



# Dufton Ghyll Wood

## Management Plan 2017-2022

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## THE WOODLAND TRUST

### INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

### PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations. Please either consult The Woodland Trust website [www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk) or contact the Woodland Trust ([wopsmail@woodlandtrust.org.uk](mailto:wopsmail@woodlandtrust.org.uk)) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

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## WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland. Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website

[www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk). Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
- 10 Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

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## SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site - their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

## 1.0 SITE DETAILS

<b>Site name:</b>	Dufton Ghyll Wood
<b>Location:</b>	Dufton
<b>Grid reference:</b>	NY685251, OS 1:50,000 Sheet No. 91
<b>Area:</b>	10.35 hectares (25.58 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty, Regionally Important Geological and Geomorphological Sites, Site of Special Scientific Interest, Special Area of Conservation

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

Taken over by the Trust in 1980, a replanting programme has seen the surviving mature beech, oak, sycamore, sweet chestnut and elm complemented by young, native broadleaves. It is one of the few remaining Northwest outposts for the native red squirrel.

## 2.2 Extended Description

Dufton Ghyll Wood covers both the steep sides of Dufton Gill, just south of the village of Dufton, near Appleby, Cumbria. The wood is just within the North Pennines Area of Outstanding Natural Beauty, on the western edge of the Pennines, at point 15 on the Pennine Way (a national walk route). The woodland lies within the broad fertile river valley of the River Eden (designated a Site of Special Scientific Interest and Special Area of Conservation). It is in a rural area with a mix of farm and woodland surrounding.

Public access to the woodland can be gained at seven entrances and along footpaths that run the full length of the wood and beyond. The wood is well used by locals and visitors alike and offers circular walking routes and many feature of interest. Wood Lane (a green lane) cuts through the middle of the wood, running south to north from Brampton to Dufton Green. Horses were once ridden along this ancient sunken lane to be shod at the smithy in Dufton.

Where Dufton Gill meets Mill Beck an old millrace can be traced to the west of the path. Excellent views to Dufton Pike, Knock Pike and Cross Fell can be seen. The area is interesting geologically and rich in minerals. The Gill itself cuts through red sandstone and reveals one of the best exposures of St. Bees sandstone in the Eden Valley and as such is designated a Regionally Important Geological and Geomorphologic Sites (RIGS). The sandstone was important building stone locally and was quarried from the west of the woodland.

Dufton Ghyll is designated 'ancient semi natural woodland' meaning that woodland has been here for hundreds of years. There are records of trees being felled in the Ghyll during the 17th century by the owner Sir Christopher Clapham. The woodland was re-established and later passed to Appleby Estate with whom it remained until 1962. Prior to the Woodland Trust's ownership in 1980 much of the wood was felled again and replanted.

The 10.40hectare ancient semi-natural wood and resembles upland oak-birch woodland (NVC W11/W10) but has been colonised and planted with non-native species. The woodland to the east comprises mature oak, beech, sweet chestnut and sycamore with the occasional elm - it is estimated that some of the largest trees are P1500. There is evidence that the oak and hazel to the west of the compartment was coppiced in the past. Much of the younger woodland P1970 and 1980's comprises oak, birch, ash and lime, with the addition of rowan, hazel, hawthorn and cherry and the colonisation of sycamore. Ash trees are scattered throughout the wood, at approx 5-10% with early signs of ash dieback 2018. The woodland under storey is developing slowly. The ground vegetation includes patches of bracken and grass through much of the younger wood, however the ground flora is quite diverse with winter aconite (*Eranthis hyemalis*), snow drop (*Galanthus nivalis*), wood anemone (*Anemone nemorosa*), bluebells (*Hyacinthoides non-scripta*), pignut (*Conopodium majus*) and angelica (*Angelica sylvestris*). The old quarries are rich in mosses, ferns and liverworts. Deer frequent the wood and the red squirrel, now an endangered species are still occasionally seen.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

The village of Dufton is about 5 miles north of Appleby-in-Westmorland (off the A66) on the Eden Valley Cycle Route 68 and the Pennine Way- long distance walk route. Dufton Wood is located to the south of the village. There are many public access points around the site which correspond with the various public footpaths. Particularly many visitors follow the public footpath to the wood from the car park and public toilets in the centre of Dufton village. A circular walk can be followed to the west coming out of the wood at Mill Beck bridge and turning right back into the village. Longer walks can be done connecting with adjacent public rights of way and the National Pennine Way which passes to the north of the village. The views of the Pennine Fells can be quite spectacular and there is much geological, historical and botanical interest within the woodland and the surrounding area. The footpaths through the wood are clearly defined and signed. The footpaths can get muddy underfoot and steep in places. The village of Dufton boasts a Youth Hostel, campsite, pub, a toilet block and car parking facilities for visitors. The toilet facilities are in the car park in the middle of the village. The nearest public transport is at Appleby (5 kilometres away) where there is a train station on the Leeds-Settle-Carlisle line. There are no buses operational to Dufton village.

### 3.2 Access / Walks

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## 4.0 LONG TERM POLICY

The character of the wood on acquisition resembled upland oak-birch woodland (NVC 11 & 10) with much non-native planting and colonisation. The woodland, part of the North Pennine designated Area of Outstanding Natural Beauty, is distinctive with excellent internal and external views and features. Dufton Gill and Mill Beck are part of the River Eden and Tributaries, a Site of Special Scientific Interest (SSSI) and which is also designated a Special Area of Conservation (SAC). The River Eden and Tributaries support a great number of water plants, fish including salmon, lampreys and bullhead, crayfish, healthy and expanding otter populations and river birds. Dufton Ghyll Wood has also been designated as 'Regionally Important Geological and Geomorphological Sites' for the exposures of St Bees sandstone.

It is the Trust's objective to enhance the typical ancient characteristics of this woodland type within the landscape and to maintain and improve the biodiversity of the whole woodland, as well as increase people's awareness and enjoyment of this ancient habitat. This is in line with the outcomes in the Trust's Action Plan 'Keeping Woodland Alive' and will be done through the management of 4 key features:

1) Informal public access: Maintain and improve informal access to the woodland on over 1500m of footpath, including provision of seven entrances with welcome signs and information boards commensurate with access category A. Public information posters will be used to inform and involve visitors with the woodland.

2) Ancient Semi Natural Woodland: Maintain and enhance the mature broadleaf appearance of the woodland within the landscape. This determines the maintenance of a continuous cover of woodland, the retention of old trees including sweet chestnut, beech and lime and management to promote natural succession. To create and provide continuity for maturity and uneven aged structure within the woodland; the retention of standing and fallen dead wood; thereby improving biodiversity and promoting the ecology of the woodland.

3) River Tributaries: Conservation of the floristically rich river habitats of Mill Beck (SSSI and SAC) important in a national and European context and locally with Dufton Ghyll for the biodiversity of the habitat and aesthetic nature of the features. Minimal intervention and monitoring is anticipated to conserve these features.

4) Geological feature: Conserve the exposures of St Bee's sandstone, for the rich heritage, the diversity of habitat and the educational aspect of this feature. Minimal intervention is anticipated to protect this feature into the future.

It is anticipated that these works will safeguard and enhance the existing environmental value of the wood and maintain and enhance the level of public access in the woodland.



## 5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

### 5.1 Informal Public Access

#### Description

There are seven public entrances to the wood; the main entrance is from the middle of Dufton village along PROW 322006, passed the caravan and camping site on the northern boundary to the wood. Access can be gained from the east of the village along PROW 322005, to the south east of the wood along PROW 322008, to the south of the woodland along the PROW 322005 and from Brampton on Wood Lane (PROW 322003), which bisects the wood and leaves to the north into Dufton village. An entrance also leads from Mill Beck bridge, across neighbouring land to the ford and into Trust property (PROW 322004). These lead to circular walks through the wood and village and connect with longer adjacent routes including the Pennine Way (point15). The views of the Pennine Fells can be quite spectacular and there is much geological, historical and botanical interest within the woodland. The footpaths through the wood are clearly defined and signed. The footpaths can get muddy underfoot and off the footpath the woodland can be very steep. There is car parking and amenities in Dufton village. There are 14 dedicated grove posts through the woodland adjacent to the main track.

#### Significance

Public access is historical in the Ghyll with the ancient route Wood Lane, along which horses were once ridden to be shod at the smithy in Dufton, old quarries which provided local stone and the mill workings, from the once corn mill, which in 1884 was converted to crush the mineral barites, mined on the fells behind Dufton Pike. (Please note that this feature is outside WT land ownership). It is important to continue such longevity of access, revealing the woodlands history with time. Additionally the wood now is linked with long distance walking with the Pennine Way providing a valuable opportunity to promote the Woodland Trust to wider audiences. Increasing enjoyment of woodland is one of the Trust key outcomes. Encouraging access to Dufton Ghyll is particularly important given the rich and varied habitats and features within the ancient woodland and the importance of its river habitat on both a local, national and European scale. It is also an important local resource to the surrounding villages and towns and an educational resource for visitors and organised groups. Dufton Ghyll is host to the impressive geological exposures of St Bee's sandstone and the rich historical past associated with the wood and river.

#### Opportunities & Constraints

It is well used by local people and those from further afield. The footpath network enables a good circular walk but in places the surface is uneven and narrow. The footpaths can become muddy naturally in normal rainfall due to the sandy nature of the soil, due to farm machine vehicles crossing the site and from the minor non-permitted use by horses and bicycles. There is an opportunity to work with neighbouring landowners and the public rights of way team to improve through routes and link routes to the wood. Neighbouring landowners cross the wood with vehicles and stock, local users are familiar with this routine but visitors from further a-field would be unaware that vehicles and animals may be on site. There is an opportunity to inform the public of management practices and site information through posters and leaflets on site and directly to the Parish Council.

### **Factors Causing Change**

Increased use/pressure to footpaths & tracks, Fly Tipping. Ash dieback, which first appeared in Cumbria 2017.

### **Long term Objective (50 years+)**

Ongoing maintenance of over 1.5km of paths and the entrance facilities to provide continuity to visitor access commensurate with category A (high usage) and promote a safe and welcome environment is the Trust's long-term plan. The Trust will continue to promote the woodland amongst people in the region and members nationally so long as the primary objective of 'no further loss of ancient woodland' (in terms of both quality and quantity) is not compromised.

### **Short term management Objectives for the plan period (5 years)**

Maintain the path network to Woodland Trust standards; cutting back and strimming twice annually to pedestrian width those permissive and public footpaths identified on the map. Maintain/repair access points (x7) and welcome signs, keep bridges and steps clear of encroaching vegetation and in good condition (where Woodland Trust responsibility) throughout the period of this plan. Clear litter and tipping as necessary. Maintain the 14 Grove post dedications along the main footpath cleaning the plaques and clearing vegetation so that they are accessible. Inspect the stone bridge for public safety and report any necessary works to Cumbria County Council. Regular tree and other safety inspections undertaken at defined intervals. Undertake repair of safety fences, steps and regrading of paths as detailed in the work programme. there may be opportunities to work through the local ranger service to engage people more e.g. through the red squirrel campaign, and if so these should be investigated.

## 5.2 Ancient Semi Natural Woodland

### Description

The woodland is mostly designated as ancient and the ground flora has various ancient woodland indicators including bluebells, wood anemone, wild strawberry, pignut and other woodland specialists. The woodland is very mixed in character and clearly split between the older mature beech and sweet chestnut, some 200 years plus; with mature oak and sycamore and younger 1970's and 80's planting of oak, ash, beech, lime and sycamore, with birch, hazel, rowan, hawthorn and cherry. Where present the understorey is dominated by hawthorn, hazel and ash with holly, rowan and cherry. In some places under the most recent plantings the understorey is sparse with bracken and grasses dominating. There is much dead wood both standing and fallen. The woodland resembles upland oak-birch to oak-bracken-bramble woodland more commonly known as oak-ash (NVC W11 to W10) and is heavily colonised by non-natives.

### Significance

Dufton Ghyll is an important landscape feature in the dramatic countryside of the Eden Valley and is a key semi-natural habitat bordering the River Eden tributaries. North from the woodland are the Pennine peaks part of the North Pennine Area of Outstanding Natural Beauty. The Trust's property neighbours a small woodland to the west of which part is a wet woodland carr. In the wider landscape the wooded area is scattered and of low density. The River Eden and Tributaries are designated SSSI as an outstanding example of floristically rich northern river on sandstone and hard limestone. Mill Beck and Dufton Ghyll are tributaries to this rich habitat that supports a great number of water plants, salmon, lampreys and bullhead, crayfish, otters and feeding and breeding territory for river birds. This area is designated a SSSI & SAC because it contains habitat types and/or species, which are rare or threatened within a European context. These are Atlantic stream or white-clawed crayfish, bullhead and rivers with floating vegetation dominated by water crowfoot. The woodland contains some wonderful older tree species of beech and sweet chestnut, which are over 200 years old with one sweet chestnut being dated to around 1500. These are irreplaceable and will play host to a vast well-established ecosystem including insects, birds and lichens. Sites of ancient woodland provide a continuous habitat for our native species. Many of these species can live nowhere else. Some plants and animals have very specialised requirements and spread very slowly, if at all, into new woods.

### Opportunities & Constraints

The debate continues as to whether non-native species will cause a detrimental effect on the woodland ecology - no direct evidence exists for this at present. Many of the mature non-native trees add to the wonderful diversity of species at Dufton and are indicative of the heritage of the wood and will be retained. This includes mature beech, sweet chestnut and lime specimens found predominantly to the east of the wood. Access for machinery to some parts of the site is difficult. There is a bridge over the Ghyll, constructed of local stone, on the vehicular access track. Cumbria County Council repointed the bridge in 1993. The upkeep of this bridge is essential to access for forest and farm vehicles. Works at the western end of the wood should comply with the constraints laid down under the SSSI and SAC designations and Natural England consulted where necessary. Works within the quarries should comply with the RIGS designation.

### Factors Causing Change

Uncontrolled Grazing

### Long term Objective (50 years+)

The long term aim is to conserve and improve the diversity and richness of this ancient woodland by promoting an uneven aged structure throughout the woodland with a well developed shrub layer, woodland succession and a good ground flora. The aim is to ensure the continued development of high forest mature woodland; including the retention of old trees; the management of the younger trees through to maturity; the retention of standing and fallen deadwood which will enable the conservation of diverse herbaceous communities, bryophytes and invertebrates of ancient woodland.

#### **Short term management Objectives for the plan period (5 years)**

The steps to achieving the vision set out include: -

Monitor the old trees once every ten-years and where necessary instruct works to promote retention.

Update records of the ancient trees on the Ancient Tree Hunt database.

Maintain a stock proof boundary to prevent grazing by domestic stock threatening the continuity of the well-developed shrub and ground flora.

Continue to monitor the natural regeneration of both trees and shrubs and consider enhancement planting if there is doubt about long-term succession. Liaise with Natural England.

Work with the Red Squirrel Campaign to continue to help achieve their aims as part of a sustainable, landscape scale project.

## 5.3 Watercourses

### Description

Dufton Gill flows east to west through the wood and joins Mill Beck to the west. Mill Beck is a tributary to the River Eden, a floristically rich river on sandstone and hard limestone. The wooded valley of Dufton is deeply incised and Mill Beck holds relics of previous mill workings.

### Significance

The Ghyll is a central feature to the wood for visitors to enjoy. The river and the adjacent land is a unique habitat and support a wide variety of bird life, as well as providing key habitat for otters. The River Eden and Tributaries, of which Mill Beck is one, are designated SSSI due to the great number of water plants supported, the importance to certain fish species including salmon, lampreys and bullhead, extensive fish spawning and nursery grounds and large healthy populations of crayfish. The area is also designated a Special Area of Conservation for interests selected in a European context. Dufton is famous for its once corn mill, which in 1884 was converted to crush the mineral barites, mined on the fells behind Dufton Pike. The mill workings seen in the river are an important relic of former days

### Opportunities & Constraints

The river, its habitat and historical use provide additional habitat and interest, increasing opportunities to further interpretation and educational work. Tree felling is restricted near to the river under Forestry Commission guidelines and the Environmental Protection Act. Mill Beck at the western end of the wood is within the River Eden SAC & SSSI. and as such it is necessary to consult Natural England regarding certain operations.

### Factors Causing Change

Pollution, River blockages - fences/litter

### Long term Objective (50 years+)

Conserve the riparian zone to the river through minimal intervention; retaining woody debris as a natural component to the riparian habitat. It is anticipated that the riparian zone will evolve through natural changes and development of the bank side trees. The level of woody debris long the banks and within the river is of a good natural appearance creating pools and niche habitats for different species. The only intervention anticipated will be to clear litter from the river and debris that will cause damage to the stone bridge.

### Short term management Objectives for the plan period (5 years)

Clear litter debris from the river once annually. Safety inspections to check the stone bridge for possible erosion and debris. Undertake observational monitoring once every plan to ensure condition of riparian habitat is within this vision. Consult Natural England as necessary.

## 5.4 Geological Feature

### Description

Dufton Ghyll is purported to have the best exposure of St Bees sandstone in the Eden Valley and it is found to the east of the wood and towers over the footpath to 40ft high. Trees have colonised the tops of the exposure and mosses and liverworts cover the stone. The sandstone is a well-bedded river deposit laid down in a vast desert plain, so that the rocks show evidence of the desert conditions. The sand grains are rounded and frosted due to abrasion by the wind before being picked up by the water. The red colouration of the rocks stems from being coated with iron and turning the colour of rust. The angular bedding 'cross-bedding' is formed by the rivers flow, and represents sandbanks on the riverbed. Thin muddy layers represent slack conditions when silt material was able to settle out in quiet water.

### Significance

The history of the site is well documented locally and the exposure has been designated by the Cumbria RIGS (Regional Important Geological Site) group, and is featured in their booklet Geological Excursions in the Eden Valley. Visitors and geologists are drawn to the woodland and the area to learn about the past from the rocks found here. The sandstone has been an important part of the local landscape, with Dufton Ghyll providing building stone for many local houses. In the Trusts documents 'Seeing the Wood for the Trees' the importance of cultural features is stated and is taken into account in the management of the woodland.

### Opportunities & Constraints

The rich geographical history of this woodland adds to its appeal and provides an opportunity to link the woodland with periods in time for educational purposes and interest. There is also the opportunity to use these features to promote further interest in the woodland. Equally the features may constrain the normal woodland management practices and the establishment of some trees that may damage the exposure. Trees that become established on the exposure may also pose a safety risk to the visitors on the footpath below. The sheer drops of the quarry faces require inspecting and managing to maintain safety of visitors.

### Factors Causing Change

Natural regeneration of saplings on the quarry face, Fly Tipping, Rock movements, safety requirements.

### Long term Objective (50 years+)

The aim is to conserve the exposures, through non-intervention and preventing anything that will interfere with the geology. No specific works are planned within this plan period as it is considered that the exposures will remain in their present state with natural changes due to colonisation of species on the exposures and shedding of heavier plant species from time to time.

### Short term management Objectives for the plan period (5 years)

Undertake observational monitoring once every plan period to ensure condition of the exposures is maintained within this vision. Keep quarries clear of fly tipping and disturbance.

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## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	1.68	Mixed broadleaves	1800	High forest	Gullies/Deep Valleys/Uneven/Rocky ground	Ancient Semi Natural Woodland, Geological Feature, Informal Public Access, Watercourses	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty, Regionally Important Geological and Geomorphological Sites, Special Area of Conservation

Compartment 1a lies to the extreme east of Dufton Ghyll woodland and contains old quarries with mature sweet chestnut, beech and lime trees. To the north it abuts the static caravan site and a grazing field, to the east are extended gardens and a quarry also with mature chestnut and beech trees. To the south is more grazed pasture land. The boundary to the east is defined by Dufton Gill stream, to the north and south by fences and to the west by the vehicular track. A public footpath enters from Nooks Fold from the north and travels southeast past the quarry faces travelling alongside the Gill, crossing the Gill via a wooden footbridge. At the footbridge another path travels up the side of a quarry heading southwest and out of the wood. The canopy trees (predominantly P1800/1890) are sweet chestnut and beech with occasional oak and sycamore. Overall the mix is about 40% beech (*Fagus sylvatica*), 20% sycamore (*Acer pseudoplatanus*), 20% sweet chestnut (*Castanea sativa*), 10% sessile oak and 10% ash. To the east the canopy is dense and the understorey sparse. Ferns and grasses dominate the ground flora with mosses and lichens covering the quarry face. The quarry face extends some 20m above the Gill. South of Nooks Fold there is a mix of much younger trees and this extends both sides of the Gill from the wooden footbridge and under the power lines (overhead power lines running north south). The canopy is dominated by sycamore with ash, beech and a rare cherry. The understorey is multi aged and dense consisting of regenerating beech, sycamore, ash and wych elm, rowan, elder, birch plus hawthorn. The steep bank to the north of the vehicular track was under-planted with ash, oak, hawthorn and blackthorn in 2000. Mosses and ferns are dominant in the quarry faces.



1b	8.76	Mixed broadleaves	1970	High forest	Gullies/Deep Valleys/Uneven/Rocky ground	Ancient Semi Natural Woodland, Geological Feature, Informal Public Access, Watercourses	Ancient Semi Natural Woodland, Area of Outstanding Natural Beauty, Regionally Important Geological and Geomorphological Sites, Site of Special Scientific Interest
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Dufton Ghyll Wood is in a steeply incised gorge and sub-compartment 1b includes all of the woodland to the west of sub-cpt1a on both sides of the stream. To the north and south is grazing land with much of the southern boundary being dry stone wall. To the west the boundary is denoted in part by the river Mill Beck (which is designated a Site of Special Scientific Interest and Special Area of Conservation as one of the River Eden tributaries) and in part by the public footpath that goes out to Mill Beck bridge. The main entrance from the north is a track for public access and management vehicles which crosses the river via a stone bridge to the east. Neighbouring farmers use this track to access stock to fields south of the wood. The northwest of the sub-compartment is accessed direct from the Dufton to Long Marton road. There is an information board and welcome signs at the entrance. Wood Lane, an old sunken green lane, cuts through the middle of the wood running north - south. A footpath (PROW 322008) runs through the compartment east to west through the middle of the sub-compartment parallel to Dufton Gill river. The vehicular track, which crosses the Gill then heads southwest out of the sub-compartment the farmland beyond the southern boundary. Grove post dedications can be seen throughout the compartment along the footpath. An over-storey of mature oak, rowan and sycamore are frequent with beech, birch and ash. There are also some horse chestnut. The compartment is roughly 15% sycamore (*Acer pseudoplatanus*), 15% sessile oak, 15% ash, 15% birch (*Betula pendula*), 10% beech (*Fagus sylvatica*), 10% rowan (*Sorbus aucuparia*), small leaved 5% lime (*Tilia cordata*) and wild cherry (*Prunus avium*) all planted 1970-80. Where the canopy is more mature there is multi-aged understorey of regenerating sycamore, ash and beech, hawthorn and rare crab apple, hazel, hawthorn, cherry and elm. The area is steep especially the banks to Dufton Gill and the west facing bank to Mill Beck, which is not accessible to visitors but can be seen from the public right of way that runs along the opposite bank of Mill Beck to the west. Additionally extensive planting took place in 1980 & 1981 of oak, ash, birch and lime with rowan, hazel, hawthorn and cherry and in 1983 a small area was planted to the northern boundary just south of field number 6819. Natural establishment of birch and sycamore has also occurred within the planted mix. Bracken is less dominant under the mature stems and here bluebells are abundant and dog's mercury frequent. In early spring there is a carpet of snowdrops on the northern bank near the main entrance. There is evidence that the oak and hazel to the west of the compartment was coppiced in the past. Dufton Gill river flows west through the middle of the sub-compartment. Where it joins Mill Beck, on neighbouring land, there is an area of willow that repeatedly gets flooded and is known as willow carr. There is also an old quarry to the northern bank of Dufton Gill, which historically was used as a tip for the village.

## GLOSSARY

### **Ancient Woodland**

Ancient woods are defined as those where there has been continuous woodland cover since at least 1600 AD. In Scotland ancient woods are defined strictly as sites shown as semi-natural woodland on the 'Roy' maps (a military survey carried out in 1750 AD, which is the best source of historical map evidence) and as woodland all subsequent maps. However, they have been combined with long-established woods of semi-natural origin (originating from between 1750 and 1860) into a single category of Ancient Semi-Natural Woodland to take account of uncertainties in their identification. Ancient woods include Ancient Semi-Natural Woodland and plantations on Ancient Woodland Sites (see below). May support many species that are only found in ancient woodland.

### **Ancient Semi - Natural Woodland**

Stands in ancient woods defined as those consisting predominantly of native trees and shrubs that have not obviously been planted, which have arisen from natural regeneration or coppice regrowth.

### **Ancient Woodland Site**

Stands in ancient woods that have been converted to plantations, of coniferous, broadleaved or mixed species, usually for timber production, including plantations of native species planted so closely together that any semi-natural elements of the understorey have been suppressed.

### **Beating Up**

Replacing any newly planted trees that have died in the first few years after planting.

### **Broadleaf**

A tree having broad leaves (such as oak) rather than needles found on conifers (such as Scots pine).

### **Canopy**

The uppermost layer of vegetation in a woodland, or the upper foliage and branches of an individual tree.

### **Clearfell**

Felling of all trees within a defined area.

### **Compartment**

Permanent management division of a woodland, usually defined on site by permanent features such as roads. See Sub-compartments.

### **Conifer**

A tree having needles, rather than broadleaves, and typically bearing cones.

### **Continuous Cover forestry**

A term used for managing woods to ensure that there are groups or individual trees of different ages scattered over the whole wood and that some mature tree cover is always maintained. Management is by repeated thinning and no large areas are ever completely felled all at once.

### **Coppice**

Trees which are cut back to ground levels at regular intervals (3-25 years).

### **Exotic (non-native) Species**

Species originating from other countries (or other parts of the UK) that have been introduced by humans, deliberately or accidentally.

### **Field Layer**

Layer of small, non-woody herbaceous plants such as bluebells.

### **Group Fell**

The felling of a small group of trees, often to promote natural regeneration or allow planting.

### **Long Term Retention**

Discrete groups of trees (or in some cases single trees) that are retained significantly past their economic felling age. Operations may still be carried out within them and thinning is often necessary to maintain stability.

### **Minimum Intervention**

Areas where no operations (such as thinning) will take place other than to protect public safety or possibly to control invasive exotic species.

### **Mixed Woodland**

Woodland made up of broadleaved and coniferous trees.

### **National vegetation classification (NVC)**

A classification scheme that allows an area of vegetation to be assigned to the standardised type that best matches the combination of plant species that it contains. All woodlands in the UK can be described as being one of 18 main woodland types (W1 - W18), which principally reflect soil and climatic conditions. For example, Upland Oakwoods are type W11, and normally occur on well drained infertile soils in the cooler and wetter north and west of Britain. Each main type can be subdivided into numerous subtypes. Most real woods contain more than one type or sub-type and inevitably some woods are intermediate in character and can't be properly described by any sub type.

### **Native Species**

Species that arrived in Britain without human assistance.

### **Natural Regeneration**

Naturally grown trees from seeds falling from mature trees. Also regeneration from coppicing and suckering.

## **Origin & Provenance**

The provenance of a tree or seed is the place where seed was collected to grow the tree or plant. The origin is the geographical location within the natural range of a species from where seeds/tree originally derives. Thus an acorn collected from a Turkey oak in Edinburgh would have an Edinburgh provenance and a southern European origin.

## **Re-Stocking**

Re-planting an area of woodland, after it has been felled.

## **Shrub Layer**

Formed by woody plants 1-10m tall.

## **Silviculture**

The growing and care of trees in woodlands.

## **Stand**

Trees of one type or species, grouped together within a woodland.

## **Sub-Compartment**

Temporary management division of a compartment, which may change between management plan periods.

## **Thinning**

The felling of a proportion of individual trees within a given area. The remaining trees grow to fill in the space created.

## **Tubex or Grow or Tuley Tubes**

Tubes placed over newly planted trees or natural regeneration that promote growth and provide protection from animals such as rabbits and deer.

## **Weeding**

The control of vegetation immediately around newly planted trees or natural regeneration to promote tree growth until they become established. Either by hand cutting or with carefully selected weed killers such as glyphosate.

## **Windblow/Windthrow**

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.