife Trust took their 'Learn Outside project' to two Caernarfon primary schools, Ysgol Maesincla and Ysgol yr Hendre thanks to a grant of £10,000 from Tesco's Bags of Help initiative.

Working with the schools and school children, they turned a large area of wasteland into an allotment and wildlife garden for pupils and community groups to use and enjoy learning and spending time outdoors. The Learn Outside project also created a meadow, fruit trees and borders to provide habitats for birds, bees and butterflies. Once a week the pupils have been out digging and planting good plants for pollinating insects such as bees and butterflies.

Anna Williams, North Wales Wildlife Trust, says: "*Pupils don't always get the opportunity to play outside in natural environments and have been very keen to get stuck in and making a difference. Working outside has so many health benefits and the teachers can notice a difference in behaviours in the classroom after a session in the garden*".

One of the teachers commented that "*This area gives us an excellent resource to support our teaching and it is valuable for the pupils to experience bird song and insect life and understand that peas don't come from the supermarket freezer*!"

# Pupils grow and harvest own food

PUPILS at Ysgol yr Hendre and Ysgol Maesincla (above) in Caernarfon are working hard to change their grounds so they can be used to learn about local wildlife and how to grow their own food.

Anna Williams from the North Wales Wildlife Trust is managing the project and goes in to the schools every week working with staff and pupils on practical tasks.

She said: "The pupils are very enthusiastic and are learning new skills for life complementing their school work inside. Children don't get dirty and explore wild places much today and I believe that these 'real activities' are hugely important in today's virtual worlds.

"So far we have made allotment gardens, planted bee and butterfly friendly borders, shrubs and hedges that give good shelter and food for birds. Last week we sowed a wildflower meadow and we will be planting apple trees at the end of the month."

Money for the project is from Tesco's bags of help.

**Annex 3 - New orchards**

About 90% of orchards have been lost in north east Wales over the last 40 years. **However, new orchards were planted to protect old fruit varieties and the wildlife they encourage in Flintshire.** Working with North Wales Wildlife Trust, Flintshire Council, looked for old orchards in Flintshire to manage as well as plant new orchards.

The project was awarded £40,000 in funding from the Welsh government. It was part of a series of projects to stop the decline in orchards. The North East Wales Orchard Initiative was set up to encourage local fruit growing. It created four new orchards, propagated 36 fruit varieties and 416 trees. In Denbighshire, a project to protect the rare Denbigh plum has been hailed a success. It is now being grown in a community-run orchard as well as being produced and sold commercially.

The North East Wales Orchard Initiative produced 'An introduction to orchard management'[46].

James Byrne
Living Landscapes Manager
February 2019

[46] http://www.flintshire.gov.uk/en/PDFFiles/Countryside--Coast/Biodiversity/An-introduction-to-orchard-management.pdf