

The *Green Infrastructure Action Plan for Pollinators in South-east Wales* is a Welsh Government Nature Fund project which aims to reverse the decline in pollinators. The project covers the local authorities of Caerphilly, Blaenau Gwent, Monmouthshire and Torfaen.



Managing Highway Verges for Pollinators - An introduction for highway managers is part of a series of guidance booklets produced to accompany the *Action Plan*. Other titles available in the series are:

Managing Green Space for Pollinators - An introduction for managers

Managing School Grounds for Pollinators - An introduction for head teachers

Managing Residential Areas for Pollinators - An introduction for estates managers

More information is available at:

<http://www.caerphilly.gov.uk/>

<http://www.blaenau-gwent.gov.uk/>

<http://www.monmouthshire.gov.uk/>

<http://www.torfaen.gov.uk/>



MANAGING HIGHWAY VERGES FOR POLLINATORS

An introduction for highway managers



Green Infrastructure Action Plan
for Pollinators in South-east Wales



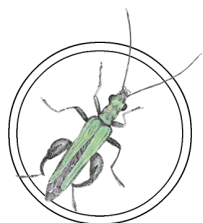
In Wales the main groups of pollinators are bees and wasps, flies (including hoverflies), butterflies and moths, and beetles. Collectively these are responsible for pollinating our crops and about 75% of flowering plants in Wales. Ultimately human life on Earth depends on pollinators.

It is widely accepted that pollinators are declining in Wales, Britain and Europe, and have been for many years. The main causes are loss of flower-rich habitats and use of pesticides in agriculture. They may also be declining due to pests and diseases, spread of non-native species and climate change.



By adopting appropriate management practices, we can help to support pollinators in both rural and urban areas.

Managing for pollinators helps fulfil the legal and moral duties of Local Authorities for the well-being of future generations. It can provide cost-effective solutions to grounds maintenance, engagement with community groups and individuals, whilst also resulting in a visually pleasing and ecologically valuable townscape and countryside.

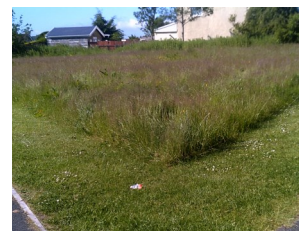


How to Improve Areas for Pollinators

In general, a greater variety of habitats and plants will support a more diverse range of pollinators. The following measures will help to reverse the decline in pollinators:

- increasing diversity of flower-rich resources;
- increasing abundance of food resources; and
- extending the availability of flower-rich resources throughout the life cycle of pollinators.

Action Plans based on different Green Infrastructure (GI) types and a Management Actions Toolkit have been developed to achieve these measures.



Poor pollinator habitat:

Relatively uniform area of long grass with few or no flowers:

PEGS score 1-2



Moderate pollinator habitat:

habitat: Road verge with lots of flowers of 2 main colours adjacent to playing field:

PEGS score 4-5



Good pollinator habitat:

Unimproved grassland of varied structure adjacent to broad-leaved woodland:

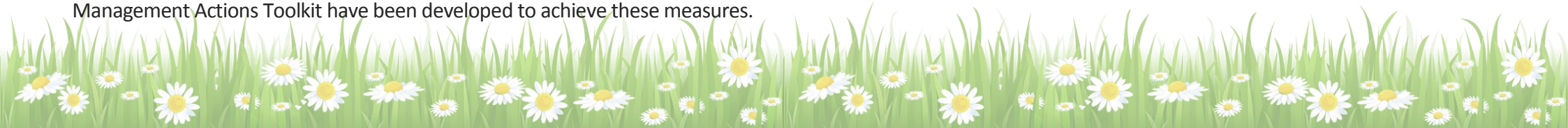
PEGS score 8-9

The Future for Pollinators

Pollinators do not recognise borders so working across existing local authority areas will enhance the wider pollinator resource and improve pollinator habitat connectivity and populations throughout South-east Wales. In addition, sharing machinery and expertise will mean more can be done with existing resources.

Whilst the local authorities are important in the management of their land for pollinators, wildlife trusts, community groups and other organisations will be important to help implement the actions and monitor changes in pollinator populations. Actions can also be taken on private land.

A local authority Pollinator Policy will guide the planning process and ensure that there will be adequate provision for the future. Targets will also be set by the local authority which must be considered when developing actions for specific areas.



Managing Highway Verges for Pollinators

Highway verges and associated land play an important role in providing habitat for pollinating insects, because of both the total area and also how they form linear features providing connectivity in the landscape (pollinator highways). While safety concerns will always be paramount, there is significant scope to manage the land in ways which increase habitat diversity and offer greater benefits to pollinators.

Management Actions Toolkit

The GI Action Plan provides details of the different management actions (and codes) suggested for any site, as shown in the 'Management Actions Toolkit'.

CODE	ACTION	AIMS	BENEFITS TO POLLINATORS			
			BENEFITS	LIKELIHOOD OF SUCCESS	COST	TOTAL (3-9)
G5	Remove cuttings from site and dispose of centrally or at an appropriate place on site.	Produce species rich grassland for pollinators with more flowers	✓✓	++	££	6

Mown Grass Margins - keep vegetation from encroaching onto the highway, maintain visibility and indicate that an area is still being maintained.

Hedge - Traditional hedges form excellent boundaries when well-managed and support a wide range of species offering nectar and pollen throughout the year.

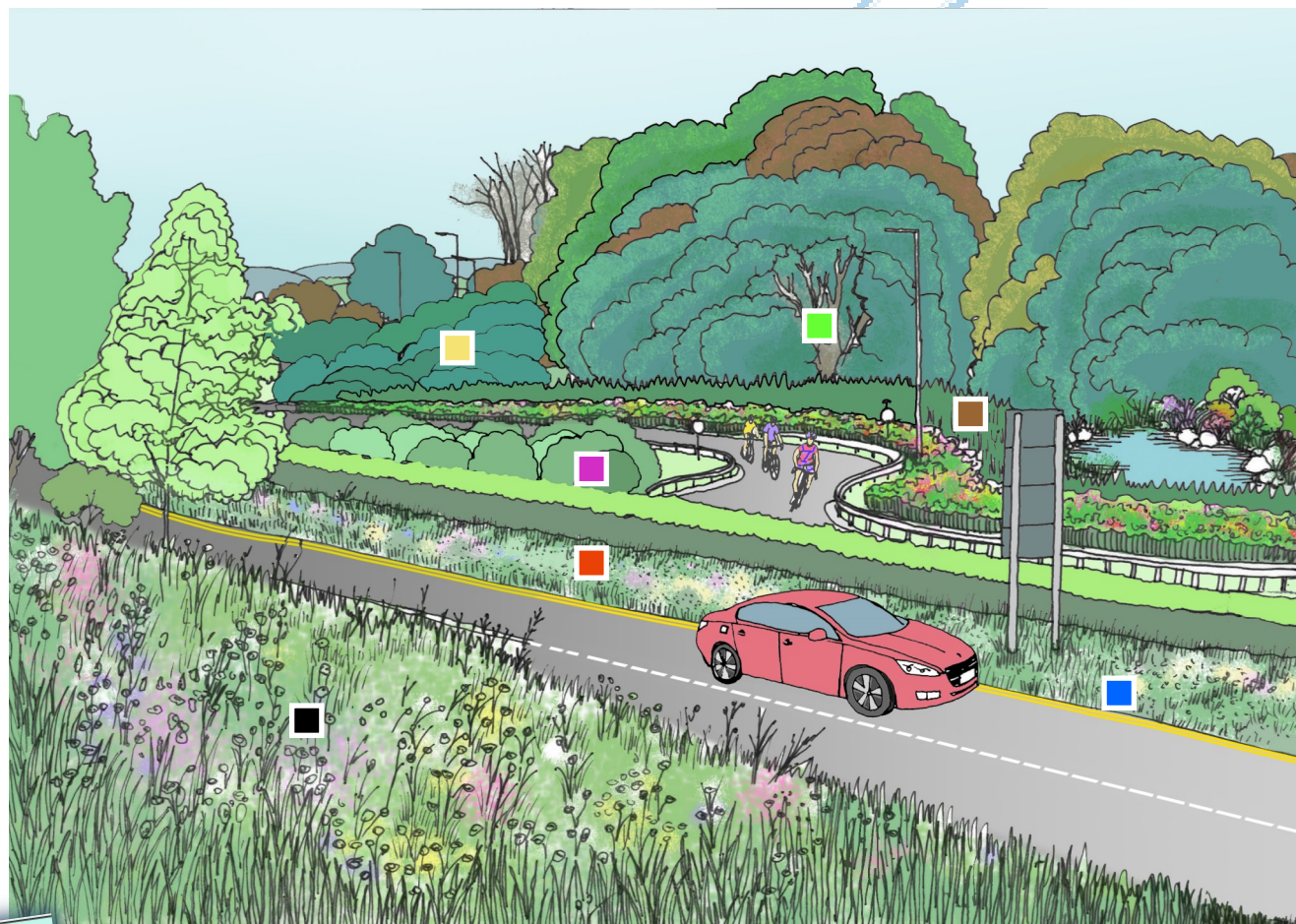
Low wildflowers - in many places wildflowers will grow low enough that there is sufficient visibility above them.

Wildflower meadow - traditional wildflower meadows with a mix of locally appropriate native wildflowers require annual cutting and thrive on poor quality soil and steeper banks.

Shrubs - Mixed planting of native flowering shrubs offers good provision, especially with if diverse ground flora develops through appropriate cutting.

Woodland edge - rotational cutting regimes can maintain a diverse range of woodland edge habitats helping create a valuable mosaic of environments.

Standing deadwood - leaving dead trees in place where they do not represent a health and safety risk can provide holes for wild honey bee colonies. Deadwood of all varieties offers important habitats and is a valuable resource.



For each site a variety of actions should be implemented with consideration of adjacent sites and management with the aim of achieving year-round resources for pollinators.

The actions include grass cutting, hedgerow treatment, etc.

Before deciding what to do with any space, the **GIS database** can be used to understand the site's characteristics and constraints (e.g. designations). The value of what may already be there should also be assessed using **PEGS** - see the next page...

Pollinator Evaluation Grading System (PEGS)

When planning green infrastructure projects for pollinators, it is important to assess the value of the existing resource before making changes, so that poor resources can be targeted for improvement and good resources are not accidentally removed.

Pollinators have a wide range of requirements and assessing the value of a habitat is complex. PEGS is a simple form that can be used to assess a site for its potential for pollinators as follows:

SCORE	VALUE FOR POLLINATORS
0-3	Poor value for pollinators, high potential for improvements
4-7	Moderate value for pollinators, room for some improvement
8-12	Good value for pollinators, maintain

SCORE	0	1	2	SCORE
HABITATS	Amenity grassland Bracken... (see Action Plan for full list)	Flowering crops Heathland Hedges Marsh...	Broad-leaved woodland and scrub Orchards...	
ADJACENT HABITATS WITHIN 25 M	Score as for habitat; select highest score	Score as for habitat; select highest score	Score as for habitat; select highest score	
VEGETATION STRUCTURE	Uniform in height and space	Variable in height or in patchiness (not both)	Varied in height and lots of different patches	
% VEGETATION COVERED WITH FLOWERS	Less than 5 %	5-20 %	More than 20 %	
NO. DIFFERENT COLOURS OF FLOWERS PRESENT (E.G. BLUE, PINK, RED, YELLOW)	0 or 1 colour only	2-3	4 or more	
Flowers for bees	Absent	Small amounts	Lots	

The Green Infrastructure Action Plan

The *Action Plan* is a collection of 'tools' to help guide a range of users to select one or more management options. It can be used for individual sites or strategically across wider areas.



The individual *Green Infrastructure Action Plans* set out the aims, desired outcomes and suitable actions with links to the relevant *Management Actions Toolkit*.

Green Infrastructure type: Other amenity green space	
Aims	<ul style="list-style-type: none"> Manage amenity green space in a way which provides greater benefit for pollinators Integrate green space into the landscape Encourage friendly planting into new or existing beds
Desired Outcomes	<ul style="list-style-type: none"> Road verges with varied structure and diverse range of flowers and plants Range of food and breeding habitat resources through the year Appropriate management for pollinators
Assessment steps	<ul style="list-style-type: none"> Confirm land ownership and stakeholder interest Assess existing pollinator resource, biodiversity interest and current management Ascertain current management Ascertain highway safety and utility constraints Assess how existing pollinator resource can be enhanced Select appropriate management options below Estimate costs