

Creating woodlands naturally

ADVISORY NOTE



Self-sown hazel



Red Campion, a common species of light shade

Photos: Paul Glendell/English Nature

Creating new woodlands, or restoring old ones, does not have to involve planting trees. Natural regeneration or direct seeding can work equally well, if conditions are right.

Even on land with large deer populations, trees will establish very quickly if there are adjacent seed sources such as old hedges or woodland.

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Creating woodlands by natural regeneration

This is the cheapest, most environmentally, wildlife-friendly method to establish a woodland on open ground where there is an adjacent seed source, such as a hedgerow or woodland containing a good variety of trees and shrubs.

Ideal sites are field corners and field edges adjacent to old woods where there is heavy seed fall.

Site preparation

Break up the plough pan

If the site is on heavy soil and coming out of arable production it should be ploughed or subsoiled to break up a plough pan. (A soil pit can be dug to check for the presence of a pan.)

Create a seedbed

It is essential to produce a weed-free level seedbed. Ex-arable sites and agriculturally improved grasslands should be disced and repeatedly harrowed during the spring and summer to reduce successive flushes of weeds and to produce an even seedbed. (Existing vegetation and weed regeneration can also be controlled by applying a total-kill herbicide.) Creating clean, open ground will provide optimal conditions for seedling establishment in the initial years, before ground vegetation attains full cover.

Natural regeneration of oak in an abandoned field



Self-sown willow next to a planted tree next to an ancient woodland site. This is an example of where natural regeneration should have been encouraged

Bluebells established by seeding in a created woodland, Milton Keynes



Woodland wild flowers and ground cover

The open ground can be inoculated with light-loving woodland wild flowers. Ideally, seed should be collected from adjacent woods. Bluebell, Primrose, Red Campion, and woodland grasses are examples of species that can be sown. Sow in known patches so these areas can be identified if a herbicide is later used. A light sowing of Chewings Fescue will also help to reduce the quantity of undesirable weeds that may grow from the seedbank.

Species composition

Species which colonise a site will reflect the species present in nearby woodland. At first, those species which are better colonisers will dominate.

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A helping hand – adding seed

Natural regeneration can be assisted by collecting seeds of trees and shrubs and dibbing the seeds into the ground in a random pattern, preferably in the first or second year when the vegetation is still open (small seedlings need light to survive). Grazing-tolerant thorny shrubs, such as Blackthorn, Wild Rose and Hawthorn can be encouraged as "nurses" in lowland areas and will also provide good nectar sources for insects. By adding seed it is possible to manipulate the species-composition of the new woodland. However, the species added should always be appropriate to the location, soil and other site conditions. Be aware that not all the seed will germinate and that it may take up to three years for some seeds.

Cuttings taken from local trees can also be planted. Grey Willow can be easily established by cuttings and is excellent for wildlife*.

Creating woodlands by direct seeding

Direct seeding gives more choice regarding woodland design and is more reliable on sites where there are no adjacent seed sources.

Seed can be purchased (only source-identified native seed of appropriate origin) or collected from local woods.

There will be some loss through predation, and a proportion may not be viable. These factors must be accounted for when calculating the quantities of seed to be sown.

Sowing seed

Sites of a hectare or more can be mechanically sown. Sow the larger seeds first as they need to be deepest. If the slope is suitably shallow, a broad bean drill or cabbage planter can be used. Smaller seeds can be broadcast using a fertiliser spreader and the ground subsequently rolled (use a Cambridge "crinkle" roller) to bring the seed into contact with the soil surface. Steep slopes will have to be sown by hand.

Purchased seed should be pre-hardened by the supplier, then sown in February or March to reduce loss from predation. Much of this seed should germinate in the spring. Locally collected seed of non-storable species (e.g. hazel, oak) must be sown as soon as possible after collection in the autumn. Sow other seed with these species to save time.

Perching posts for birds

Erecting perching posts, or strands of wire stretched between posts will encourage seed-eating birds to perch; seeds in their droppings will fall to the ground – hastening the process of natural regeneration. This technique is ideal on sites that are further away from seed sources. Tree branches can also be used and will rot down in time.

Animals and birds bury nut-like seeds, such as acorns and hazelnuts. These often grow into trees as many larders are forgotten!



Wild rose haws are easy to collect and sow to enhance the diversity of a new wood

Weed control in the early years

Initially, the ground will be colonised by annual and biennial weeds. During the first few years the vegetation should be regularly topped to prevent biennial and tall weeds from setting seed and becoming dominant. Creeping thistle should be removed by using a chisel hoe in May, or by spot-spraying with a suitable weedkiller. Other undesirable perennial weeds should be cut or spot-sprayed, but will reduce over time providing the vegetation is topped regularly. Trees should be avoided by the strimmer or mower.

After this time, the ground cover should be left to allow the tree seedlings to grow above the height of this vegetation. The need for weed control will vary between sites, and will often be needed for three or more years.

Invasive species

Unwanted invasive species should be removed at an early stage. For instance, Sycamore, if present in adjacent woods, is likely to colonise and dominate if not removed. Developing woodland should be monitored to ensure that invasive species do not establish.

* Cut stems of 1–3cm diameter in late winter and hammer into the ground, leaving 20–30cms above ground, or root the cuttings in water before planting out later in the spring.

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Protection against grazers and browsers

Pressure from deer, rabbit or farm livestock may be a problem. Consider boundary fencing and other methods of control as appropriate. Advice is available from the Forestry Commission.

Expectations

Woodland creation should be seen for its long-term benefit. Do not expect an instant woodland! The early stages of woodland colonisation – when open ground and low shrubs dominate – provide extremely valuable scrubby habitats for woodland-edge birds, butterflies and insects.

Cross-compliance

A condition of cross-compliance is to keep land “in good agricultural condition”. *Flora locale* is pressing the UK government to permit derogations where landowners wish to set-aside land for natural colonisation of woodland.

Further information

Flora locale's website: www.floralocale.org – for information on using native flora, case studies and suppliers of source-identified trees and shrubs.

Conservation Volunteers Northern Ireland. *Our trees: A guide to growing Northern Ireland's native trees from seed*. £5 from CVNI, 159 Ravenhill Road, Belfast BT6 0BP. Tel: 02890 645169.

Gwynedd Council/Countryside Council for Wales. *Growing native trees from seed. A guide to growing native broad-leaved trees and shrubs from seed*. ISBN 186169 061 4. CCC 157. Tel: 01248 385500 to order (free).

Forestry Commission Local Seed Zones map: [www.forestry.gov.uk/website/pdf.nsf/pdf/provmap.pdf/\\$FILE/provmap.pdf](http://www.forestry.gov.uk/website/pdf.nsf/pdf/provmap.pdf/$FILE/provmap.pdf)

Herbert, R. et al. 1999. *Using local stock for planting native trees and shrubs*. Forestry Commission.

Harmer, R. 1999. *Using natural colonisation to create or expand new woodlands*. Forestry Commission.



English Nature/Peter Wakely

And finally ...

Both natural regeneration and direct-seeding are valid methods of woodland creation, in the farmed landscape, where woods are for wildlife, landscape benefit and public enjoyment.

Harmer, R. 1999. *Creating new native woodlands: turning ideas into reality*. Forestry Commission.

Harmer, R. and Gill, R. 2000. *Natural regeneration in broadleaved woodlands: deer browsing and the establishment of advance regeneration*. Forestry Commission.

National Urban Forestry Unit. *Creating woodlands by direct seeding*. Leaflet. See www.nufu.org.uk or call 01902 828600. www.british-trees.com/guide/home.htm – information on propagating and growing native trees.

The Tree Council. 2000. *The good seed guide: all you need to know about growing trees from seed*. £3.50 from The Tree Council, 51 Catherine Place, London SW1E 6DY.

www.treecouncil.org.uk for information on tree planting and native trees, including a seed gathering chart.

Acknowledgements

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For further advisory notes, case studies, guidelines for planting projects in the countryside, training opportunities and suppliers of native flora, go to www.floralocale.org



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