



greenminds

greenminds case study

Improving Biodiversity
and Supporting Nature
Connectedness Through
Taking Action
for Insects



Green Minds Model summary

The Green Minds Model aims to summarise the structure of the GM approach, to aid its transfer and replication to other urban areas and authorities.

Green Minds piloted new ways of implementing nature-based solutions within an urban environment. The project's central aim was to collaborate with stakeholders to recognise how humans, as part of nature, interact with nature in a complex system and to identify ways in which *systemic* change is brought about.

The model is presented as an integrated approach, where various nested elements are shown working together as a system. It reflects the particular challenges and scales of focus in urban areas - from individuals, to communities and neighbourhoods and at a citywide level. It focuses on particular leverage points for change (best practices) with regard to nature in cities, and is guided at its core by a set of underlying principles to inform practice.

At the centre of the model sits the system goal - *Urban Wilding. A set of guiding Principles have been created to inform the practice of Urban Wilding. These principles have emerged from our experiences designing and implementing Urban Wilding in Plymouth.

The eight Principles that have emerged from our programme of testing and development represent key leverage points to effect system change and to successfully integrate nature within urban place shaping. This includes exploring deeply held beliefs and values around our relationship to nature and to others, the creation of new organisational and digital infrastructures which empower citizens, and the development of new policy, planning and financial frameworks to support this.

Complex systems can behave differently at differing scales and so these are reflected too in the model to recognise the importance of understanding *who* needs to be engaged and *how*. This takes into account the need for multiple perspectives and the importance of equity (who participates), through an

inclusive process of engagement from individuals to groups and organisations, and at neighbourhood and citywide scales.

Finally, the model acknowledges the importance of an ongoing and iterative co-design process. This process recognises that resilience requires the ability to adapt as solutions emerge within a complex and constantly changing environment. It is delivered through a cyclical, action learning approach in which lessons learned influence the next cycle of implementation to ensure a progressive approach.

The model is brought to life through our suite of Insight Papers, Guides and Case Studies which aim to illustrate how the model was implemented and what we learnt.

Green Minds Urban Wilding Principles

The quality and quantity of nature has declined significantly in recent decades. Across the UK and Europe, nature recovery and restoration, rather than just preserving or conserving what remains, has become a high priority, as we have become more aware of society's dependence on nature[1].

We know that spaces that are more biodiverse can deliver multiple health and wellbeing benefits as well as other nature-based solutions such as improvements in water drainage, increased carbon sequestration, removal of air pollutants and increased pollination for food security[2]. 'Rewilding' has gained prominence as one approach to achieving such improvements in biodiversity, with a growing research body assessing its impact.

Urban (re)wilding, however, is still a new concept. We define Urban Wilding as 'any initiative, both human-aided and natural colonization, that aims to encourage biodiversity, ecosystem function and native species in urban settings'[3].

Urban Wilding is fundamentally different from wilding/rewilding/renaturing elsewhere. Cities and towns are dominated by human infrastructure and activity. Consequently, many natural ecosystem processes are significantly modified or constrained in urban areas. We rely upon ecosystem services for our health and wellbeing. Urban ecologies, which deliver these ecosystem services, are complex and poorly understood. However, we know that more biodiverse systems deliver more or better ecosystem services. We also know that we can mimic, or engineer, some specific ecosystem services such as storm water management. Whilst we don't know enough to design urban ecosystems to deliver all the services we need, we do know that more nature is good for people and urban living and that arranging it in certain ways can deliver certain specific benefits. We can't achieve this by doing nothing - positive interventions are required, which in turn demand enabling policy, community action and practical delivery mechanisms.

The Green Minds understanding of Urban Wilding recognises the need to shift from nature conservation to nature recovery - to focus on restoring much of what is rare or has gone and a recognition that we need to bring high quality Nature into places where people live.[4]

The Urban Wilding Principles below are designed as a set of prompts to help guide initiatives for nature to thrive in cities: to survive and reproduce, to expand, and to function as a system and so deliver more and better services to support urban environmental health, our economy, and human wellbeing.

*We have chosen to use the term 'wilding' instead of 'rewilding', as it better reflects the reality of nature in urban areas - to rewild implies a return to nature before urbanisation, which is not possible.

[1] Nature Recovery for Our Survival, Prosperity and Wellbeing: A Joint Statement by the Statutory Nature Conservation Bodies of the UK. jncc.gov.uk/our-role/the-uk/nature-recovery-joint-statement

[2] Dasgupta, P. (2021). The Economics of Biodiversity: the Dasgupta Review. London (HM Treasury); Maller, C. (2018) Healthy Urban Environments. Routledge

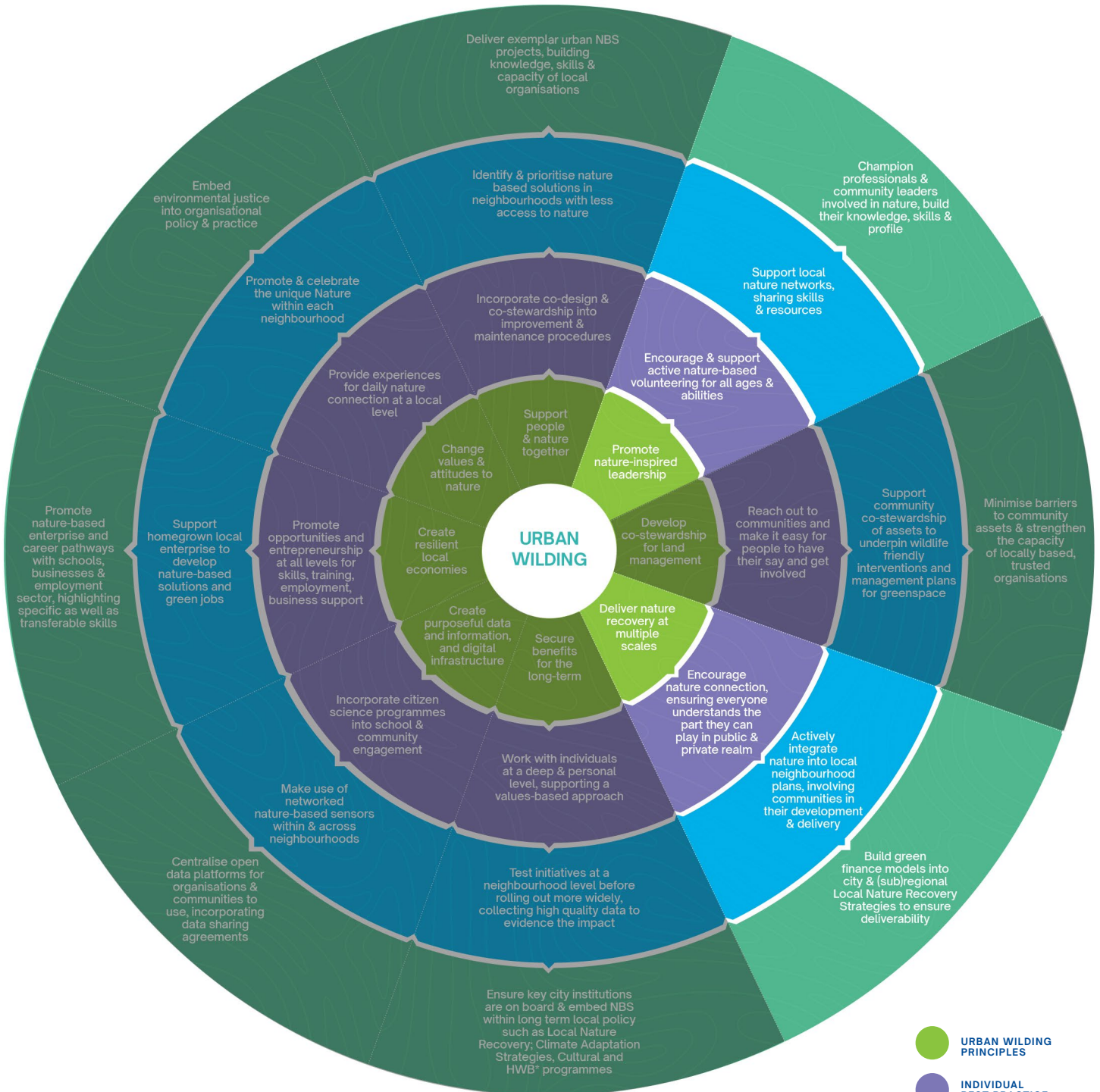
[3] Maller, C., Mumaw, L., & Cooke, B. (2019). Health and social benefits of living with 'wild' nature. Ch 9 in Rewilding. Pettorelli, N., Durant, S., and du Toit, J. (eds). Cambridge University Press

[4] Juniper, T. (2022) Tony Juniper: Green Paper - an opportunity for an integrated approach to Nature recovery - Natural England

greenmindsmodel

The model illustrates the three system levels at which the Urban Wilding principles are applied to drive action: the individual, with neighbourhoods, and within organisations.

Permeability, both within and between segments, reflects the need for adaptability through local learning gained through an action learning approach, in which lessons learned influence the next cycle of implementation.



Urban Wilding Principles

Support people and nature together
Promote a just transition to wilder cities through equitable access to nature, socially just policy and involvement in the co-creation and co-stewardship of nature-based solutions that are adapted to climate change, biodiverse and support nature connection.

Promote nature-inspired leadership
At all levels of management (individual, community/neighbourhood, city administration, business, etc) enable nature positive actions to enhance urban liveability through education, training, and policy.

Develop co-stewardship for land management
Democratise land management and ownership through the development of co-stewardship solutions with user communities, introducing inclusive and empowering processes for engagement, creating community assets, and utilising diverse governance structures.

Deliver nature recovery at multiple scales
Make the most of the local built environment and its scale, acknowledging that no space is too small to be valuable whilst at the same time recognizing that larger green spaces and high degrees of connectivity are key for nature recovery.

Secure benefits for the long-term
Develop integrated policy instruments that embed urban wilding in development practice, led by communities and advised and supported by public administrations to create resilient cities and a population connected to nature.

Create purposeful data and information supported by digital infrastructure
Develop new digital infrastructures to generate community-owned and insightful knowledge of urban nature to support nature connection, and nature-positive policy and practice.

Create resilient local economies
Promote and empower nature-related careers, cooperatives and social enterprise across all sectors, to create new jobs and new value in green and blue infrastructure.

Change values and attitudes to nature
Promote nature connection amongst citizens, to enhance individual and community wellbeing and to foster nature-positive choices.



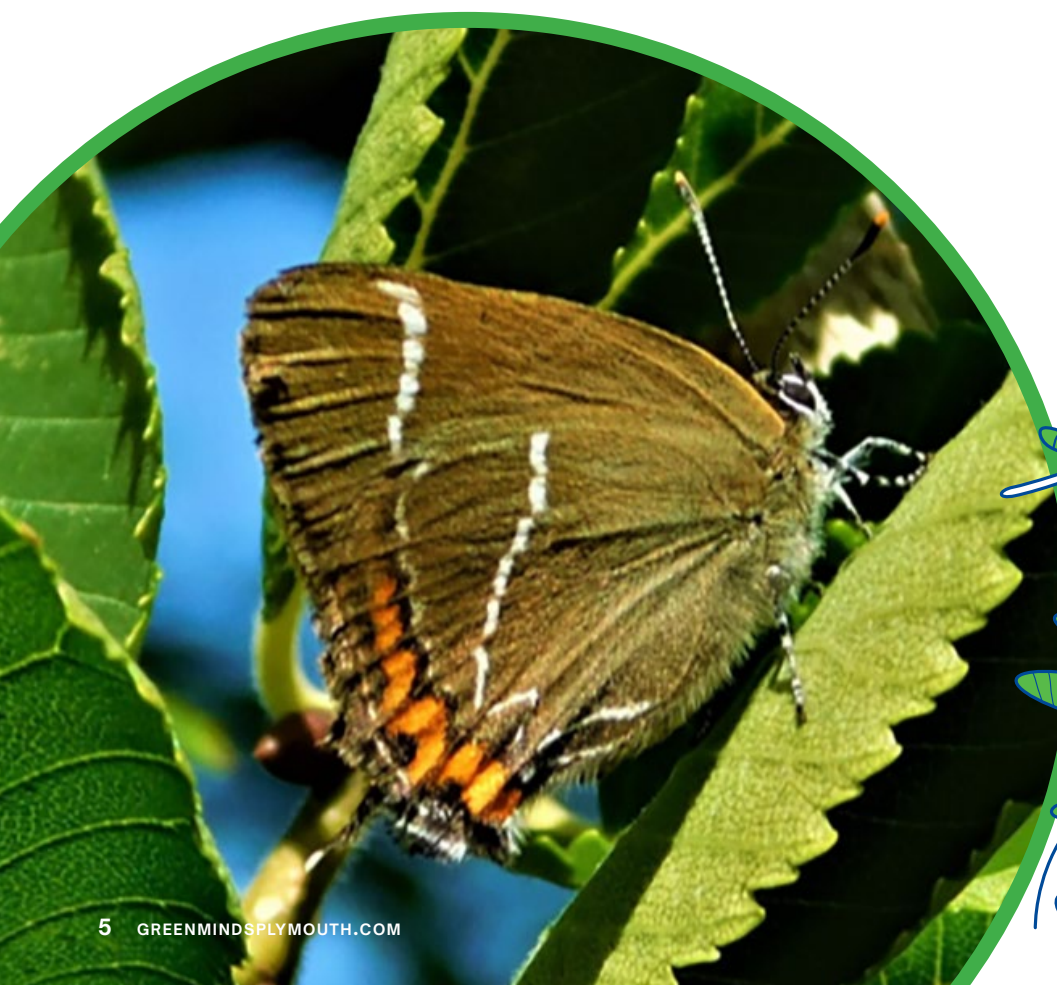
Overview

The Green Minds project provided a unique opportunity for Devon Wildlife Trust (DWT) to work in partnership to trial new and exciting ways of taking action for wildlife in an urban setting like Plymouth.

Using the messages from DWT's Action for Insects campaign, we promoted urban wilding; empowered people to take action, and changed values and attitudes to nature. Developing co-stewardship for land management through partnership working has been key throughout the project.

This paper looks at what we have done and learnt, with some case studies and outcomes highlighting the learning and legacy of the work of Green Minds.

BELOW: White letter hairstreak butterfly.
Image credit, Ian Teague.



The context

The UK is the 29th most nature-depleted country of the 218 countries in the world¹. Since the 1970s, 41% of species monitored have declined, with 15% facing extinction².

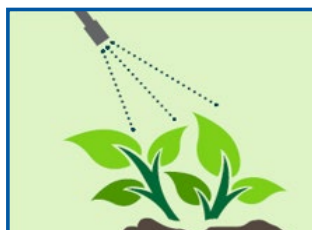
In Devon, we have lost almost half our hedgerows³. Two-thirds of our Sites of Special Scientific Interest representing Devon's best habitat are in 'unfavourable condition'⁴. Three species have gone extinct since 1998 with a further 10 species in danger of going extinct.

The biggest reasons for species loss are large scale habitat loss due to changes in land use and the use of chemicals such as insecticides, herbicides, and fertilisers.

What is causing insect decline



Loss and fragmentation of habitat



Routine and unnecessary use of pesticides



Climate change



Action needed to reverse declines



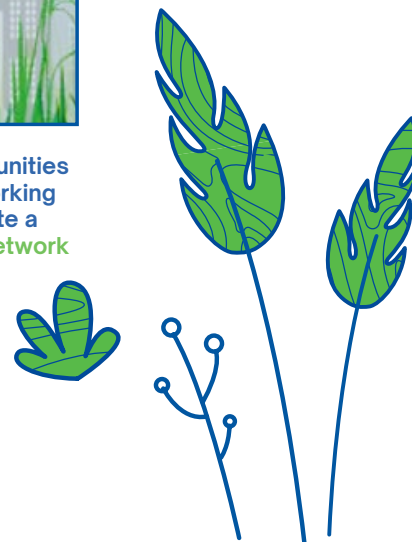
The government must set **ambitious pesticide reduction targets**



Stop routine and unnecessary use of **harmful chemicals** in our communities and daily lives



Government communities and individuals working together to create a **Nature Recovery Network**



1 Biodiversity Intactness Index (www.nhm.ac.uk/our-science/our-work/biodiversity/predicts)

2 <https://nbn.org.uk/stateofnature2019/>

3 Devon Hedge Group and Devon County Council (2014) Devon Hedges

4 Devon Local Nature Partnership State of Environment Report - Wildlife

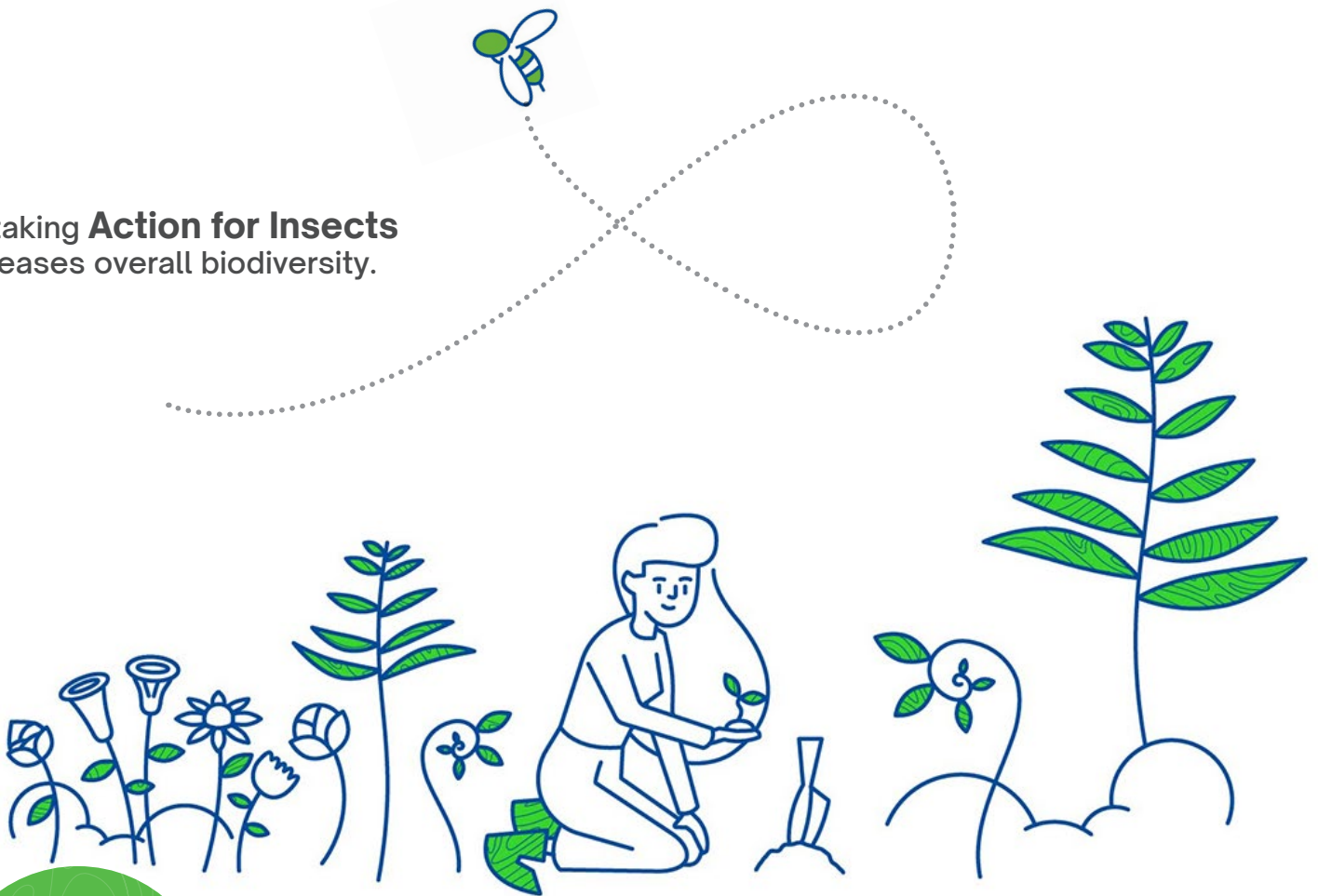
A focus on Action for Insects

Devon Wildlife Trust's Action for Insects campaign formed a core approach to the **Rewilding People and Places** aim of Green Minds. Creating habitats where insects can thrive will provide many benefits for other wildlife. More insects equals more food for bird and bats, and longer grass is ideal for small mammals to use for shelter and as green corridors to move around the city.

An engaging topic!

Evidence shows that 'Children seem to be particularly open to the wonders of six- or eight-legged creatures'. We have all experienced insects, and it is true that they can elicit delight, awe, excitement or exaggerated expressions of fear. The topic is certainly engaging and accessible and allows us to have personal connection to nature.

So taking **Action for Insects** increases overall biodiversity.



FIND OUT
MORE AND
VIEW OUR
ANIMATED
FILMS HERE:

www.devonwildlifetrust.org/take-action/action-insects

Provides opportunities for everyone to get involved

Supporting people to take simple, affordable steps is more likely to support behaviour change.

Action for Insects is a call to action that everyone can get involved in. Examples of small steps that support insects include mowing less often, removing the grass when you do; planting trees and hedges and creating ponds to create havens for insects to feed and breed. Avoiding the use of pesticides and other chemicals also gives nature the best chance to flourish.

We have trained communities, project partners and staff - helping everyone gain skills in plant and insect identification and basic botanical survey knowledge. We have provided equipment such as sweep nets and identification guides.

Ensuring connection between places, people and policy

Small steps, taken across a large area, allow wildlife to travel freely across the city. These steps can be in the private and public realm at different scales, from window boxes, to green roofs, as well as creating wild spaces in schools or parks. When these changes are combined across our local neighbourhoods and beyond, they connect to become a huge network of green corridors.

Joining up the work between communities, local government and organisations at neighbourhood and city scale has enabled participants to see the wider impact of our actions, and put in place new training, policies, and land management practices to ensure sustainability of our initiatives.



Helping insects move around the city

A city's urban green spaces can often end up being 'islands' for insects and other wildlife. However, by expanding and connecting them to similar areas as part of a network, we can help wildlife move around the city to find shelter and food.

Local authority, community, and individual action can create wildlife corridors. We call this joined-up system a '**Nature Recovery Network**'⁷. This allows plants, animals, seeds, nutrients and water to easily move around and adapt more easily to change.

To be effective the network needs to be treated as a joined-up whole. Everyone can be part of creating this.

BELOW: Still from Action For Insects animation



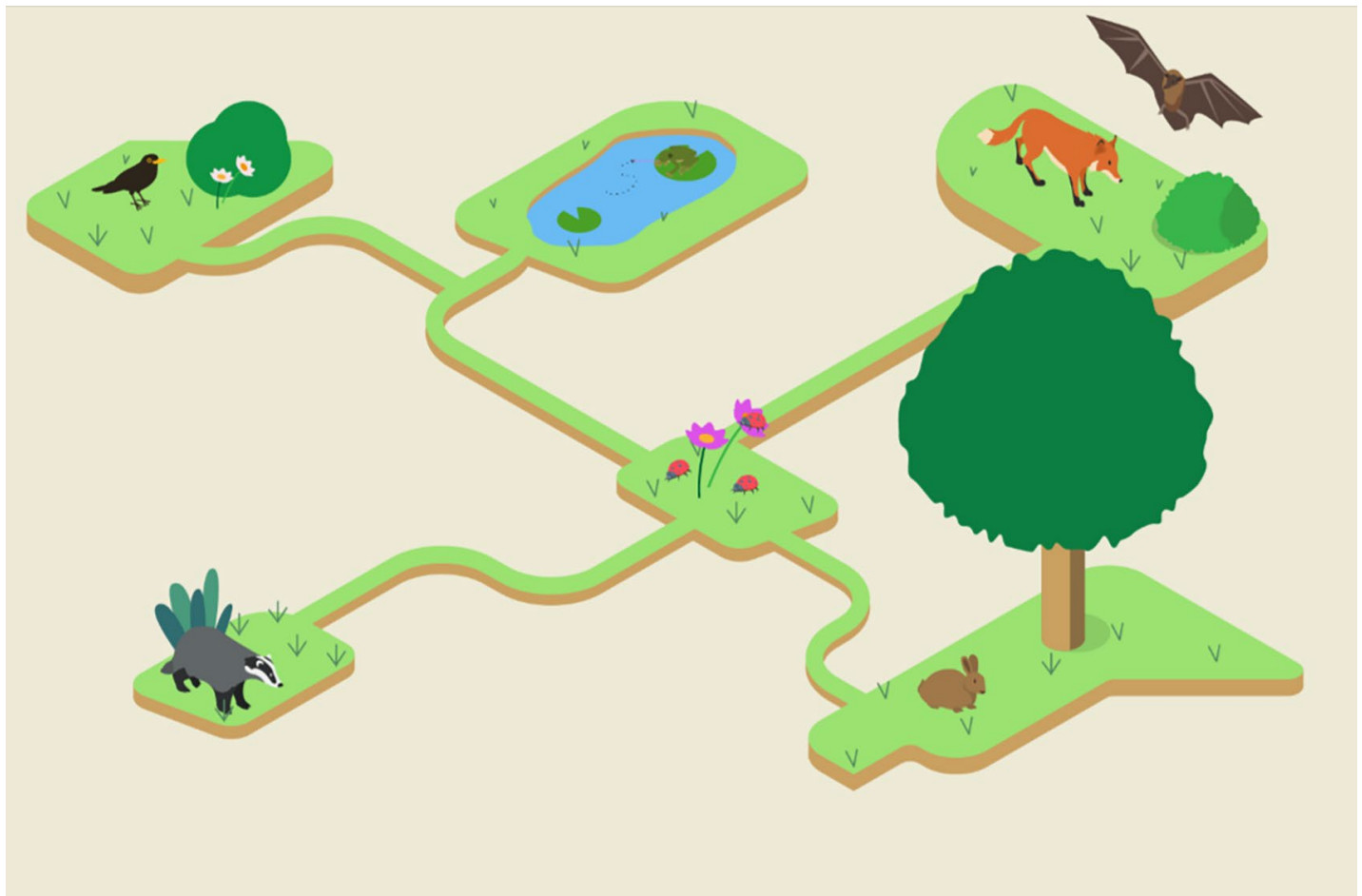
⁷ www.wildlifetrusts.org/nature-recovery-network

The Lawton Review published in 2010 set out how England's wildlife and ecological network could be improved to help nature thrive. This set out 4 principles that we can follow to develop green spaces where nature can thrive:

- 1. Bigger habitat patches** – when restoring/creating new habitats make them as big as possible
- 2. Better management of existing habitats** – understand your site, work towards increased biodiversity
- 3. More habitats** – create new high-quality, wildlife-rich spaces wherever you can
- 4. Joined up** – create a 'corridor' for wildlife to travel through

Taking a citywide approach to working with groups and communities, enabled us to ensure we could apply these 4 principles in our project.

BELOW: Still from Action For Insects animation



Case studies

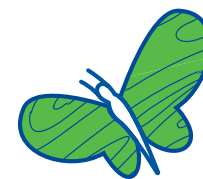
Improving habitats for insects brings wider biodiversity benefits. Using the Green Minds Model, we have encouraged and supported communities to 'Take Action for Insects'⁸.



The following case studies give an overview of various Devon Wildlife Trust projects within Green Minds. Working with different groups, using a variety of activities, they all contribute to biodiversity improvements for insects and other wildlife.



Changing values & attitudes to nature in a local authority



The Green Minds programme of community, volunteer, apprentices and project partner training has promoted Action for Insects along with an understanding of why urban rewilding is so vital.

A key step in changing attitudes is a transition of Plymouth City Council's workforce to move away from being 'grass cutters' to having a greater understanding of what they are doing.

Creating Habitat Managers

During training sessions for Plymouth City Council's grass cutting operatives and other teams within Street Services, the key message was to understand that the new grass cutting regime has benefits for nature and they should feel pride in their work for wildlife.

The sessions promoted leadership and will empower staff in their day-to-day work.

At training sessions, staff compared wildlife meadows and amenity grass within Central Park by counting the number of different plant species. Using sweep nets, they counted insects in each area. Staff were surprised at the variety and number of insects and commented on how much better the long meadow grass was for wildlife.

Image: Biodiversity training with Plymouth City Council's Street Services team



I have gone home and shared what I have learnt with my children, and they are now interested in looking at all the plant species around the city.

**ASSISTANT TEAM LEADER,
GRASS CUTTING**

A citywide training offer

Alongside the Local Authority training sessions, we set up and delivered a free training programme with the Action for Insects theme at its heart. The sessions were held both in person and online, for project partners, apprentices, and volunteers.

The aim was to improve knowledge, skills, and confidence on the theme of nature in the city, action for insects, and urban wilding. This enabled people to connect with one another and local organisations to help encourage and sustain actions.

Green Minds apprentices

Biodiversity (land and marine) training events were arranged specifically for the Green Mind Apprentices. This helped to equip them with the skills for their future green careers, as well as promoting confidence and leadership qualities. Most of the apprentices have now gone on to other jobs, either within the council or with other organisations.

BELOW: tree care workshop with apprentices



Webinars

During the autumn and winter, (when it was not so easy to arrange outdoor events), a series of webinars were broadcast covering many topics including nature recovery, birds/wetlands/meadows etc. The webinars were free to attend and proved popular, with over 100 people from across the UK and internationally attending some sessions.

This showed that online events can be accessible to a wider audience. Not only that we were able to record them and make them available to watch on the Green Minds YouTube channel.

The Ecological Awareness course at Devonport Park has given me a chance to consider how we, as an organisation, can implement more sustainable, ecologically-friendly practices. **Arboriculturalist, Plymouth Community Homes**

Creating a community tree nursery

Devon Wildlife Trust supported the creation of a Community Tree Nursery at Poole Farm (part of Derriford Community Park), by providing expertise and equipment. The nursery provides opportunities for volunteers to learn new skills and will eventually supply Plymouth

City Council with trees for planting out around the city. As the seeds are all collected locally, these trees are ideal in terms of their provenance and will add to insect biodiversity (as well as other wildlife), in Plymouth's parks and green spaces.

Thanks to support from Devon Wildlife Trust, the nursery has evolved from a handful of seed trays tucked behind the dairy, to a fully-fledged, fully deer proof series of growing tables, stratification beds, poly tunnel, and 10,000 litre water tank. We and our volunteers are super excited for the first season of large-scale seed collection.
STEPHEN HILL, POOLE FARM TEAM

Learning from others

Meeth Nursery – this flagship DWT Tree Nursery was set up as part of the Saving Devon's Treescapes Project. Knowledge sharing and visits help to inform the planning of the new nursery at Poole Farm.

Moor Trees – the Director of Moor Trees was commissioned to write a report to guide the creation of the new tree nursery.

Building the new tree nursery

The team and volunteers at Poole Farm built the new polytunnel and tree nursery, which takes pride of place at the main entrance to the farm. Dedicated volunteers will be responsible for caring for the new trees. Water will be collected from the barn roof to provide a renewable supply for watering, even in dry weather.



ABOVE: creation of the tree nursery at Derriford Community Park

A city seed hub

An area comprising eight fields, to the east of Plymouth, are owned by Plymouth City Council. The Meadow Restoration/Seed Hub Project is focused on field of high wildlife value (a Site of Special Scientific Interest) which will act as a seed source to improve the surrounding fields over several years.

Techniques known as green haying and seed harvesting will spread seed to these fields, provide a rich source of meadow seed as the fields improve. The harvested seed will provide a local and varied seed source for greenspaces across the City of Plymouth.

Creating a plan

DWT created a management plan to deliver this species-rich grassland habitat improvement/creation project. Plymouth City Council can now use this plan when looking at the longer-term management of this area by its Street Services team.

Baseline surveys of species and soil types helped to guide the writing of the management plan.

A new County Wildlife Site

In 2023, DWT facilitated the designation of the three fields adjoining the SSSI as County Wildlife Sites.

Training

The Billacombe fields provide a wonderful place to show people how diverse a traditional meadow can be, and to inspire them to recognise the potential of other greenspaces around Plymouth



An insect's eye view of the Billacombe meadow (DWT/Green Minds)



Six spot burnet moth
(Mike Symes)



Field Eyringo
(Mike Symes)



Marbled White Butterfly,
(Mike Symes)

Can't speak highly enough of the [bat walk] experience, Helen and Jane provided so much useful information and I learnt more than I expected!

LOCAL WALKER
ATTENDING
BILLACOMBE BAT WALK

Pesticide Free Trials

In March 2022 Pesticide Action Network (PAN) delivered a DWT professional training session for Green Minds partners. Following this Plymouth City Council (PCC) and Devon Wildlife Trust (DWT) agreed to set up a Pesticides Action Working Group.

The aim of the group was to set up some Pesticide Free Trials in Plymouth during the 2023 growing season.

The trials will form part of a wider, long-term strategy for Plymouth, and the trial results will feed into this strategy. PAN will advise and guide trials from start to finish.

The thorny issue of ‘weeds’

‘Weeds’ are an emotive topic! Pressure on local government to ‘keep the public realm tidy’ can drive expectations to remove all weeds. Therefore, sites for the trial had to be chosen sensitively, ensuring they didn’t have a negative impact on public perception of local neighbourhoods.

Planning sites involved bringing together different teams within the Council, with the support from DWT/PAN on the topic of pesticides. It was a process of learning, supporting Council staff to understand the benefits of reduced chemical use and changing the perception of ‘weeds’.

Small scale trials, led by Council Cleansing staff have now enabled us to identify what type of pesticide free methods work best in what areas. This is allowing the Council to take forward a more progressive reduction plan.

In addition, following advice from other pilot projects in the UK, conversations have started with local communities who have expressed an interest in hand weeding their local street. Monitoring public perceptions and community feedback will determine if it can be rolled out across the city.

Work on the ground has been combined with wider awareness raising and communications for Council staff and the public about the value of ‘pavement plants’. This has also been helped by working in partnership with local ecology activists ‘The Rebel Botanists’.

For more information on the value of Pavement Plants
www.pan-uk.org/pavement-plants/

‘The support, both moral and practical, given to the Council by DWT has helped progress plans. In the experience of PAN UK, it is always a huge bonus for a Council to work with partners, so they are not working in isolation and can experience positive feedback alongside constructive criticism. The ability to tap into the expertise of external organisations who can provide advice, encouragement, and publicity is a key benefit.’

**NICK MOLE,
PESTICIDE ACTION
NETWORK**



Images: surveying sites for potential pesticide free trials

Community action at a neighbourhood scale

The local community and Green Minds co-designed improvement plans for five greenspaces in the Keyham neighbourhood. This included working with schools, residents and community organisations to create wildlife meadows.

Meadow improvements – Alexandra Park

In early 2023, over 60 children with the ‘mini police’ programme from three local schools sowed meadow seed to help pollinating insects as part of their chosen social action day. This session was followed by a drop-in community sowing event, with over 50 people helping to improve the wildlife meadows of Alexandra Park.

Later that year, there was a community meadow survey session where people spotted lots of insects using the meadow areas. Each group was given a set of survey equipment from Green Minds to help them carry out future activities.

This was part of the Keyham greenspace improvements which increased biodiversity through tree planting and meadow improvements.

BELOW: surveying a wildlife meadow



www.greenmindsplymouth.com/keyham-greenspace-improvements

Community action at a neighbourhood scale

‘I’m thinking about the children that i know who would be absolutely fascinated by the different types of grass there is...having somebody who can actually relate things and put it into context and tell the story makes a big difference’.
-SNAPDRAGONS CIC



An Urban Rewilding Network

Bringing people together to share experiences, resources and develop connections is an important part of our journey to **Rewild People and Places**.

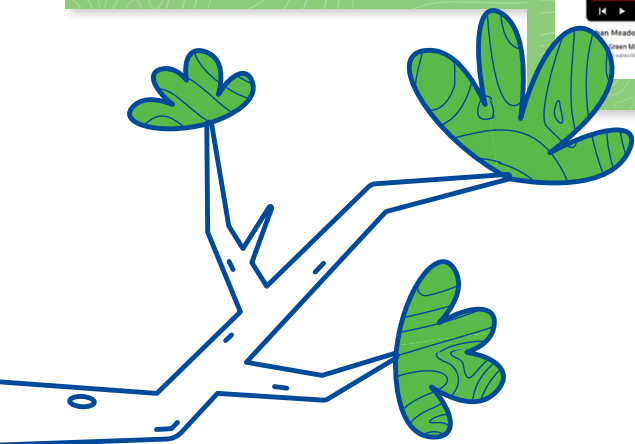
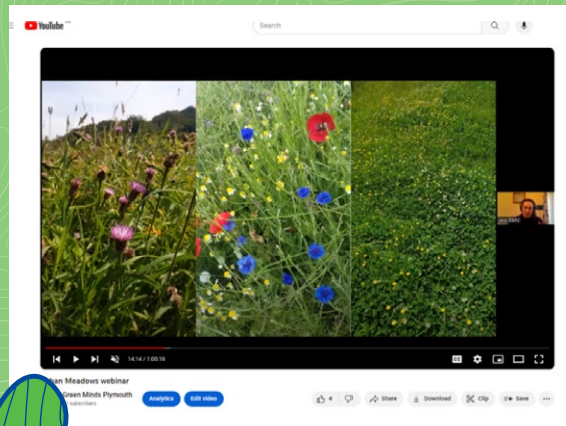
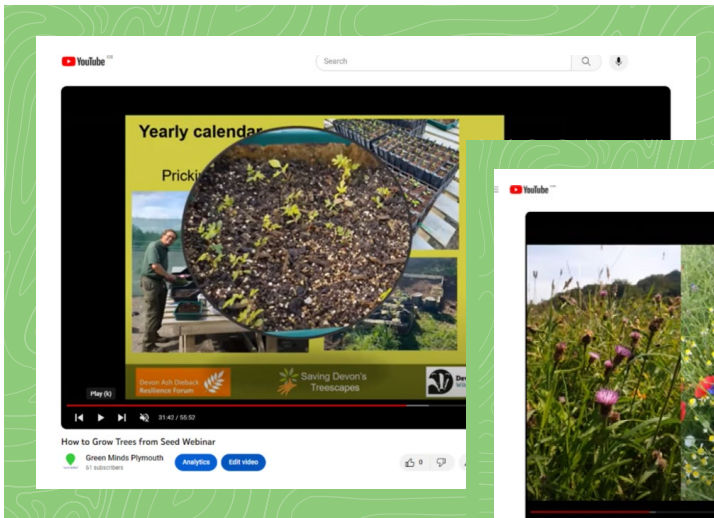
This new network welcomes individuals, community groups, and organisations interested in wilding, to support them to take action for wildlife and biodiversity.

As part of this, there were events, webinars, workshops, and site sessions on practical conservation and ecological monitoring, accompanied by online resources (available on the Green Minds Knowledge Hub⁹).

The rewilding network evolved into a ‘Growing with Nature’ network in June 2022. The change in name reflected a desire to engage a wider audience. Involving Food Plymouth and Plymouth Octopus Project, the network will continue to develop after the end of Green Minds.

⁹ <https://greenmindsplymouth.com/knowledge-hub>

¹⁰ <https://greenmindsplymouth.com/rewilding-network>



ABOVE: Still from the Green Minds ‘Urban Meadows’ webinar
RIGHT: Growing With Nature Network event

A summary: Learning and legacy



What worked well?

- Encouraging and appreciating the work of PCC staff
- Changes to grass cutting regimes resulting in increased biodiversity e.g., in Keyham
- Offering support to community groups such as practical equipment kits
- Online and in person events attracted varied audiences, the webinars made events accessible, and people can continue to learn from the recordings
- Working with partners – joint working in delivery of events resulted in new opportunities such as sharing equipment
- Regular training of existing and new staff is crucial. This includes Street Services operative teams, as well as those who deal with public complaints and work with Councillors
- Changing mindsets of Plymouth residents and project partners

What didn't work so well/challenges

- Engrained practices and perceptions are hard to change quickly e.g., long grass, more green vegetation around the city
- By its nature a funded project comes to an end, so there is always a risk of things coming to a halt if a legacy plan isn't in place
- People invariably move jobs and newer staff may not be aware of what's gone on in the past



What has Devon Wildlife Trust learnt?

- Have patience as mindset change doesn't happen overnight
- Listen to people e.g., taking on board suggestions from communities and acting to change the management of a green space. This helps people feel empowered and wanting to get involved in the future
- Work across different types of organisations such as Arts University Plymouth and Real Ideas brings benefits such as communicating environmental issues in new ways to different audiences
- Third-party agreements are valuable as they empower local people
- It's important to try new things (even if they fail or need adapting), and this is made easier all partners are supportive e.g., the beaver reintroduction,
- Share knowledge/learning as widely as possible

Next steps/legacy from Devon Wildlife Trust

- Community Tree Nursery – continued support from Devon Wildlife Trust through the Green Community Hubs project
- Billacombe Management Plan – implementation, use of equipment and expertise from DWT, further training sessions using Green Minds kit
- Pesticide reduction plan – DWT to provide a link between different teams and new staff
- Continued partnership/community group work, retain good links to others working in Plymouth



Reversing nature's decline is vital across the whole of the UK. Taking Action for Insects is a simple but crucial message to encourage community action on the ground. Everyone can play their part in this – individuals, groups, local authorities and other land managers. Creating resilient urban green spaces and green corridors provides networks for wildlife across our cities to help the recovery of nature.

DEVON WILDLIFE TRUST





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#GreenMindsPlymouth

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