Scottish Forestry
Coilltearachd na h-Alba

Draft

Lower Denholm Dean Management Plan
2025 to 2035

Scottish Forestry is the Scottish Government agency responsible for forestry policy, support and regulation

S e Coilltearachd na h-Alba a' bhuidheann-ghniomha aig Riaghaltas na h-Alba a tha an urra ri poileasaidh, taic agus riaghladh do choilltearachd

Scottish Government
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DEAN MEMORIES
PAST

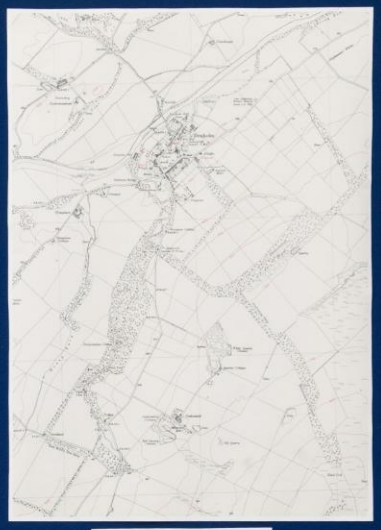
PAST

A prehistoric earthwork some 235ft by 155ft once stood near the south entrance to the Dean but the bank has eroded and in part collapsed, the outside ditch filled in and the site is now completely overgrown.

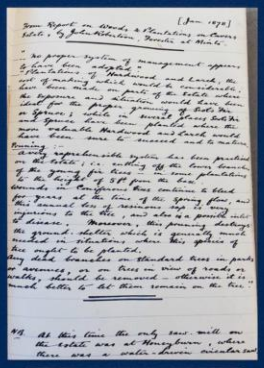
The legendary Leyden's Tree stood near Peden's Vale which was downstream from Denholmdean Cottage.

The Devil's Tree was a big ash tree near a path into the Dean at Little Ruhwood. By 1938 the trunk was 21 feet in diameter and it had lost many of its branches. Tales were told of the "Evil One" rattling his chains.

The King of the Dean was in the Lower Dean and was said to have been carried away by a great flood in August 1806. The Queen nearly survived another century before being cut down.

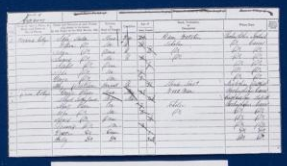


Part of ORDNANCE SURVEY Roxburghshire Sheet NXVIII
Revised 1938 Published 1949



In the 19th century and the first half of the 20th the Dean was managed as part of the Cavers Estate woodlands. A report written in 1879 was highly critical of the planting and pruning carried out in Cavers woods and plantations at that time.

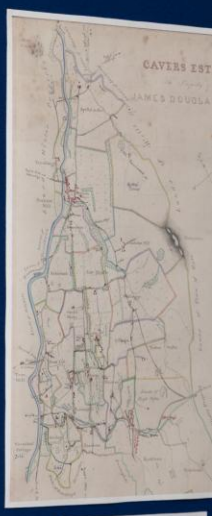
In 1881-82 trees from Denholm Dean were included in a sale of estate timber uprooted in the storm of 1879 that destroyed the Tay Bridge. Amount the same time a large quantity of oak bark from the lower end of Denholm Dean was sold to a tannery in Jedburgh for £190.



1851 Census Returns for Woodside and Dean Cottage

Woodside and Dean Cottage were occupied by estate workers such as woodmen, foresters, sawmillers, hedgers and game-watchers. 1939 terms of engagement show estate woodmen were paid 35s. (£1 75p) for a 50 hour week and were supplied with four loads of sawn logs a year.

They had to sweep the kitchen chimneys of their tied cottages four times a year, flush out cisterns every spring and clean rain pipes of leaf mould in December and May. They had the right to kill rabbits and hares but had to preserve game birds and co-operate with the keepers.



JUNE

Ferns

JULY

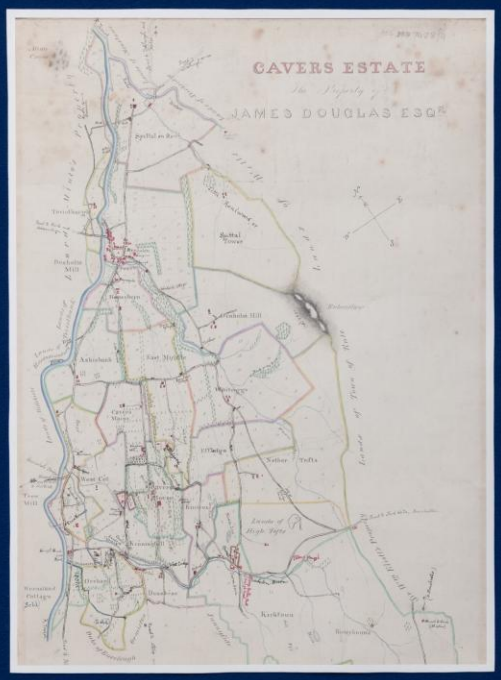
ENCHANTER'S NIGHTSHADE (*Circaea lutetiana*)

This rather insignificant plant is not in the same plant family as other nightshades, but is a member of the fuchsia and willowherb family. It derives its botanical name from the enchantress Circe of ancient Greek mythology, known for her knowledge of herbs and magic.

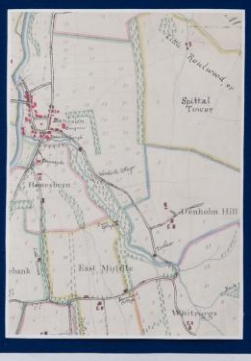
It is unusual in having a flower with only two petals, deeply notched, and two long stamens. Other willowherb flowers have four petals.

It is a food plant for many insects and, like other willowherbs, its leaves are a favourite food source for the caterpillar of the elephant hawkmoth.

Enchanter's Nightshade grows to about 70cm tall and forms clumps in damp shady woodland areas – such as on the left just over the second bridge in the Lower Dean.



19th Century Plan of Cavers Estate in the time of James Douglas, Laird of Cavers 1815-61. Douglas of Cavers Papers Acc/7488/2 Courtesy of the National Library of Scotland



Denholm Dean was part of the lands granted to the Douglas family of Cavers in the 14th century. For the next few centuries it would be used for hunting deer and shooting game.

In 1664 Sir Archibald Douglas granted land for houses and garden ground in Denholm and many Cavers folk moved there to set up new homes. Links between the two villages remained strong and the path through the Dean was well used over the next few hundred years.

John Leyden, poet, linguist and scholar, was born in Denholm in 1775 but spent most of his boyhood a few miles away in Henlawshiel near Nether Tofts. He often walked and lingered in the Dean and loved the steep, densely wooded glen and its winding burn. It was to be a source of inspiration for his "Scenes from Infancy" celebrating Teviotdale.

"When in these wilds a jocund, sportive child,

Each flower, self-sown my heedless hours beguiled."

Local Covenanters of the 17th century found shelter and hiding places in the Dean to escape persecution. They would gather to worship secretly with the forbidden preacher, Alexander Peden, at a hidden spot known as Peden's Vale a few hundred yards downstream from Denholmdean Cottage. The Douglas family were staunch supporters of the Covenanting cause and the Cameronian sect that developed from it.

PRESENT

MICHAEL BRAITHWAITE AND THE LOWER DEAN

In 1981, the Lower Dean was bought by Michael Braithwaite, highly respected botanist and Berwickshire County Recorder for the Botanic Society of the British Isles (BSBI).

His Woodland Management Plan (see right) shows that his intention was a phased thinning and eventual extraction of all of the non-native conifers in the Lower Dean, estimated as 812 trees in 4.13 acres, many of which had been planted in the early 1970s. He also planned the removal of sycamore (a non-native broadleaf) from developing patches of "deciduous scrub".

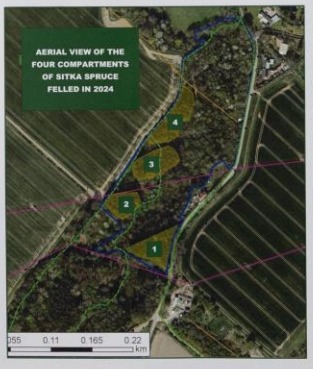
The plan also shows his choice of replanting species:

Species	Common name	%
Quercus robur	Oak	10
Alnus glutinosa	Alder	5
Ulmus glabra	Wych elm	15
Fraxinus excelsior	Ash	20
Betula pubescens	Downy birch	5
Sorbus aucuparia	Rowan	5
Prunus avium	Gean, wild cherry	5
Viburnum opulus	Guelder rose	5

The remaining 30% of the area was to be open grassland.

Many of the trees, such as these birch trees planted above the Dean burn, are now in excess of thirty years old. They survived the recent spruce felling and will hopefully have access to more light and achieve a more natural shape.

FELLING



In 2019, Michael Braithwaite gifted the Lower Dean to the trustees of the Denholm Feuars and Householders Council (DFHC) to be used as *"an amenity for the inhabitants of the village of Denholm and a haven for wildlife"*. Michael specified the removal of the remaining non-native conifers and their replacement with native broadleaves as a management priority. The Denholm Dean committee was set up for the purposes of arranging the felling, re-stocking and future management of the community woodland.

Application to Scottish Forestry for a Felling Licence was made in early 2024. By this stage the remaining spruce trees were in a poor condition, having grown beyond prime commercial size and being badly damaged by the Great Spruce Bark Beetle.

Great Spruce Bark Beetle
(Dendoctronus micans)

First discovered in Great Britain in 1982, these beetles damage spruce trees by tunnelling into the bark to lay their eggs. Larvae feed on the inner woody layers, weakening and potentially killing the tree.

Damaged Sitka spruce tree. Lower Dean, June 2024.

The licence to fell was granted and felling started in June 2024.

PREPARING FOR REPLANTING – SUMMER AND AUTUMN 2024

Once the site was safe after the felling had finished, a group of local volunteers joined some members of the Dean Committee and set to work clearing brash and preparing the area for planting towards the end of the year. We were fortunate in having the help and support of the Borders Forest Trust and their regular volunteer team.

Local volunteers, supplemented by the Borders Forest Trust Volunteer Team, set to work to clear the first felled area. July 2024.

The central area before clear-up. July 2024.

Felled area before brash clearing. July 2024

Brash added to consolidate the steep slope beyond the second bridge. July 2024.

The Woodside brash mountain. July 2024.

Brash collection. September 2024.

JUNE 2024 – FELLING, FORWARDING, HAULAGE

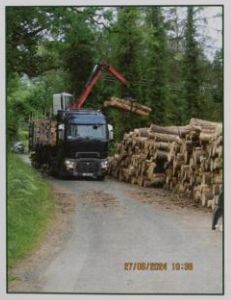












REPLANTING -

AUTUMN/WINTER 2024

Restocking of the felled areas started in November. The planting density and species chosen were conditions of the Felling Licence – native trees at a density of 1600 stems per hectare.

Since Michael Braithwaite planned his woodland restoration in 1981, elm and ash have been severely affected by disease. The restocking species chosen in 2024 were oak, birch, hazel and hawthorn, all naturally occurring in the Lower Dean, with the addition of aspen, considered to be a species which could mitigate the loss of ash. These species are all well-suited to the local soil and climate.

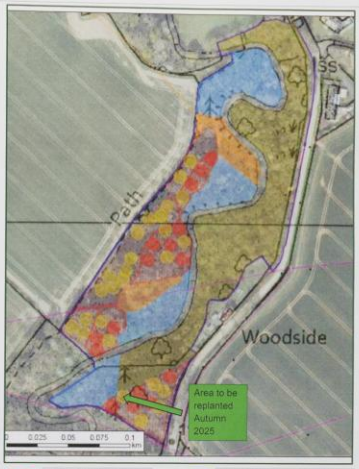
Aspen leaves flutter even in the lightest wind, hence its popular name – the quaking aspen.

Aspen spreads easily and is ideal for regenerating woodlands. The trees are connected underground by their roots, forming some of the largest living organisms in the world, and they are particularly useful for consolidating sloping ground. Their ability to support birds and insects make this a key species for biodiversity.

The replanting plan aimed to mimic natural regeneration by planting groups of a single species in concentric circles with a radius of 5 metres.

Oak was planted in the flatter areas, transitioning to birch and aspen up the slopes with the shrubbier species, hazel and hawthorn, close to the paths and under power lines.

Volunteers working out tree spacing using marked ropes from a central stake.



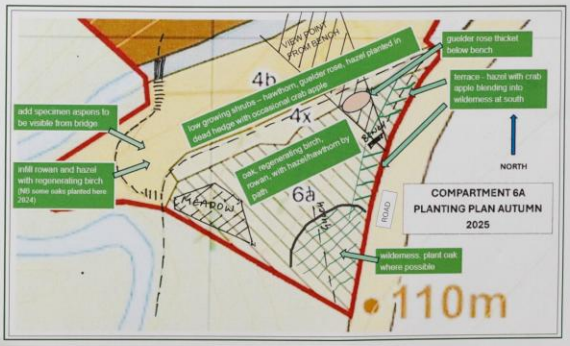
PLANTING AT WOODSIDE – A WORK IN PROGRESS

The felled area adjacent to the road by Woodside Cottage is the last compartment to be planted. It is also the most accessible area of the Lower Dean. The volunteer team are keen that there should be some part of the woodland available to those less able to negotiate steps and steep slopes and, to this end, we have been excavating a terrace just below the roadside hedge, where we plan to place a bench with a view over the Dean burn to the woodland and fields beyond. The terrace will be planted with coppice hazel, crab apple, and guelder rose.

We were struck in the spring and summer by a patch of largely grass and wildflowers within the felled area and we are now working to make a "species-rich meadow" (see map below) by clearing scrub, brash and any regenerating sycamore, with a view to being able to scythe the new growth in future years.

The area will be planted in the autumn/winter using the same five species as in the rest of the Dean with the addition of more rowan, crab apple and guelder rose. As to be expected one year after felling, there is a degree of natural regeneration of trees species, some of which are being protected where desirable, such as oak, rowan, hawthorn, hazel, holly and birch.

Michael Braithwaite was keen that "*vistas and glades*" should be opened out in the Dean. To the right of the downhill path at Woodside, the volunteer group has opened out two "promontories" with views overlooking the Dean burn. There were already signs over the spring and summer of regenerating wild flowers in the increased light.



TREE PLANTING – WINTER 2024

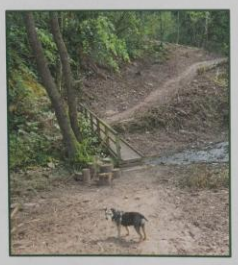
In November 2024, local volunteers started planting trees in felled areas, using colour-coded stakes to ensure that the right species was planted in the right place. They were assisted by the Borders Forest Trust volunteers and the whole of Denholm Primary School, who planted 100 oak trees in one day.

HEDGE PLANTING WINTER 2024/5



A CHANGING LANDSCAPE

JUNE 2024 – NOVEMBER 2025






LOWER DEAN PLANT LIST (A WORK IN PROGRESS)

Recorded	Latin Name	English Name	2024/5
2012	*Acer campestre*	Field Maple	✓
2012	*Acer platanoides*	Norway Maple	✓
2012	*Acer pseudoplatanus*	Sycamore	✓
2012	*Adoxa moschatelina*	Moschatel	✓
2012	*Aegopodium podagraria*	Ground-elder	✓
2012	*Aesculus hippocastanum*	Horse-chestnut	✓
2012	*Ajuga reptans*	Bugle	✓
2012	*Alchemilla filicaulis subsp. vestita*	Common Lady's mantle	✓
2012	*Alchemilla xanthochlora*	Intermediate Lady's-mantle	✓?
2012	*Allaria petiolata*	Garlic Mustard	✓
2012	*Allium ursinum*	Ramsons	✓
2012	*Alnus glutinosa*	Alder	✓
2012	*Alopecurus pratensis*	Meadow Foxtail	✓
2012	*Anemone nemorosa*	Wood Anemone	✓
2012	*Angelica sylvestris*	Wild Angelica	✓
2012	*Anthoxanthum odoratum*	Sweet Vernal-grass	✓
2012	*Anthriscus sylvestris*	Cow Parsley	✓
2012	*Arrhenatherum elatius*	False Oat-Grass	✓
2012	*Arum maculatum*	Lords-and-Ladies	✓
2020	*Asplenium scolopendrium*	Hart's-tongue	✓
2012	*Athyrium filix-femina*	Lady-fern	✓
2012	*Bellis perenna*	Daisy	✓
2012	*Betula pendula*	Silver Birch	✓
2012	*Persicaria bistorta*	Common Bistort	✓
2013	*Brachypodium sylvaticum*	False-brome	✓
2012	*Bromopsis ramosa*	Hairy-brome	✓
2012	*Cardamine amara*	Large Bitter-cress	
2012	*Cardamine flexuosa*	Wavy Bitter-cress	✓
2012	*Cardamine hirsuta*	Hairy Bitter-cress	✓
2012	*Carex sylvatica*	Wood-sedge	✓
2012	*Carduaria nigra*	Common Knapweed	✓
2012	*Chamaenerion angustifolium*	Rosebay Willowherb	✓
2012	*Chrysosplenium alternifolium*	Alternate-leaved Golden-saxifrage	???
2012	*Chrysosplenium oppositifolium*	Opposite-leaved Golden-saxifrage	✓
2012	*Cicerbita macrophylla*	Common Blue-sow-thistle	✓
2012	*Circaea lutetiana*	Enchanter's-nightshade	✓
2012	*Cirsium arvense*	Creeping Thistle	
2012	*Cirsium vulgare*	Spear Thistle	✓
2012	*Conopodium majus*	Pignut	✓
2012	*Corylus avellana*	Hazel	✓
2012	*Crataegus monogyna*	Hawthorn	✓
2012	*Crepis paludosa*	Marsh Hawk's-beard	✓
2012	*Cruciata laevipes*	Crosswort	✓
2012	*Cytisus scoparius*	Broom	✓
2012	*Dactylis glomerata*	Cock's-foot	✓
2012	*Deschampsia cespitosa*	Tufted Hair-grass	✓
2012	*Digitalis purpurea*	Foxglove	✓
2012	*Dorcinium pentaphyllanches*	Leopard's-bane	✓
2012	*Dryopteris affinis*	Scaly Male-fern	✓
2012	*Dryopteris dilatata*	Broad Buckler-fern	
	Dryopteris filix-mas	Male-fern	
	Elymus caninus	Bearded Couch	✓
	Epipactis helleborine	Broad-leaved Helleborine	
	Fagus sylvatica	Beech	✓
	Ficaria verna	Lesser Celandine	✓
	Filipendula ulmaria	Meadowsweet	✓
	Fragaria vesca	Wild Strawberry	✓
	Fraxinus excelsior	Ash	✓
	Galanthus nivalis	Snowdrop	✓
	Galium aparine	Cleavers	✓
	Galium odoratum	Woodruff	✓
	Geranium robertianum	Herb-Robert	✓
	Geranium sylvaticum	Wood Crane's-bill	✓
	Geum rivale	Water Avens	✓
	Geum rivale x urbanum = G. x intermedium	Hybrid Avens	✓
	Geum urbanum	Wood Avens	✓
	Glechoma hederacea	Ground-ivy	✓
	Hedera helix	Ivy	✓
	Heracleum sphondylium	Hogweed	✓
	Hieracium agg.	Hawkweed	✓
	Holcus lanatus	Yorkshire-fog	✓
	Hyacinthoides non-scripta	Bluebell	✓
	Hyacinthoides non-scripta x hispanica = H. x massartiana	Hybrid Bluebell	✓?
	Hypericum hirsutum	Hairy St John's-wort	✓
	Hypericum pulchrum	Slender St John's-wort	
	Ilex aquifolium	Holly	✓
	Juncus conglomeratus	Compact Rush	
	Juncus effusus	Soft-rush	✓
	Lapsana communis	Nipplewort	✓
	Ligustrum vulgare	Wild Privet	✓
	Lonicera periclymenum	Honeysuckle	✓
	Lunaria annua	Honesty	
	Luzula campestris	Field Wood-rush	
	Luzula pilosa	Hairy Wood-rush	
	Luzula sylvatica	Great Wood-rush	✓
	Lysimachia nemorum	Yellow Pimpernel	✓
	Mahonia aquifolium	Oregon-grape	✓
	Mercurialis perennis	Dog's Mercury	✓
	Moehringia trinerva	Three-nerved Sandwort	??
	Myosotis sylvatica	Wood Forget-me-not	✓
	Narcissus agg.	Daffodil	✓
	Oxalis acetosella	Wood-sorrel	✓
	Petasites hybridus	Butterbur	✓
	Phalaris arundinacea	Reed Canary-grass	✓
	Picea sitchensis	Sitka Spruce	
	Plantago major	Greater Plantain	✓
	Poa annua	Annual Meadow-grass	✓
	Poa nemoralis	Wood Meadow-grass	
	Poa trivialis	Rough Meadow-grass	
	Polypodium vulgare	Polypody	✓
	Polystichum aculeatum	Hard Shield-fern	✓
	Polystichum setiferum	Soft Shield-fern	
	Potentilla anserina	Silverweed	✓
	Potentilla erecta	Tormentil	✓
	Potentilla sterilis	Barren Strawberry	✓
	Primula vulgaris	Primrose	✓
2012	*Prunus avium*	Wild Cherry	✓
2012	*Prunus padus*	Bird Cherry	✓
2012	*Prunus spinosa*	Blackthorn	✓
2013	*Quercus petraea*	Sessile Oak	✓
2012	*Quercus robur*	Pedunculate Oak	✓
2012	*Ranunculus auricomus*	Goldilocks Buttercup	??
2012	*Ranunculus repens*	Creeping Buttercup	✓
2012	*Ribes uva-crispa*	Gooseberry	✓
2012	*Rosa canina agg.*	Dog-rose	✓
2012	*Rubus fruticosus agg.*	Bramble	✓
2012	*Rubus idaeus*	Raspberry	✓
2008	*Rubus laciniatus*	Cut-leaved Bramble	✓
2012	*Rumex obtusifolius*	Broad-leaved Dock	✓
2012	*Rumex sanguineus*	Wood Dock	✓
2012	*Salix caprea*	Goat Willow	✓
1990	*Sambucus nigra*	Elder	✓
2012	*Sanguisorba officinalis*	Great Burnet	✓
2012	*Sanicula europaea*	Sanicle	✓
2012	*Saxifraga granulata*	Meadow Saxifrage	✓
2004	*Schedonorus gigantheus*	Giant Fescue	
2012	*Scilla forbesii*	Glory-of-the-snow	
2012	*Scrophularia nodosa*	Common Figwort	✓
2012	*Silene dioica*	Red Campion	✓
2012	*Sorbus aucuparia*	Rowan	✓
2012	*Stachys sylvatica*	Hedge Woundwort	✓
2012	*Stellaria holostea*	Greater Stitchwort	✓
2012	*Stellaria nemorum*	Wood Stitchwort	✓
2012	*Symphoricarpos albus*	Snowberry	✓
2012	*Taraxacum agg.*	Dandelion	✓
2012	*Taxus baccata*	Yew	✓
2012	*Teucrium scorodonia*	Wood Sage	
2012	*Trifolium pratense*	Red Clover	✓
2012	*Trifolium repens*	White Clover	✓
2012	*Tussilago farfara*	Colt's-foot	✓
2012	*Ulmus glabra*	Wych Elm	✓
2012	*Urtica dioica*	Common Nettle	✓
2012	*Vaccinium myrtillus*	Bilberry	✓
2012	*Veronica chamaedrys*	Germander Speedwel	✓
2012	*Veronica hederifolia*	Ivy-leaved Speedwel	✓
2012	*Veronica montana*	Wood Speedwel	✓
2012	*Veronica officinalis*	Heath Speedwel	✓
2012	*Veronica serpyllifolia*	Thyme-leaved Speedwell	✓
2012	*Viburnum opulus*	Guelder-rose	✓
2012	*Vicia sepium*	Bush Vetch	✓
2012	*Viola riviniana*	Common Dog-violet	✓

And found additionally in 2024/5:

Galeopsis tetrahit (Common hemp nettle)
Epilobium montanum (Broad-leaved willowherb)
Epilobium hirsutum (Great willowherb)

FLORA

In 2012, the Dean was surveyed by Michael Braithwaite and members of the Botanical Society of the British Isles. We have the list of plants found and recorded in 2012 and have been attempting to update it following the felling in June 2024 (see list below). We have found most of the plants listed, but, as might be expected, there are some striking changes in abundance with the massive increase in light in some previously very shady areas.

Certain wild flowers are considered to be indicative of ancient woodland; their presence may suggest that an area has been continuously wooded for a long time. In general such species do not spread easily, especially across open areas, and they thrive on undisturbed ground. Many of the flowers pictured below are ancient woodland indicator species.

Spring flowering wood anemone, wood sorrel and dog's mercury near the Dean burn.

April 2025. The tiny town hall clock (so called because it has four faces at right angles to each other, and one horizontal face). It was recorded, with grid references, in two places in the Dean in 2012, one in the Upper Dean and one in the Lower.

The patch in the Lower Dean is still there, at the same grid reference, despite being in the middle of a felled area,

April 2025. Bugle growing in an area of woodland planted by Michael Braithwaite close to the second bridge, surprisingly resilient to the disturbances of felling vehicles.

May 2025. Wild garlic near the Dean burn.

May 2025. Burnside primroses by the second bridge, close to the extraction route used during felling a year earlier.

May 2025. Meadow saxifrage still growing where recorded in 2012.

June 2025. Yellow pimpernel in a shady undisturbed part of the Lower Dean.

July 2025. Common Hemp Nettle. A common annual plant, previously unrecorded in the Dean, now prolific.

One of the strikingly colourful features of the spring and summer of 2025 in the Lower Dean - an abundance of foxgloves and red campion throughout the felled areas.

Photographs V. Oswald and A Mccombe

The importance of Deadwood in woodland

1. How long do trees live?

As part of the restoration of the lower Dean several hundred native trees have been planted including oak, birch, aspen, cherry and hawthorn. Given the right conditions trees can live a very long time, some longer than others.

	Average lifespan years	Potential lifespan years
Oak	400-600	1,000
Birch	50-90	150
Aspen	50-100	150
Cherry	60	100
Hawthorn	200	400

There are also examples of other broadleaf trees including beech, field maple, sycamore, rowan and chestnut, and various conifer species to be seen in The Dean.

As well as spreading by seeding, many hardwoods can also live on through 'root suckering' and in this way one tree can potentially spread and create an entire woodland over time, birch and aspen being good examples.

Conifers reproduce only by seeding.

Without a continuous cycle of tree decay, woodlands would run out of nutrients and could not renew themselves

2. What is 'deadwood'?

'Deadwood' falls into four basic categories, each supporting a varied ecosystem.

i) Dead heartwood in veteran trees

Older, veteran, trees may lose heartwood to decay while the tree itself continues to thrive, leaking hollowed out trunks and branches.

As the tree is still living the environment can last a long time. Veteran trees will often contain rot holes, but being bigger trees they can accommodate cavities in the trunk, as for example bat colonies can be accommodated, roosting or hibernating over a very long period of years or even decades.

ii) Standing deadwood

This is a tree that has died of old age, or perhaps fungal or insect attack, but remains standing for a period.

Standing deadwood instantly attracts woodpeckers as their preferred food source and nesting site as it is drier and easier to carve out. Once vacated, woodpecker nesting holes will be repurposed as nesting or resting sites by bats, squirrels, other small mammals, and small birds such as blue tits.

iii) Stumps and roots

When the forest is thinned or cleared, the stumps will provide a home for fungi, beetles, and larvae, and a hunting ground for predators. The vast network of old tree roots provides food and habitat for yet more fungi and larvae underground. You will often find fruiting fungi ('toadstools') in a line on the surface, following an old root (or buried branch) that is rotting underground.

iv) Fallen deadwood

Throughout their lives trees shed branches due to weight stress, heat stress, insect and fungal attack, injury or weather. Ultimately the trunk will also fall.

As well as fungi, fallen deadwood supports a vast hierarchy of beetles, woodlice, slugs, earthworms and millipedes that in turn feed on the decaying wood of fungi and plant and rodents such as shrews and birds such as wren and robin in the wood.

Deadwood that falls in water provides shelter and food for invertebrates and other animals in and in the water.

Deadwood that falls in water provides shelter and food for invertebrates and fish, slows river flow to create nurseries and filters pollutants from the water.

1

2

3

3. Causes of decay

Saprovylic fungi and invertebrates are the main agents of decay

Saproxylic *("sap-ro-zyl-ik") - an organism, invertebrate or fungi, that lives in or feeds on dead or decaying wood.*

Fungi

There are around 15,000 species of fungi in the UK of which a significant proportion live on dead or decaying wood. These are the primary cause of wood decay, releasing enzymes into the wood to break down the cell structure.

Some fungi species are 'generalists' and will thrive on both live and dead wood, while others are 'specialists' that may thrive only on the deadwood of a specific species, sometimes even thriving at a specific stage of decomposition. For example the shaghorn fungus is only found on dead conifers.

The "roots" of fungi are called the mycelium. Mycelium is a vast, underground network of thread-like filaments called hyphae. This spreads through the wood to absorb nutrients for the fungus. The visible part of the fungi (the 'toadstool' or "mushroom") is simply the reproductive structure, like a fruit, that grows from this extensive mycelial network.

Invertebrates

A wide variety of invertebrates - mainly beetles and beetle larvae - contribute to weakening and killing trees and also the recycling of nutrients from the dead wood, eating either the wood or the fungi within it.

Around 650 species of beetle, many rare and endangered, are thought to depend on deadwood at some point in their lifecycle for food - mostly in the larval stage feeding on the damp dead wood or the fungi on it - and by burrowing into it for shelter and egg laying.

4. Return of nutrients to the soil

Rotting wood can take years to fully decompose and while it slowly rots away minerals critical for tree growth and regrowth - carbon, nitrogen, phosphorus, potassium, calcium, magnesium - are released into the soil in a beneficially slow and measured way.

The remaining organic material breaks down to improve soil structure, porosity and its ability to retain water.

5. Challenges to the cycle

The biggest challenge to the natural cycle is a human tendency to 'tidy up' by removing fallen deadwood, to keep things looking 'neat' or for fuel, and removing dead or dying branches from standing trees, or the standing trees themselves, if they are seen as a danger to safety.

Both of these practices can create relatively barren areas with very limited benefit to plants or wildlife, and will stop the cycle of decay and the potential for soil and plant regeneration.

6. 'Conservation' of deadwood

In a careful balance of safe access and leaving the area as natural as possible, very little wood has been removed from the Dean (apart from the sika hunters, as forestry).

'Deadwood hedges'

Deadwood that was not left to rot down where it fell, branch left after the removal of the sika fence trees and wood from thinnings in areas opened up to allow better growth or cleared to allow replanting has been incorporated into the 'deadwood hedges' built by the volunteers which can be seen throughout the Dean.

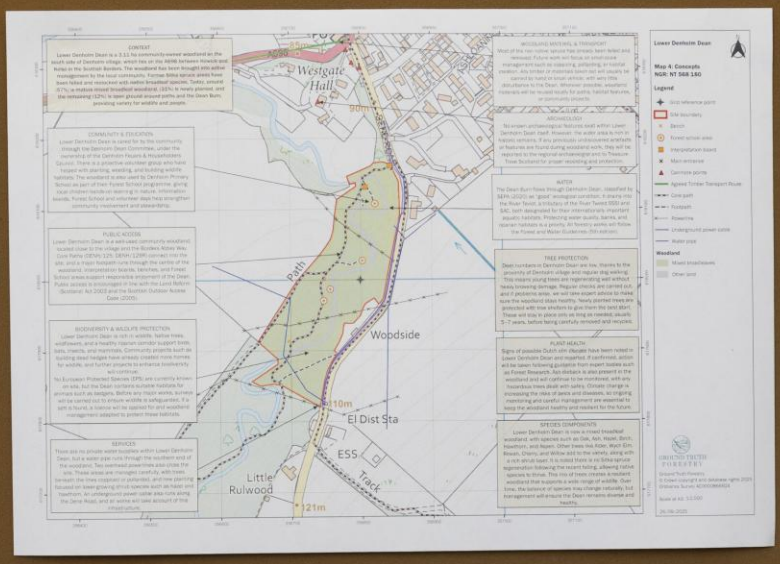
Log piles

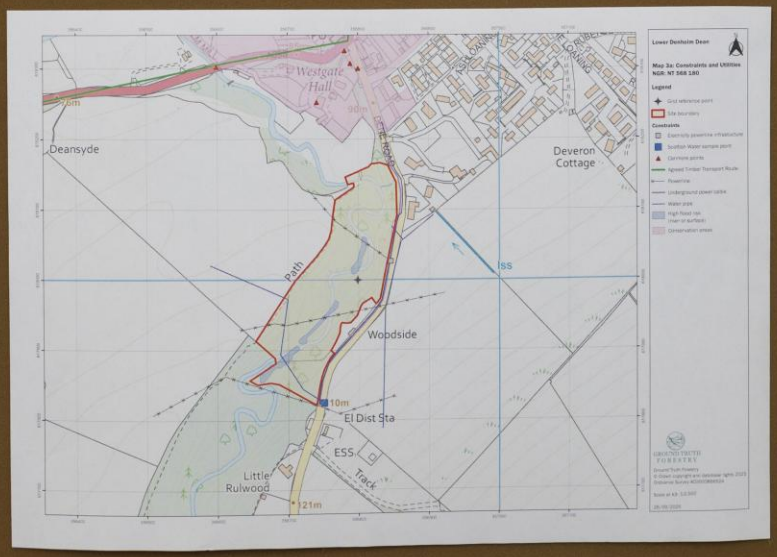
The volunteers also roll some of the thinnings into useful sizes and built the log piles that we around The Dean.

The 'deadwood hedges' and log piles mimic the resource of fallen deadwood, providing a wood store for fungi growth and a habitat for invertebrates, small birds and mammals to rest, nest, feed and breed.


Trees
Trees
Trees
What is growing on the deadwood?
Are there holes in the deadwood?
The dead good
Deadwood Survey
Field Guide
Photo listing:
1. Greater Spotted Woodpecker - hero of the standing deadwood
2. Deadwood hedge in the lower Dean
3. Rotting log pile with birch mazegill fungus
4. Categories of deadwood diagram
5. Mixed fungi on beech stump
6. Hoof fungus on birch stump
7. Stagshorn fungus on sitka spruce stump
8. Scarlet Elf Cup fungus - commonly grows on well-rotted, mossy hazel, ash, elm, willow
9. Mixed fungi display on stump
10. Wood Ear fungus - commonly on elder, also beech, ash, sycamore
11. Birch(?) Milkcap on fallen birch
12. Puffball - grows on leaf litter
13. Centipede - lives in deadwood, hunts e.g. woodlouse
14. Woodlouse - eats deadwood
15. Bracket fungus on birch woodpile (birch polypore?)
16. Bonnet fungus on mossy log pile
17. Dapperling fungus following rotting underground root
18. Birch Mazegill fungus on birch log pile
All identifications are subject to confirmation - further advice welcomed!
Photo credits:
S Winters 9, 11
Unknown 1, 8, 12, 13,14 - if these are yours please contact

FUTURE


Lower Denholm Dean
Map 4: Concepts
NGR: NT 568 160
Legend
Westgate Hall
Woodside
Path
Track
Little Rulwood
El Dist Sta
ESS
10m
121m
90m


Lower Denholm Dean
Map 3a: Constraints and Utilities
NGR: NT 568 160
Legend
Constraints
Westgate Hall
Deansyde
Deveron Cottage
Woodside
Path
Track
Little Rulwood
El Dist Sta
ESS
10m
121m
90m