

# Bees and development

This document contains information on including bee-friendly landscaping within developments in Neath Port Talbot.



Further advice for potential developers is available at;  
<http://www.npt.gov.uk/default.aspx?page=4179>

Or by contacting the Countryside & Wildlife team;  
E-mail; [biodiversity@npt.gov.uk](mailto:biodiversity@npt.gov.uk)  
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## Bees and Development

Recent declines in bee and other beneficial insect populations are of great concern, particularly with regard to the crop pollinating service that they provide, which is estimated to be worth £440million per annum to the UK economy. It is generally thought that the greatest cause for the decline is the lack of natural habitat available to them in the present landscape. Providing areas of native pollen and nectar rich food plants could greatly enhance the value of the Neath Port Talbot landscape for these essential species. There are several options available to developers, some or all of which can be incorporated into design;

### Option 1 – Flowering lawns

Amenity grassland areas sown with a wildflower mix which are mown regularly (as standard amenity) for the majority of the season but allowed to flower for 6-8 weeks from mid June. The resulting low-growing flowering lawn has a ‘tidier’ appearance to the standard wildflower meadow mix and can withstand a reasonable amount of trampling.



### Option 2 – Pictorial meadows

Developed in Sheffield University, these meadows contain a mixture of native wildflowers and non-native (but non-invasive) species which produce a dense, colourful display which last an extended flowering period (due to the utilisation of species from different countries). There are a number of mixtures available which can be used to produce different colour combinations. Telford utilise this method on roundabouts to great success, reporting a massively reduced cost initially and subsequent maintenance;

Meadows: £1.23 m<sup>2</sup>

Shrub beds: £1.28 m<sup>2</sup>

Bedding plants: £9.00 m<sup>2</sup>

Unsolicited public response of Telford residents is overwhelmingly positive, and the innovative method has put the Council ‘on the map’ when it comes to land management. Telford also report anecdotal evidence of reduced antisocial behaviour where



meadow areas have been introduced around housing estates and car parks.

Sheffield report that “this treatment of bland open spaces, brightened the local environment, encouraged positive interaction & ‘delighted’ the community. Biodiversity was increased as invertebrates colonised the areas, ultimately leading to increased bird activity, etc. Litter didn’t appear to be a problem, as it would generally collect around the boundary of a border & certainly didn’t increase.”



The advantage of Pictorial Meadows mixtures in urban landscapes is that they create big, impressionistic effects on the large scale at a cost effective price. Wherever the mixes are used the response is positive: they seem magnetic to children and adults alike. Maintenance is minimal and there is no ongoing continual mowing costs compared with for example a grass verge.

Note: Pictorial meadow mixes will need to contain an adequate proportion of species which are suitable for bees.

### Option 3 – Standard native meadow mixes

Suitable high nectar mixes to be utilised in marginal areas where there is less requirement for a ‘tidy’ appearance. Low maintenance and high value for the target invertebrate species (See Appendix I for an example mix).

These have been previously utilised within the authority to great success, for example within the Brunel Docks and Baglan Energy Park landscaping schemes.

The meadow areas are mown as standard amenity grassland over autumn and winter, up to a final cut in April. The meadows should be allowed to flower over the summer with a hay cut in mid-September.



### Option 4 – Ornamental planting



For areas in which a more formal appearance is desired, there are a number of native flowering plants which can be utilised which will provide a food source for pollinating insects whilst also maintaining the aesthetics of the area. Suitable species are summarised in Appendix II, these include native plants such as Heathers, Lavender and Rosemary.

## Landscaping Options

The four options summarised above can be (and have been) successfully accommodated within development. Research shows that public attitudes and perceptions of wildflower meadows are positive on the whole (pers comm.. Dempsey; pers. comm.. Dunnett). Bees, their decline, and the essential services they provide are regularly making headline news; this could be a good PR opportunity for your development.

Whilst it's likely that there may be concern for the perceived image of the area, the options above offer a reasonable and attractive alternative to the more formal landscaping schemes often adopted for regenerating areas. Appropriate interpretation could be utilised to raise awareness of the benefit and purpose of these areas.

## References

Nigel Dunnett – developer of Pictorial Meadows, Sheffield University.

<http://www.nigeldunnett.co.uk/>

Nicola Dempsey – carrying out research on public perceptions of wildflower areas.

[N.Dempsey@sheffield.ac.uk]

Dempsey, N. 2010. MP4 WP1.3 Transnational Assessment of Practice; Highways and green spaces, Telford. [http://mp4-](http://mp4-interreg.eu/cmsFiles/Case%20Study%20Highways%20and%20green%20spaces%20Telford%20010.pdf)

[interreg.eu/cmsFiles/Case%20Study%20Highways%20and%20green%20spaces%20Telford%20010.pdf](http://mp4-interreg.eu/cmsFiles/Case%20Study%20Highways%20and%20green%20spaces%20Telford%20010.pdf)

Sheffield Experience – Pictorial Meadows.

[http://www.warwickshire.gov.uk/corporate/RBCcomsys.nsf/120695309873fa1780256b1200463b76/9e4ef5524e7ff15f802576b600589c92/\\$FILE/SHEFFIELD%20EXPERIENCE%20Annex%201%20to%20Mins.pdf](http://www.warwickshire.gov.uk/corporate/RBCcomsys.nsf/120695309873fa1780256b1200463b76/9e4ef5524e7ff15f802576b600589c92/$FILE/SHEFFIELD%20EXPERIENCE%20Annex%201%20to%20Mins.pdf)

CABE case study. Manor and Castle Green Estate – Sheffield. <http://www.cabe.org.uk/case-studies/manor-and-castle-green-estate?photos=true&viewing=7380>

Pictorial Meadows. [http://www.pictorialmeadows.co.uk/local\\_authorities](http://www.pictorialmeadows.co.uk/local_authorities)

Telford & Wrekin Council. Wildflower Roads & roundabouts [http://wellington-](http://wellington-shropshire.gov.uk/Environment+and+planning/Parks+and+open+spaces/Wildflowerroadsandroundabouts.htm)

[shropshire.gov.uk/Environment+and+planning/Parks+and+open+spaces/Wildflowerroadsandroundabouts.htm](http://wellington-shropshire.gov.uk/Environment+and+planning/Parks+and+open+spaces/Wildflowerroadsandroundabouts.htm)

Olympic Parks 2010. <http://www.london2012.com/press/media-releases/2010/08/first-olympic-park-golden-wild-flower-meadows-in-bloom.php>

## Appendix I – suggested wildflower mix

To ensure the seed is responsibly harvested and sources, and are native, wild types (not cultivars), it is recommended that seed is sourced via Flora Locale ([www.floralocale.org](http://www.floralocale.org)) ; a registered charity which promotes the wise use and supply of native flora. It is suggested that the seed mix has a proportion of wildflower to grass species of at least 20:80. The mix should also contain species which are high in nectar and pollen, see below for examples;

### Wildflowers

<i>Achillea millefolium</i>	Yarrow
<i>Centaurea nigra</i>	Common Knapweed
<i>Centaurea scabiosa</i>	Greater Knapweed
<i>Daucus carota</i>	Wild Carrot
<i>Echium vulgare</i>	Viper's Bugloss
<i>Eupatorium cannabinum</i>	Hemp Agrimony
<i>Galium verum</i>	Lady's Bedstraw
<i>Knautia arvensis</i>	Field Scabious
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Malva moschata</i>	Musk Mallow
<i>Origanum vulgare</i>	Wild Marjoram
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Pulicaria dysenterica</i>	Common Fleabane
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Reseda lutea</i>	Wild Mignonette
<i>Rhinanthus minor</i>	Yellow Rattle
<i>Silene dioica</i>	Red Campion
<i>Stachys sylvatica</i>	Hedge Woundwort
<i>Trifolium pratense</i>	Wild Red Clover
<i>Vicia cracca</i>	Tufted Vetch
<i>Clinopodium vulgare</i>	Wild basil
<i>Odontites verna</i>	Red bartsia
<i>Thymus polytrichus</i>	Wild thyme
<i>Vicia sativa</i>	Common vetch

### Grasses

<i>Agrostis capillaris</i>	Common bent
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Briza media</i>	Quaking grass
<i>Cynosurus cristatus</i>	Crested dog's tails
<i>Festuca ovina</i>	Sheep's fescue
<i>Festuca rubra</i>	Slender-creeping red fescue
<i>Phleum bertolonii</i>	Smaller cat's tail
<i>Trisetum flavescens</i>	Yellow Oat grass

**Appendix II – ornamental planting**

Heathers	<i>Calluna</i> spp and <i>Erica</i> spp.
Lavender	<i>Lavandula angustifolia</i>
Harebell	<i>Campanula</i> spp
Bird's foot trefoil	<i>Lotus corniculatus</i>
Bluebell	<i>Hyacinthoides non-scripta</i>
Bugle	<i>Ajuga reptans</i>
Comfrey	<i>Symphytum officinale</i>
Common knapweed	<i>Centaurea nigra</i>
Crane's-bills	<i>Geranium</i> spp.
Dead-nettles	<i>Lamium</i> spp.
Everlasting pea	<i>Lathyrus</i> spp.
Foxglove	<i>Digitalis purpurea</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Lungwort	<i>Pulmonaria officinalis</i>
Marjoram	<i>Origanum vulgare</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Rock-rose	<i>Helianthemum nummularium</i>
Rosemary	<i>Rosmarinus officinalis</i>
Sage	<i>Salvia officinalis</i>
Scabiouses – Field and Devil's-bit in particular	<i>Scabiosa/Succisa/Knautia</i> spp.
Sea Holly	<i>Eryngium maritimum</i>
Teasel	<i>Dipsacus fullonum</i>
Thyme	<i>Thymus</i> spp,
Viper's bugloss	<i>Echium vulgare</i>
Water avens	<i>Geum rivale</i>
Wild raspberry	<i>Rubus idaeus</i>
Broom	<i>Cytisus scoparius</i>
Gorse	<i>Ulex europaeus</i>
Dogwood	<i>Cornus sanguinea</i>
Ivy	<i>Hedera helix</i>
Guelder rose	<i>Viburnum opulus</i>
Spindle	<i>Euonymus europaeus</i>
<u>Trees</u>	
Crab apple	<i>Malus sylvestris</i>
Elder	<i>Sambucus nigra</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Ornamental cherries avoiding complex blooms and NOT Portugal Laurel	<i>Prunus lusitanica</i>
Rowan	<i>Sorbus aucuparia</i>
Wild cherry	<i>Prunus avium</i>
Willows and sallows	<i>Salix</i> spp. – native varieties