

Welsh wild plants for landscape and biodiversity

Guidelines for planting projects
in the countryside

Promoting the restoration of wild plants for biodiversity, landscapes and people





These guidelines are aimed at the following groups involved in purchasing or using British wild plants, including:

Local government

County, District, Unitary and City Councils
Town or Parish Councils
National Park Authority
Area of Outstanding Natural Beauty management boards

Government agency or department involved in natural heritage conservation

Statutory undertaker/utility company

Supplier of British wild plant species

Private landowner or other landholder

Angling club
Developer
Business estate management company
Quarry or mining company
Farming or forestry business
Sporting business
Land agent

Consultant, contractor or professional adviser

Ecological or countryside
Environmental management
Gamekeeper, river keeper
Garden designer
Horticulture, park or open space management
Land agent
Landscape architect
Planning
Landscape design or management

Funder of natural heritage and landscape restoration projects including charitable trusts, business sponsors and public funding bodies

Conservation organisation

Community organisation, club, school

If your project follows the good practice guidelines within this booklet, contact *Flora locale* to promote your work. Projects that have used source-identified British wild flora can be put on to the interactive map on *Flora locale's* website. Log on to www.floralocale.org to see other projects around the country and request a proforma

Introduction

All over the British Isles and Ireland, people are literally 'going native'. On farms, in forests, city parks, suburban gardens, quarries and on roadsides – British wild flowers, trees and shrubs are being sown and planted on an unprecedented scale.

With pressure continuing on existing wildlife habitats and species, and an increasing public desire to be put in touch with wild places, these projects can make a real contribution to improving the environment for people and wildlife.

These guidelines are aimed at a range of organisations and individuals in the public, private and voluntary sector who:

- ✿ procure, undertake or specify work that involves planting or sowing
- ✿ own, manage or develop land or who provide advice and guidance to others who do
- ✿ provide grants to organisations for landscape planting, habitat creation and restoration
- ✿ produce and supply native seeds and plants.

Further detailed information to reinforce this guidance is available on-line at www.floralocale.org



The guidance provided by this document is intended to encourage a greater use of British and Welsh wild flora with good practice in its specification and supply, to ensure that the right plants are used correctly, in the right place



PLANTING FOR BIODIVERSITY



There is nothing wrong with Pansies, Peonies or Petunias – providing they are in the right place.

These garden plants and cultivated versions of wild species are best confined to garden environments in towns or villages, away from the open countryside and ecologically sensitive areas

Key principles

Recognise that habitat creation, and planting, are not acceptable substitutes for protecting existing sites of high wildlife value.

Consider the potential for natural regeneration – in some cases planting will be unnecessary.

Design your project well so that it can contribute to objectives laid down in your local biodiversity action plan. *You may need help from a qualified ecologist* when planning a project and to monitor its progress.

Plan ahead – allowing contractors sufficient time to obtain plants and prepare the site.

Where planting or seeding is necessary ...

... use species that:

- ✿ are appropriate to the location and project objective
- ✿ complement, rather than detract from, the area's natural countryside character and local distinctiveness.

... select seed or plants of appropriate origin:

- ✿ British-origin for projects in gardens or towns away from ecologically sensitive sites (Welsh origin where possible)
- ✿ regional or local-origin for projects in the wider countryside
- ✿ stock from a similar habitat nearby, for planting in or close to, ecologically sensitive areas, including islands.

Ask the supplier for written evidence of seed or plant origin (source-identification).

Do not plant non-native species or cultivated varieties in the countryside outside the curtilage of villages and towns.

PLANT USE AND PROCUREMENT

SOME CURRENT PROBLEMS

Currently, some of the 'native' trees and shrubs being planted in the countryside do not come from Wales, or other parts of Britain, but originate from countries with different climates to our own.

They may flower earlier than our native trees, be less frost hardy and often look different. Fortunately, there are several nurseries in Wales and the Welsh border counties that now specialise in collecting and propagating wild seed from Welsh woodlands – by supporting these local initiatives you can play your part in restoring wild Welsh trees to the countryside.

Some wild flowers and aquatic plants recently used for farm restoration and landscape projects also originate from non-native sources. Garden hybrids and other cultivated varieties are also increasingly being planted in rural areas.

This reduces the 'wildness' of the countryside, starts to erode local countryside character and introduces new risks to our native flora. Such mass plantings (although well-meaning) can be likened to the loss of high street diversity, with identical shop fronts replacing local stores throughout the country.

Cultivated Daffodil bulbs are cheap to buy, and are being planted on countryside road verges in large quantities, leading to the development of hybrid plants in nearby populations of Wild Daffodils.

Across Wales, it is usually garden varieties that are planted everywhere, rather than the dainty Wild Daffodil – the familiar emblem and native daffodil of Wales.

Multi-coloured garden Primroses are sometimes sold in garden centres – they are not, however, the genuine Wild Primrose that is found in woods and hedgebanks.

Some suppliers of wildflower seed, plants and trees do not provide sufficient information on the origin of their stock.

Some 'native' wildflower seed mixtures include species that do not grow in the wild in Britain. *Flora locale* is campaigning for suppliers to provide clear information to consumers by providing details of seed origin on labels and packaging. Suppliers committed to good practice are invited to sign up to *Flora locale's* Code of Practice for Supplying Native Flora.



Origin is the place in the wild from which the original seeds or plants were collected.

This is not to be confused with *provenance*, which is often the location of the nursery where seeds are produced or plants grown

GUIDANCE ON PLANTING FOR BIODIVERSITY

This document covers:

- ✿ all vascular plant species native to the British Isles, (Welsh where possible) including herbaceous plants, grasses, trees and shrubs, climbing plants, sedges, rushes and ferns
- ✿ entire plants, seeds, rhizomes, bulbs, corms and cuttings

Seeking advice

When designing or considering a project, professional advice may need to be sought from a qualified ecologist or other expert with a good knowledge of British plant communities. This expert may also be retained to monitor and audit major planting schemes or restoration programmes.

Advice should be sought from the country nature conservation agency if the planting scheme is to take place close to or within a Site of Special Scientific Interest (SSSI) or European protected area¹. Any work likely to affect a SSSI or European protected area *must* be subject to written prior approval from the relevant agency.

If appropriate, the local Wildlife Trust or other local conservation body should be consulted.

Wild plants and the law

The collection of all plants and some seed from the wild, from certain protected sites and public land is subject to a number of laws. For instance, it is illegal to uproot any wild plant without permission from the landowner, while authorisation from the relevant Government agency is required for marketing registered grass and fodder species, trees covered by Forestry Reproductive Material regulations and wild Bluebell. A summary can be found in *Flora locale's* advisory note *Guide to seed collecting and the law*. It is also illegal to plant some species in the wild.

Protecting existing sites of heritage value

Habitat creation should not be accepted as a substitute for protecting an existing site of high wildlife value.

Planting of any kind should not damage a site that supports habitats or wild species of nature conservation importance, or features of archaeological, historic or cultural heritage value¹.

Generally, seed and plants should not be introduced from elsewhere if the site holds an important semi-natural habitat such as native woodland, a species-rich hedgerow, aquatic habitat, heathland or wildflower grassland, unless deemed essential for ecological restoration. Where

planting or sowing is considered essential, planting stock should be sourced from a similar habitat nearby wherever possible (see table *Sourcing native flora* opposite).

Seed may need to be collected and multiplied in cultivation to provide sufficient planting stock.

Wild seed or plant collection can be advocated (e.g. brush-harvesting seed from native grassland) where this is considered sustainable and a suitable donor site is available.

Any planting that has the potential to damage an existing wildlife site or feature should be subject to an appropriate prior ecological assessment carried out in accordance with current guidelines published by the Institute of Ecology and Environmental Management (www.ieem.net). Best practice in evaluating such assessments should also be implemented.

Where a wildlife site has suffered erosion or other damage, measures should be taken to address the causes and adopt appropriate management (e.g. reduce the number of grazing animals or manage public access) before considering re-seeding or planting the damaged area. Any essential works (e.g. for health and safety) likely to cause damage to features of wildlife, historical or cultural interest, or which are subject to planning permission or a planning condition, should follow best practice techniques that will avoid or minimise damage (e.g. turf removal and its subsequent re-instatement).

Old trees, even if dead, are of great wildlife, cultural heritage and landscape value. They should be retained and their protection incorporated into green-space landscaping schemes and development briefs.

Scheme design and planning

The design and detail of soft landscaping projects should be agreed well ahead of the expected planting date. This allows suppliers time to collect and multiply suitable stock if required. A supplier should be selected who can identify the origin of their stock.

Landscaping proposals for a development should be requested and agreed sufficiently in advance.

¹ See www.magic.gov.uk

Planting and seed-sowing should be carried out under optimal conditions for plant establishment and survival, using methods to ensure maximum rates of seed germination, plant growth and survival.

Before proceeding evaluate any existing (or proposed) use of the site or adjacent land, such as public recreation.

Project proposals should go no further than the drawing board without first securing resources and a commitment to implement the land or vegetation management necessary post-establishment. To this end an agreed scheme of management will need to be drawn up, agreed and fully costed as part of the project design.

There may be opportunities for community involvement in planting schemes. Consider this where practicable.

Choosing species

It is fundamental to choose appropriate species and the first step is to identify the plant community that is to be achieved. This will need to be appropriate to the project purpose, site conditions and geographical location. Key factors that will influence the choice of species that will grow are physical conditions of the site, especially the soil characteristics (e.g. well or poorly drained, lime-rich, neutral or acid) and climate. The latter is influenced by altitude, site aspect, latitude and exposure, such as proximity to the sea.

It is also important to select native species that are typically found growing in semi-natural habitats in the locality. By doing this you will be reinforcing the character of the local landscape and its biodiversity.

'Weedy' species and those outside their natural range should be avoided. Threatened and rare species should be selected only if their introduction is part of a species recovery project. Be aware that annual wild flowers, such as Poppies and Cornflower won't persist unless the land is cultivated every year.

Do plants need to be introduced? In some cases, natural colonisation can work well and is an inexpensive approach, such as for new wetlands.

Origin of planting stock (see table below)

Flora locale's guidelines in this section are derived from the results of recent research into ecological genetics. The aim of considering origin of planting stock is to select, wherever possible, ecotypes that are most likely to be well-adapted to the conditions on the planting site. Further detail on genetic research, and guidelines on selecting planting stock (such as Ash and Oak), is available for some individual species through links on *Flora locale's* website.

Natural colonisation is a valid approach for restoring some damaged wildlife sites or quarry workings where weed-rich topsoil has been removed. Natural colonisation can be given a helping hand (e.g. by strewing locally collected seed or planting willow cuttings taken from nearby wetlands).

Any wild flowers, trees and shrubs to be planted or sown should be of appropriate origin to the site, its biodiversity and landscape context, as recommended by *Flora locale* or other competent authorities such as the country nature conservation agency or the Forestry Commission.

SOURCING NATIVE FLORA

Site location	Suitable origin for native plants and seeds				Key:
	Britain (Wales where possible)	Climatically similar British or Irish region	Similar habitat nearby	Natural regeneration where feasible	
Formal parks and gardens	✳	✓	✓	✗	<p>✳ Best option</p> <p>✓ Acceptable (may be more practical)</p> <p>✗ Not usually advised</p> <p>Note: a similar approach to plant sourcing should be followed for projects in other countries.</p>
Urban, suburban and industrial areas	✳	✳	✓	✗	
Farmed landscape e.g. new farm woodlands and hedges, quarry restoration	✗	✓	✳	✓	
Ecologically sensitive areas e.g. the coastal fringe, near special sites, priority habitats, biodiversity hotspots	✗	✓	✳	✳	
Special sites e.g. SSSIs	✗	✗	✳	✳	

Planting stock of native species should be at least of native origin (timber tree species of wild provenance) to the country, island or broad climatic zone within Britain or Ireland where the planting is to take place.

Where the planting site is close to, or within, an ecologically sensitive site or area, planting stock of local origin should be used (timber trees of local provenance). Alternatively, and if feasible, the site should be managed to promote natural regeneration (e.g. for ancient woodland restoration). It can be more important to select stock by habitat, if this is possible, and this approach is recommended for grassland creation or heathland restoration schemes where existing core sites are to be expanded by habitat creation.

For plantings in the countryside, seed or plants will ideally originate from within the same climatic region as the planting site, as informed by local countryside character maps, the Forestry Commission's Map of Local Seed Zones and local knowledge (see Biogeographical Region Maps on www.floralocale.org). These maps can be used as a basis to select an area of search, which will need to widen if planting stock is not available from close to the planting site.

Contract-collect-grow from named localities may be an option, but the majority of project timescales will be too short for this. Using volunteers to collect seed and grow on at home or in allotments can add value to conservation projects and improve public understanding about wild plants.

Fodder varieties of some wild flowers, such as Bird's-foot Trefoil, Sanfoin and Fodder Burnet are prevalent in many grassland seed mixes, and should be avoided.

It is vital that, when talking to the supplier, the parameters for sourcing planting stock are clearly defined and agreed.

Form

Plant form (e.g. size of plant, seed or plug plant) should be appropriate to the site, species, project requirements, available budget and the level of management available post-establishment.

For plug plants, trees and shrubs, the Horticultural Trades Association's National Plant Specification can be consulted (see www.gohelios.co.uk/NPS.htm). However, each supplier may have stocks in limited sizes and forms and this needs to be taken into account when ordering stock. Plug plants require a lot of care, are expensive and often unsuitable for the majority of large-scale projects.

Planting ponds and other aquatic habitats

Natural colonisation is the preferred approach for aquatic habitats, other than urban ornamental plantings, especially for large sites such as flooded gravel workings and new fishing lakes. This will reduce the risk of importing non-native planting stock from aquatic plant nurseries. (Invasive



non-native species currently pose one of the biggest threats to global biodiversity.)

If considered necessary, native species of known origin (preferably local) should be introduced using a few plants to inoculate the site. Sustainable collection and propagation of wetland plants (e.g. reed rhizomes) from specific locations can be considered where feasible (e.g. for reedbed creation projects).

Only plants propagated from British native stock should be used or permitted for projects involving the introduction of free-floating or rooted deep-water aquatic plants. Water lilies are an exception where they are to be planted in ornamental ponds in urban soft landscaping. However, the use of British native aquatic plants is preferable.

Any nursery-grown stock should be pre-washed away from wetland areas to remove all soil and fragments of invasive species that may be present on the nursery site, such as New Zealand Swamp Stonecrop.

Non-native species

The use of other non-native species and cultivars of native species, should be confined to:

- ✿ ornamental landscaping where visual objectives take a precedent over wildlife ones and where the planting

site is intensively managed and 'contained', such as in a formal park or garden

- ✿ difficult urban sites where certain non-native species have a useful role alongside native ones in site remediation (e.g. for contaminated land)
- ✿ projects where a non-native species is used as a 'nurse' (e.g. wheat for native tree seeding or for cornfield wildflower landscapes)
- ✿ certain non-aggressive agricultural cultivars of grasses used for grassland creation schemes in urban areas or in locations that are not ecologically sensitive; the chosen cultivars should be ones that have previously been widely introduced into the farmed landscape
- ✿ certain introduced tree species that have a long association with a locality and contribute to its particular landscape character (excluding Sycamore in areas where this is an invasive species in native woodlands).

Non-native species and cultivars, such as Daffodil cultivars, Tulips, Spanish Bluebell and Polyanthus should not be planted in woodlands, semi-natural habitats, on road verges or other land outside the built-up areas of towns and villages.

It is illegal to plant some species in the wild.

Auditing and quality assurance for corporate projects

Large-scale projects, such as planting on new highway verges, should be properly supervised and monitored for an appropriate time after planting. This may require a resource commitment, which should be included in contracts or developer's agreements.

Large projects may require a well-documented audit trail. Audit procedures can be managed by incorporating them into relevant Environmental Management and Quality Systems.

If seed is used samples should be retained for testing, should queries arise.

Suppliers can be requested to provide evidence on the origin of their planting stock ('source identification').

It is recommended that companies undertaking substantial numbers of large projects adopt quality assurance procedures for native flora projects. These should cover:

- ✿ source identification of plants and the ability to check the supply chain
- ✿ plant quality
- ✿ site preparation, planting and post-planting management
- ✿ monitoring procedures: plant survival and site condition for up to three years post-establishment.

Further guidance on plant quality and handling is available from the Horticultural Trades Association.

Integration with existing policy and practice

Major companies, local authorities, voluntary bodies and regional development agencies should integrate the principles in this guidance document into:

- ✿ Best Value procedures
- ✿ Environmental Management Systems (EMS)
- ✿ other relevant policies (e.g. procurement of goods and services)
- ✿ Community Strategies
- ✿ relevant Supplementary Planning Guidance
- ✿ development plans and frameworks.

Local authorities and regional development agencies are strongly recommended to employ a professional ecologist; this person can help to ensure that biodiversity considerations (including statutory obligations) are integrated into departmental activities and policies. Both corporate and individual membership is available for the Association of Local Government Ecologists (ALGE) – which supports professional officers in local authorities and national parks. See www.alge.org.uk for details.

Planting and translocation for species recovery

Guidelines produced by the Joint Nature Conservation Committee should be followed. See *A Policy for Conservation Translocations of Species in Britain* available at www.jncc.gov.uk/page-2920

Further information on www.floralocale.org

More detailed information on most of the aspects covered in this guidance is available on *Flora locale's* website, including advisory notes (see current list on back cover) and unpublished documents such as *Planting with wildlife in mind: Planting strategies for ecological restoration and habitat creation* (Technical Note), *Obtaining planting stock for habitat creation projects* (web page with links) and a list of suppliers. Use the search box or go straight to Knowledge Zone/Online Library to look for information on habitat creation, planting, seed, plug plants, sourcing, genetic conservation and much more.

Other key references

- Natural England. 2008. Higher Level Stewardship. Farm Environment Plan (FEP) Features Manual. Technical guidance on the identification, condition, assessment and recording of HLS/FEP features.
- Graham White and Jo Gilbert (Eds). 2003. RSPB. *Habitat Creation Handbook for the Minerals Industry*. ISBN 1 901930 37 8. £24.99 from RSPB, order from 01767 680551.
- Landlife. *Wildflowers Work, Woodland Wildflowers Work, Topsoil Inversion: breaking new ground in forestry* plus lots of information on plant species and establishment methods. See www.wildflower.org.uk, tel: 0151 737 1819.
- Mike Oxford. 2000. *Developing Naturally: A handbook for incorporating the natural environment into planning and development*. Association of Local Government Ecologists. £31.25 from Mike Oxford, PO Box 1164, Pensford, Bristol BS39 4YB.
- Oliver Gilbert and Penny Anderson. 1998. *Habitat Creation and Repair*. Oxford University Press. ISBN 0 19 854966 0.
- RSPB. Various handbooks and guides covering different habitats, including heathlands, wet grasslands, reedbeds and other wetlands. See www.rspb.org.uk/ourwork/conservation/managingreserves/habitats/index.asp
- The Scottish Office. 1998. *Cost Effective Landscape: Learning from Nature. Landscape Design and Management Policy. A roads, bridges and traffic in the countryside initiative*. £15 from the Stationery Office. ISBN 0 7480 5863 X.
- Association of Local Government Ecologists and British Standards. *PAS 2010. Biodiversity conservation standards for planning in the United Kingdom, Code of Practice*. (<http://eshop.bsi-global.com>)

CASE STUDIES



Case Study 1:

Salix River and Wetland Services and The Welsh Assembly Government

Nearly 1 km of new and existing channel was enhanced as part of a flood protection project in the centre of historic Pembroke, South Wales. The upper reach of this small stream previously ran in a confined concrete U channel and provided little ecological or landscape value. A new sinuous channel was created, stabilised and enhanced using bioengineering techniques. Coir rolls, pre-planted with a seed mixture suitable for the site were installed to establish marginal vegetation and prevent bank scour. The stream banks were sown with a local wildflower mix and protected with a biodegradable erosion control blankets. The new channel reduces flood risk, and provides an improved wildlife habitat and landscape feature in the town.

Case Study 2:

The Shakespeare Link Theatre Company's wild meadow

Attributed to Phil and Sue Bowen, and Ursula Bowen

The Living Willow Theatre is a scaled-down living version of the Globe Theatre in London. The owners of the theatre wanted to re-create an appropriate setting for the theatre – in Shakespeare's time wild meadows were everywhere. Wildflower-poor grassland beside the theatre was stripped of topsoil before native wild flowers and grasses were introduced using plug plants and seed. Volunteers are also helping to propagate more plugs from seed. The area will be cut in mid-summer, just like a hay meadow. This will encourage the wild flowers to spread.



Case Study 3: Brecon Beacons National Park

An exciting project is developing within the Brecon Beacons National Park. A seed harvester owned in partnership with Montgomeryshire Wildlife Trust and Powys County Council is being used to harvest seed from traditionally managed species-rich grasslands identified within the National Park. This local wildflower seed is then available to landowners who are enhancing their wild meadows. This method of collecting and distributing local seed, ensures that all of the seed is native to the area where it is to be used, it also reduces costs involved in purchasing wildflower seed and therefore, gives more landowners the opportunity of improving the habitats and increasing the numbers of wild flowers in the countryside. Once established, restored meadows can themselves be harvested, increasing the availability of seed, the value of the meadow and providing an additional farm income.



Case Study 6: Native trees for Powys

This project aims to increase the use and awareness of native trees in Powys. With funding from the EU Leader+ programme for Powys and mid-Wales, the project provides support for growers in Powys supplying seedlings grown from locally collected stock and promotes the planting of appropriate locally-sourced native trees. Further information and a list of local growers participating in the project is at www.nativetrees.org.uk.



Case Study 5: Transport and strategic regeneration

Welsh Assembly Government with contractors (Nuttalls/Hyder) and consultants (Parsons Brinckerhoff/White Young Green)

When the new bypass to the town of Talgarth in Powys was constructed, it was decided to sow the cutting and embankment slopes with a species-rich wildflower mix. This was harvested from a high-quality meadow nearby. The seed was harvested in July '06 and sown after cleaning in August and September '06; and is starting to produce new areas of wild flowers. There were issues relating to slope stability at one location, but these have been solved through providing improved drainage.



Flora locale Advisory Notes are free to download from www.floralocale.org

General

- ✿ Discover wild plants
- ✿ Designing and planning a project
- ✿ Planting and sourcing strategies for native flora
- ✿ Planting strategies for ecological restoration and habitat creation
- ✿ Who can supply native flora?
- ✿ Code of practice for collectors, growers and suppliers of native flora
- ✿ Buying native flora
- ✿ Types of native plant material available
- ✿ Seed collecting and the law

Woodland

- ✿ Enhancement of amenity woodland field layers in Milton Keynes
- ✿ Creating woodlands naturally
- ✿ Restoring ghyll woods

Wetland

- ✿ Reed propagation
- ✿ Planting near watercourses

Grassland

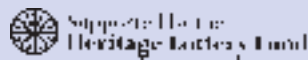
- ✿ Sources of advice and information
- ✿ Collecting and using brush harvested seed
- ✿ Spreading forage-harvested grass from a hay meadow
- ✿ Creating wildflower meadows on improved agricultural grassland sites
- ✿ Spreading green hay
- ✿ Managing recently created grasslands
- ✿ Obtaining native seed
- ✿ Sowing wild flora seed
- ✿ Enhancing the floral diversity of semi-improved grassland
- ✿ Methods of collecting seed from native grasslands
- ✿ Restoring wildflower grasslands in Wales
- ✿ Grazing for wild plants and biodiversity

See also *Flora locale's* new website dedicated to wildflower grasslands: www.wildmeadows.org.uk

Other

- ✿ Harvesting and using heather seed
- ✿ Using native flora for quarry restoration
- ✿ Planting road verges
- ✿ Wild plants and your village green

This publication was supported by:



Flora locale seeks to restore wild plants and wild-plant communities to lands and landscapes across the UK, and by this means raise the biodiversity, environmental quality and enjoyment of town and countryside

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