

Kilmagad Wood Management Plan 5123  
Plan period: 2006 to 2011  
This copy printed on: 09 October 2006



# **Kilmagad Wood Management Plan**

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## The Woodland Trust

### Introduction

The Trust's objectives and management principles guide the management of all the Trust's properties, and are described on Page 3. 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 where possible. The Woodland Trust also has available Policy Statements covering a variety of woodland management issues.

Any confidential 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. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme.

**Please contact the Woodland Trust to confirm details of the current management programme.**

There is a formal review of this plan every 5 years.

## Woodland Management Principles

We believe that our organisation and our objectives are unique, therefore, the style of management of our woods must also be unique. These principles outline our individual style of management. It is important however that these principles are not looked at in isolation.

**All Woodland Trust woods are certified by the Forest Stewardship Council.**

1. The Trust's main focus is the protection and conservation of ancient woodland. It also cares for other important habitats.
2. The Trust will identify and conserve the most important features of every site it owns, whether historical, cultural or ecological.
3. The Trust wants people to enjoy its sites. It will provide free, quiet, informal public access, primarily for walkers.
4. The Trust will take the views of local people and other stakeholders into account before making any decisions about a site.
5. The Trust will create new woods in sympathy with their surroundings.
6. The Trust recognises that woodland is a renewable and sustainable resource.
7. The Trust aims to fulfil its responsibilities and its legal obligations to its neighbours.

## Site Details

Kilmagad Wood

Scotlandwell, Loch Leven  
Grid reference: NO183023  
OS 1:50,000 Sheet No. 58

### Location:

The site is situated on steeply rising ground to the north east of the A911 between the villages of Kinnesswood and Scotlandwell. Off road parking is possible on the opposite side of the road close to the footpath entrance of the site either within the Church or village hall car parks[ both unofficial]

### County / District:

Perthshire & Kinross

### Area:

66.54 acres (26.93 hectares)

### Designations:

Area of Landscape Value

Altitude: Max 100 (m) Min 300 (m)  
Aspect: SW

## Summary Site Description

Location, Altitude, Aspect

Kilmagad Wood is situated on the south-western flanks of Munduff Hill, at the south-western end of the Lomond Hills. It is a broadly triangular site, wider on the lower slopes and narrowing to a point near the top of the slope. Forestry plantation abuts the site to the east and bracken-dominated grazing land on the upper slopes to the north, above a golf course. The wood overlooks the village of Scotlandwell and beyond to the Loch Leven catchment and is visible from a considerable distance. It lies on steep slopes, rising from approximately 100m above sea level at the side of the A911 to approximately 300m a.s.l. at the highest point on the northern boundary of the site.

Physical Description

The underlying rocks of the Lomond Hills present a range of strata as the hill is ascended. The lower slopes consist of sandstones from the Devonian period (old red sandstones) and produce deep, sandy, somewhat acidic soils. At upper levels the Carboniferous 'lower limestone' group is encountered, consisting of calciferous sandstones and thin layers of limestone. These rocks result in a more fertile soil. Apart from the old limestone quarry areas near the top of the site there are no natural outcrops. All the soils are freely draining. Further past the upper slopes of Kilmagad, the tops of the Lomond Hills are capped by a hard layer of quartz dolerite (part of the Midland Sill complex) an igneous rock emplaced near the end of the Carboniferous period. The Lomond Hills are a Geological Conservation Review (GCR) area.

The MLURI climate data describes the Loch Leven catchment as fairly warm moist lowland and foothill that is moderately exposed with moderate winters. However the slopes of Kilmagad are highly exposed to the south-west.

#### Woodland Description

Kilmagad lies on the shoulder of Munduff Hill, and is highly visible from the surrounding landscape. It consists of approximately 31% mature broadleaved woodland, 9% young broadleaved woodland (established since 1999) and 60% open ground. Historically, a greater area was wooded and the SNH Ancient Woodland Inventory shows the lower slopes as Long Established of Plantation Origin (LEPO) up to between 250-300m elevation. However, the 1st edition OS map (1856) shows the whole site except sub-compartments 1c and 1d as woodland (i.e. 80% wooded). The tree species and ground flora in most parts of the site support the LEPO description, although patches of woodrush throughout the site and the presence of wood sorrel and bluebell in the south-eastern parts may hint at a longer pedigree. The main tree canopy is currently concentrated to the south, west and north of the site, with the central and eastern parts open. The ground vegetation and the remaining scattered mature trees suggest that the central area (cpts 2b, 3c and 4f) was wooded until fairly recent times, the woodland having declined through a combination of grazing, windblow and loss of elm. The remnant trees in this area are generally in decline due to the exposure of the site.

Where there is mature woodland the abundant tree species are sycamore, beech and oak with frequent ash, birch, rowan and hawthorn, and occasional Scots pine, larch and hazel. There is little regeneration in most areas due the high rabbit population and browsing by roe deer. There are also substantial gorse thickets, and these are rapidly spreading and invading open ground as older trees are lost. The ground flora is dominated by grasses, with frequent patches of woodrush in the LEPO area and patches of dense bracken spreading upwards from the lower ground. The NVC classification over most of the site is W11 (grassy birch/oak), with W9 (herb-rich ash/elm/hazel) on richer soils. The combination of rabbits, deer, gorse and bracken mean that the woodland component of the site will continue to decline unless action is taken.

#### Other Habitats Description

To the east of the site cpts 1c and 1d are shown as open on the earliest maps, and show clear rig and furrow lines. The ground vegetation is dominated by tussock grasses, with frequent heathy species such as heather, blaeberry and heath bedstraw in the drier parts, and rushes and edges in wetter parts. The eastern side of the site is bounded by a drystone dyke, as is the north-western boundary.

#### Wildlife and Biodiversity

The woodland is important in providing additional habitats on the largely open Lomond Hills and shelter a range of small mammals, as well as rabbits, roe deer and foxes, Birds seen include kestrel, wren, tree creeper, skylark and green woodpecker. There is no detailed species list for the site at present. Directly to the north Kilmagad is bordered by the Bishop Hill SSSI, which is notified for its calcareous grassland.

#### Site History

The steeper slopes of Kilmagad are shown as wooded on the first edition OS map (c.1856), and local legend has it that it was planted in the shape of a lion, although this

is not currently discernable. From the rig and furrow on the central plateau (cpt 1c/1d) and the abundance of tracks it is clear that the easier slopes were farmed at some point. There are also a number of tracks leading from a limestone quarry near the top of the site to the limekiln on the lower slopes (dates of working are not known). The woodland has been in decline for some years and more recently the hill was used as grazing land. The site was purchased in 1998 by the Woodland Trust with assistance from the Scottish office Rural Challenge Fund, Perth and Kinross Council, the Gannochy Trust and the local community. Since then sheep have been excluded and woodland restoration has commenced. Since 1999 about 2.5ha of planting of young native trees has taken place.

#### Access

The paths through the site are well-used by both local people and visitors, many passing through either to the Lomond Hills or on the Tetley Trail. A survey carried out in 2000/2001 estimated 9000 visits per year. There are 1874m of maintained path across the hillside, connecting three entrances. The path network passes through both mature broadleaved woodland and open ground, and provides spectacular panoramic views across Loch Leven and to the south and west. The northern entrance gives access to Munduff Hill and the Lomond Hills beyond. From the road the southern entrance is accessed up a 125m right of way (up a flight of steps and two stiles). There is no parking on site, but parking is permitted in the church car park 100m west of the southern entrance. The paths are unsurfaced and often moderately steep. Some sections are uneven and become muddy after wet weather. The internal path network links well into the path network in the surrounding countryside and includes a 700m section of the Tetley Trail a circular route linking the villages of Scotlandwell and Kinnesswood with the Woodland Trust sites of Kilmagad and Portmoak Moss.

Management access to the site is poor. A gate on the eastern site boundary provides access from the forest road through Kinnesswood Farm. Access here is by permission from Fountain Forestry, who manage the adjacent land. A right of access exists from the west across a grazing field. This may be temporarily upgraded if needed, subject to final reinstatement. Within the site, steep slopes and uneven ground generally limit access to tractor or ATV.

#### Community Involvement

The local community raised a substantial sum of money towards the purchase of the wood in 1998, and there is now an extremely active Community Woodland Group (CWG) who are also involved in the management of neighbouring Portmoak Moss. The group engage both in management decisions and practical work, and meet once a month, as well as organising activities, events & fundraising. In 2005 they won the WT Scottish Community Group of the Year Award. The CWG has one member trained and qualified for chainsaw work, and it also owns a mobile saw mill. The support of the CWG is essential to whatever management objective and methods are adopted.

### Summary Description of Access Provision

Kilmagad can be reached by public transport by bus to Scotlandwell. From the road junction in the centre of the village, walk north (towards Kinnesswood) along the footway of the main road (A911). After 300m the path to Kilmagad leads up a flight of steps to the right.

By car, follow the 911 to Scotlandwell church, which lies 400m north of the main road junction in Scotlandwell. Parking is permitted in the church car park. Cross the road, and follow the footway back towards Scotlandwell, finding the path to Kilmagad on the left after 100m, leading up a flight of steps.

There are just under 2km of maintained paths across the hillside, connecting three entrances. The path network passes through both mature broadleaved woodland and open ground, and provides spectacular panoramic views across Loch Leven. The paths are unsurfaced and often moderately steep. Some sections may be uneven and become muddy after wet weather. The main (lower) entrance is accessed by a flight of steps and two stiles. The upper entrances have kissing gates.

The paths link well into the surrounding Portmoak Path Network, including the Tetley Trail, a circular route linking the villages of Scotlandwell and Kinnesswood with the Woodland Trust sites of Kilmagad and Portmoak Moss.

## Public Rights of Way

Type of ROW	Description of route
Footpath	See - Public Access -.

## Facilities available

Facility	Yes/No
Woodland Trust car park at site	No
Parking nearby	Yes
Local parking difficult	No
Good views	Yes
Waymarked walk	No
Information board	No
Free leaflet available	No
Well worth a visit	Yes

## Long Term Intentions

The long term vision (100 years plus) is that the site will be a mix of woodland, scrub and open grassland. Approximately 70% of the site will be broadleaved woodland of mixed species and ages. This will be concentrated on the lower and western parts of the site which have previously been wooded (LEPO). The main canopy trees will be oak and birch, with some ash and sycamore on richer soils and lesser quantities of hawthorn, hazel and rowan. All of the currently mature broadleaved trees will be retained where possible and there will be frequent standing and fallen deadwood. There will be a diverse ground flora approximating to NVC classes of W11/W9. The woodland will blend naturally into the form of the landscape when seen from afar, and viewpoints from within the wood will be maintained.

To achieve this vision, the following guidelines will be adopted:

- Mature woodland areas will be allowed to develop naturally, leaving standing and fallen deadwood in situ. Where substantial gaps appear in the canopy they will be restocked with native broadleaved trees in 1.2m shelters.
- There will be a gradual process of restoration to woodland of the areas previously wooded (as per 1st ed. OS map). This will be prioritised on the lower slopes first, and in areas where there is still remnant woodland ground flora. Restoration will be by planting of native species of local provenance. Tree species will be dominated by birch and oak, with lesser quantities of ash, hazel, rowan and hawthorn. This restoration will be phased over the period 2006 - 2021.
- Rabbits pose a serious threat to tree establishment, and any planting must be protected against them. Their control is not practical due to their favoured burrow areas being amongst the extensive gorse thickets. Roe deer are visitors to the site and also pose a threat to tree establishment. Control is unlikely to be practical without the cooperation of neighbouring landowners, and even then would prove difficult with the large area of cover on adjacent land. Where among (or on the edge of) existing mature woodland, the planted trees will be protected in 1.2m shelters. In exposed areas they will be protected in deer/rabbit proof fenced enclosures (with self-closing gates to permit access).
- Substantial gorse thickets will always be present on the site and are a valuable component of the ecosystem. However, gorse will be controlled where it threatens the regeneration/restocking of young planting, or its encroachment threatens to significantly decrease the area of other habitats.

In the short term (next 5-years) the southern enclosure (cpt 4f) will be upgraded to a deer fence and planted with native species. In all 2ha will be planted with oak, birch, ash rowan and hawthorn at 2m spacing (5000 trees). In cpt 3a/b, there will be gorse control where this is invading gaps in the canopy, followed by planting with native trees at 2.5m spacing in 1.2m shelters (0.69ha, 1100 trees). Existing areas of young planting will be maintained by replacement planting and shelter maintenance as needed, followed by shelter removal by the end of the period (shelters will be recycled if practical).

#### Informal Public Access

The site will provide quiet informal access to local users as well as visitors accessing the Lomond Hills, Portmoak Path Network and Tetley Trail. The managed path network will be maintained as well-drained and clear of obstacles and overhanging branches. It will offer experience of both woodland and open ground, giving panoramic views across loch level and beyond.

In the short term (next 5-years) this vision will be achieved by responding to the level of use and keeping managed paths well-drained and free from vegetation, obstacles and over-hanging branches. The interest to visitors will be improved by the installation of panoramic viewpoint indicator by community woodland group (by 2007). There may be potential for integration with the wider path network by liaison with the P&K Access Officer regarding core path networks and the proposed LDP (Pilgrims Path).

#### Community Involvement

The local community will continue to be consulted on works taking place in the wood and public consultation will be undertaken whenever the management plan is reviewed. The Portmoak Woodland Group will continue to be actively involved with the ongoing management of the wood through regular updates at their meetings and work days to

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undertake various tasks. Any interest identified in activity in other areas will be facilitated as far as possible.

## Compartments and Sub-compartments

(Compartments are permanent subdivisions marked by permanent boundary features such as rides, streams etc. Sub-compartments are divisions of compartments and are not necessarily permanent units; their boundaries may change as a result of management or natural processes.)

Sub Cpt No.	Sub Cpt Area Ha	General Description	Management Regime	Management Constraints	Key Features Present	Designations
1A	1.68	The most northerly section of the site at the highest elevation, the southern half of this subcompartment is relatively steeply sloping. The sub-compartment is bisected by an area of open ground belonging to cpt 1d. The majority of the area is planted with mixed native broadleaves in 1.2 m tubes (mainly birch & oak) planted 1999. There is also a scattering (approx 10%) of mature and semi-mature trees dominated by larch, with occasional sycamore, beech and rowan, Scots pine, ash and Norway spruce. Trees are stunted due to the exposed conditions. There is no understorey and no notable natural regeneration. Ground flora is patchy and tussocky, dominated by grasses including abundant tufted-hair grass, frequent soft rushes, occasional woodrush and bilberry, and rare wood-sorrel. Nettles and thistles also occur occasionally. There are occasional standing and fallen mature dead Scots pine	To maintain the newly planted trees to establishment as high forest.	ATV access only, Deer Pressure from adjacent land	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value

		trees. Evidence of herbivores is rare.						
1B	1.18	On a south-westerly slope, this subcompartment has about 70% cover of mature and semi-mature trees, consisting of frequent sycamore, larch and Scots pine, occasional birch and beech, and rare ash, oak, Norway spruce and hazel. Trees are stunted due to exposure. There is no understorey and only occasional beech regeneration under the beech canopy. There is about 70% cover of ground flora, predominantly grasses including frequent tufted-hair grass, as well as frequent soft rushes and occasional bilberry, nettles and creeping cinquefoil. There is abundant dead wood, both fallen and standing. There is occasional evidence of rabbits, including a small warren in the west.	When large canopy gaps start to appear, in fill with group planting of native broadleaves in 1.2m tubes.	Very Steep Slope, ATV access only, Deer Pressure from adjacent land	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value		
1C	1.09	This is an area of open ground covered with dense tussock grasses including abundant tufted-hair grass, as well as occasional woodrush, heather, blaeberry, soft rush, thistle, creeping cinquefoil, and rarely Viola spp. A rabbit fence encloses the majority of the area to protect possible regeneration from adjacent 1b,	Minimum intervention. Accept any regeneration in rabbit enclosure.	ATV access only, High Rabbit Population, Deer Pressure from adjacent land	Informal Public Access, Community Woodland Group	Area of Landscape Value		

		but the dense turf limits opportunities. There is only rare regeneration of rowan, beech and sycamore, and occasional rabbit and deer dung suggests browsing is likely in this area. There is occasional gorse (5% cover).						
1D	4.98	A mainly open area on moderate slopes with old drainage lines visible. Ground flora (95% cover) consists mainly of grasses, including abundant tufted-hair grass and soft rush, frequent heather and occasional woodrush, creeping cinquefoil, blaeberry, thistle and sedge species. Terrain is tussocky and uneven with wet flushes. Approximately 10% of the area is covered by gorse, including an extensive patch occupying c. 0.5ha in the southeast of the area, and some further scattered patches on the eastern side. There is a high rabbit population. There are no trees.	Minimum Intervention. Area to be maintained as a mosaic of open grassland and gorse. Gorse to be controlled if it exceeds 20% of the area.	ATV access only	Informal Public Access, Community Woodland Group	Area of Landscape Value		
2A	1.39	Relatively steep with a mainly westerly aspect, the area has about 80% mixed mature canopy cover with frequent larch and beech, occasional sycamore and Scots pine and rare oak, willow, rowan, birch and ash. Trees become more scattered at edges. Beech and sycamore dominate in the lower and mid slopes, with larch in narrow belts along the northern boundary. The understorey (5% cover) consists of gorse with occasional hawthorn. There is	Maintain as wooded area, using group replanting of trees in 1.2m tubes where shelter is adequate as gaps begin to open up.	Steep uneven slopes, Small cliff in north, High deer and rabbit presence, Shallow gullies	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value		

		abundant beech regeneration from spring 2004 under the beech canopy. There is 95% cover of ground flora (sparse under beech) dominated by grasses including frequent tufted-hair grass, frequent woodrush, occasional wood-sorrel, bracken (in open areas) and nettles. There is frequent standing and fallen dead wood. Rabbits are present.					
2B	2.01	An area of moderately strong slopes (W to SW) bisected by two gullies in the south. It is predominantly open ground with less than 10% canopy cover in three small groups of trees, dominated by sycamore and larch, frequent beech, with occasional ash and hazel, and rare rowan. Many trees are in decline due to age and exposure and there are occasional standing dead trees. There is occasional gorse. There is no notable tree regeneration, and rabbits are frequent. Ground flora is dominated by grasses including frequent tufted-hair grass, as well as frequent woodrush (in patches) and heather, occasional soft rushes, thistle and nettles.	Restore to woodland of mixed native species maintaining open space along the main footpath routes and where rock outcrops near the surface. A deer/rabbit enclosure is recommended as the site is too exposed for tree shelters.	Steep uneven slopes , Shallow gullies, High deer and rabbit presence	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value	
3A	0.59	Moderately steep west-facing slopes with 70% mature & semi-mature canopy cover. Trees are relatively dense in gullies and more scattered on ridges, dominated by sycamore, with frequent rowan, occasional oak and rare ash and beech. Beech regeneration from spring 2004 is abundant and there is occasional evidence of	As gaps develop in the existing canopy, interplant groups of mixed native species in 1.2 m tubes	Steep uneven slopes, Gullies falling of to the west, ATV access only	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value	

		<p>browsing. Areas of open ground occur throughout, dominated by grasses with abundant patches of woodrush and bracken, as well as frequent wood-sorrel and occasional gorse, dock, creeping buttercup and creeping cinquefoil. There are several fallen mature trees, and some standing dead wood.</p>				
3B	0.53	<p>A strip of open, mature broadleaved woodland on a relatively steep slope. Delineated at its upper boundary by an old hill track and at its lower by the footpath. Species are dominated by sycamore, with frequent oak and rowan, occasional beech and rare ash and hazel, covering approximately 50% of the area, and becoming more open at its upper margins. There is abundant sycamore regeneration despite evidence of a substantial rabbit population. About 25% of the area is covered by gorse, which encroaches rapidly where mature trees have been lost. Ground flora is dominated by grasses, frequent patches of bracken, and occasional woodrush, germander speedwell and wood-sorrel. There are occasional fallen and standing dead trees.</p>	<p>To halt loss of woodland habitat by control of gorse and supplementary enrichment planting of groups of mixed native species in 1.2 m tubes.</p>	<p>Steep slopes, Encroaching gorse, High rabbit and deer pressure</p>	<p>Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group</p>	<p>Area of Landscape Value</p>

3C	5.37	<p>Mainly open and moderately steep south-westerly sloping, dissected by several deep gullies in the western half. About 5% of the area is covered by mature and semi-mature trees, dominantly sycamore and beech with occasional ash and rare oak. Many trees are in decline through age and exposure and there is abundant dead wood, both fallen and standing. A rabbit fenced enclosure (~1 ha) lies within the eastern half of the subcompartment, but there is no notable regeneration. There is dense (and expanding) gorse in the gullies, along the south-eastern track edge and some encroachment from 3b below. Otherwise, Ground flora is dominated by grasses, with occasional woodrush and woodruff, and rare wood-sorrel. Bracken is encroaching from the lower slopes.</p>	<p>Restore approximately 70% of this area to native woodland (birch/oak). Leave area between central gullies as open ground to retain landscape interest, views out from top path and open ground habitat. Fenced exclosures will be required in the planting areas and control of gorse and bracken will be necessary within them).</p>	<p>Steep uneven slopes to the west, Deep gullies, Encroaching gorse and bracken, Access difficult, High rabbit and deer pressure</p>	<p>Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group</p>	<p>Area of Landscape Value</p>
4A	0.5	<p>A west-facing gentle slope, this area is mostly occupied by young planting (2003) of native species (sessile oak, ash, birch, rowan, hazel &amp; hawthorn) in 1.2m tree shelters. Patchy gorse is spreading following previous control. There is abundant beech regeneration. The ground flora is dominated by grasses, with frequent dock and thistle and occasional germander speedwell, creeping buttercup and great woodrush. There are rare patches of bracken. Dead wood is rare. Rabbits are present.</p>	<p>Maintain young planting to establishment. Control gorse if establishment is threatened.</p>	<p>ATV access only, High rabbit and deer pressure,</p>	<p>Informal Public Access, Community Woodland Group</p>	<p>Area of Landscape Value</p>

4B	3.29	A strip of mature woodland running along the lower, gentler slopes of the site below the Tetley Trail, and crossed by a series of broad ridges and wide gullies, one of which contains an old limekiln. The density of trees varies (approx 80% overall) with abundant sycamore, frequent beech and oak, and occasional rowan, birch and ash. There is patchy gorse (10%) in open areas. There is abundant sycamore regeneration despite much evidence of rabbits. Ground flora is sparse in the gullies and under beech canopies, and is dominated by grasses, with frequent wood-sorrel and occasional creeping buttercup, great woodrush, soft rush, bracken and nettles, with rare bluebells. There is occasional standing and fallen dead wood.	Retain existing mature tree and use group or enrichment planting to regenerate when gaps begin to open up, with gorse control as needed.	ATV access only, Access only from adjacent land, High rabbit and deer pressure	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value
4C	0.26	Open area enclosed by cpt 4b with shallow south westerly slope, Scattered mature trees (10%) stand in an area mostly dominated by grasses, with bracken dominating to the east. Some beech regeneration.	Retain as open ground	ATV access only, Access only from adjacent land, High rabbit and deer pressure	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value
4D	0.44	An area partly planted (1999) with mixed native broadleaves (oak, birch, ash, rowan, hazel, hawthorn) in 1.2m shelters. Ground flora of soft grasses on gentle slope. Patches of gorse continue to encroach following previous control. There is rare beech regeneration	Maintain young trees until establishment, controlling gorse as necessary to achieve this.	ATV access only, Access only from adjacent land, High rabbit and deer pressure	Informal Public Access, Long Established Woodland of Plantation Origin, Community	Area of Landscape Value

		despite presence of rabbits. Ground flora is dominated by grasses with occasional thistle, woodruff and germander speedwell. There is rare dead wood, mostly gorse stumps.				Woodland Group	
4E	0.98	Mature broadleaved woodland consisting of abundant sycamore, frequent oak, occasional birch, and rare ash. Most of the compartment lies within a rabbit fenced enclosure. Many trees showing signs of gradual decline although there is frequent sycamore regeneration. The ground flora includes soft grasses, bluebells and oxalis, but the more open upper edge is dominated by encroaching bracken. There is frequent coarse dead wood both fallen and standing.	Retain mature canopy. If gaps occur through losses restock through natural regeneration or group planting.	No vehicular access, High rabbit and deer pressure	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value	
4F	2.64	An area of relatively steeply sloping, south facing, mostly open ground. There is less than 5% tree cover (mainly oak with frequent rowan and sycamore). There is patchy gorse, re-encroaching (10%) following control, particularly in the east, north-west and along the top path. There is occasional birch regeneration but this is subject to heavy browsing. Ground flora is dominated by grasses, with frequent tufted hair grass, floglove and woodruff, and occasional thistles, nettles and bracken. Most of the area lies	Raise height of fence to exclude both deer and rabbits. Plant with native broadleaved species and maintain to establishment, controlling gorse as necessary.	No vehicular access, High rabbit and deer pressure	Informal Public Access, Long Established Woodland of Plantation Origin, Community Woodland Group	Area of Landscape Value	



## Key Features

(The Key Features of the site are identified and described in the table below. They encapsulate what is important about the site, and which site management is aimed at conserving.)

Key Feature Name	Ref. No.	Key Feature Description	Constraints and opportunities	Evaluation - Why is it important?	Cpt No.
Informal Public Access	f1	There are 1874m of maintained path across the hillside, connecting three entrances. This includes a 700m section of the Tetley Trail (between the southern and western entrances) a circular route linking the villages of Scotlandwell and Kinnesswood with the Woodland Trust sites of Kilmagad and Portmoak Moss. The path network passes through both mature broadleaved woodland and open ground, and provides spectacular panoramic views across Loch Leven and to the south and west. The northern entrance gives access to Munduff Hill and the Lomond Hills beyond. From the road the southern entrance is accessed up a 125m right of way (up a flight of steps and two stiles). There is no parking on site, but parking is permitted in the church car park just west of the southern entrance. The paths are unsurfaced and often moderately steep. Some sections may be uneven and muddy after wet	<p>Constraints:</p> <ul style="list-style-type: none"> <li>- Steep slopes and soft surfaces make the site unsuitable for multi-use or all-abilities access.</li> <li>- Woodland expansion on the mid-slopes must be designed in a fashion to retain adequate viewpoints.</li> <li>- There is poor access for path maintenance machinery and materials</li> </ul> <p>Opportunities:</p> <ul style="list-style-type: none"> <li>- Proposed Pilgrims Way may pass through site.</li> <li>- Core path planning process may provide access to resources</li> </ul>	The paths are well-used by both local people and visitors, many passing through either to the Lomond Hills or on the Tetley Trail. The long-distance views provided are exceptional. A survey carried out in 2000/2001 estimated 9000 visits per year. The current level of public use is defined as WT Access Category A (High: Regularly used at all times of year; more than 15-20 people using one entrance every day). The internal path network links well into the path network in the surrounding countryside. The provision of access supports the Trust's corporate objective of 'Increasing people's awareness and enjoyment of woods'.	Whole Site

Long Established Woodland of Plantation Origin	f2	weather.		
	<p>Kilmagad lies on the shoulder of Munduff Hill, and is highly visible from the surrounding landscape. It consists of approximately 31% mature broadleaved woodland, 9% young broadleaved woodland (established since 1999) and 60% open ground. Historically, a greater area was wooded, and the SNH Ancient Woodland Inventory shows the lower slopes as LEPO (Long Established of Plantation Origin) up to between 250-300m elevation. However, the 1st edition OS map (1856) shows the whole site except sub-compartments 1c and 1d as woodland (i.e. 80% wooded). The tree species and ground flora in most parts of the site support the LEPO description, although patches of woodrush throughout the site and the presence of wood sorrel and bluebell in the south-eastern parts may hint at a longer pedegree. The main tree canopy is currently concentrated to the south, west and north of the site, with the central and eastern parts open. The ground vegetation and the remaining scattered mature trees suggest that the central area (cpts 2b, 3c and 4f) were wooded until fairly recent times, the woodland having declined through a</p>	<p>Constraints:</p> <ul style="list-style-type: none"> <li>- Slopes/access - Topography of the site limits access to quad in most areas</li> <li>- Landscape - High visibility may influence design and management</li> <li>- Exposure - Loss of previous canopy means that many areas are now very exposed</li> <li>- Browsing - High rabbit and deer populations present in neighbouring land</li> </ul> <p>Opportunities:</p> <ul style="list-style-type: none"> <li>- To restore woodland cover in the LEPO areas on the lower and mid slopes.</li> </ul>	<p>The woodland is on the SNH Ancient Woodland Inventory (AWI) as LEPO 1860, and has therefore existed as mature woodland since at least 1856. The areas that are presently under woodland cover therefore have the potential for a relatively high biodiversity. The areas of woodland cover that have been lost over recent decades are likely to retain an element of woodland habitat and therefore are a priority for restoration. The woodland is also highly visible from the surrounding landscape and is designated as ALV (Area of Landscape Value). There is little other ancient woodland in the vicinity. However, Kilmagad links into other semi-natural scrub and open ground habitats on Munduff Hill and borders a conifer plantation to its east. The management and restoration of LEPO areas meets the Trust's corporate objectives of 'Improving</p>	<p>1 A, 1 B, 2 A, 2 B, 3 A, 3 B, 3 C, 4 B, 4 C, 4 D, 4 E, 4 F</p>

	<p>combination of grazing, windblow and loss of elm. The remnant trees in this area are generally in decline due to the exposure of the site. To the east of the site cpts 1c and 1d are shown as open on the earliest maps, and show clear rig and furrow lines.</p> <p>Where there is mature woodland the abundant tree species are sycamore, beech and oak with frequent ash, birch, rowan and hawthorn, and occasional Scots pine, larch and hazel. There is little regeneration in most areas due the high rabbit population and browsing by roe deer. There are dense gorse patches in some areas which are rapidly spreading and invading open ground as older trees are lost. The ground flora is dominated by grasses, with frequent patches of woodrush in the LEO area and patches of dense bracken spreading upwards from the lower ground. The NVC classification over most of the site is W11, with W9 on richer soils. The combination of rabbits, deer, gorse and bracken mean that the woodland component of the site will continue to decline unless action is taken.</p>		<p>the biodiversity of woods' and 'Preventing the loss of ancient woodland'.</p>	<p>Whole Site</p>
<p>Community Woodland Group</p>	<p>f3</p>	<p>Opportunities:                  - To involve the local community in decision making</p>	<p>There is a high degree of community interest in the woodland, and this is important</p>	<p>Whole Site</p>

	<p>extremely active Community Woodland Group (CWG) who are also involved in the management of neighbouring Portmoak Moss. The group engage both in management decisions and practical work, and meet once a month, as well as organising activities, events &amp; fundraising. In 2005 they won the WT Scottish Community Group of the Year Award. The CWG has one member trained and qualifies for chainsaw work, and it also owns a mobile saw mill. The support of the CWG is essential to whatever management objective and methods are adopted.</p>	<ul style="list-style-type: none"> <li>- Use feedback from the CWG to ensure that public access and woodland management are developed in a balanced way</li> <li>- To involve the local community in the practical management of the site</li> <li>- To engage with Portmoak Primary School via the CWG</li> </ul>	<p>given the changes to the landscape that will result from woodland restoration. Working in partnership with the CWG supports the WT Woodland Management Principle of involving local people in management decisions. It also meets the Trust's corporate objective of 'Increasing peoples awareness and enjoyment of woods'.</p>
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### Management Objectives for each Key Feature

Section 7 provides a concise non technical statement of the overall long term intentions for the whole site. In this sub section are the long and short-term objectives applying to each key feature.

Key Feature Name	Ref. No.	Vision	Factors causing change	Prediction / Short term objective
Informal Public Access	f1	The site will provide quiet informal access to local users as well as visitors accessing the Lomond Hills and Tetley Trail. The managed path network will be maintained a well drained and clear of obstacles and	Gorse Encroachment on Path Network	<ul style="list-style-type: none"> <li>(i) Access provision will be in line with WT Access Guidelines and site access coding (A). Achieved by keeping managed paths well-drained and free from vegetation, obstacles and over-hanging branches (annual).</li> <li>(ii) Improve interpretation of site. Achieved by installation of panoramic viewpoint indicator by community woodland group (by 2007).</li> <li>(iii) Monitor potential for integration with wider path network by liaison with P&amp;K Access Officer re core path network and proposed LDP</li> </ul>

		<p>overhanging branches. It will offer experience of both woodland and open ground, offering panoramic views across Loch Leven and beyond. The path network will link into the surrounding path network where practical.</p>		<p>(Pilgrims Path) (ongoing).</p>
<p>Long Established Woodland of Plantation Origin</p>	<p>f2                  The site will be a mix of woodland, scrub and open grassland. Approximately 70% of the site (concentrated on the LEPO area, lower and western parts of the site) will be broadleaved woodland of mixed species and ages. The main canopy trees will be oak and birch, with some ash and sycamore on richer soils and lesser quantities of hawthorn, hazel &amp; rowan. All of the currently mature broadleaved trees will be retained if possible and there will be frequent standing and fallen deadwood. There will be a diverse ground flora approximating to NVC classes of W11/W9. The woodland will blend naturally</p>	<p>Invasive gorse, Deer damage, Rabbit damage, Exposure causing decline of fragmented woodland</p>	<p>(i) Mature woodland areas will develop naturally without planned intervention in this plan period. Retain all standing and fallen deadwood in situ.                  (ii) Safeguard the establishment the young planting (2.5ha) in 1a, 4a, 4d and the lower part of 4f. Achieve by (a) annual inspection, followed by replacement planting if stocking drops below 90%, and shelter maintenance as required (b) control gorse by cutting/burning where threatening establishment (4a, 4d, 2007) and (c) remove shelters when free from deer browsing/thrashing threat (by 2011 latest).                  (iii) Restore LEPO by new planting in cpt 4f enclosure (planting area 1.80ha, by 2011). Achieve by (a) control gorse by cutting/burning where threatening establishment (2008) (b) upgrade rabbit fenced enclosure to exclude roe deer (640m, 2008) (c) ensure good rabbit control in enclosure and near fence line (annual) (d) Plant 2ha at 2500/ha (sessile oak 40%, downy birch 15%, silver birch 15%, ash 20%, rowan 5% hawthorn 5%)(2009) (e) weed control by propyzamide (4500 spots, 2009) and then subsequently with glyphosate (4500 spots, 2010 + , only if needed) (f) annual survey &amp; replacement planting if stocking below 90% (2009-2011).</p>	

		<p>into the form of the landscape when seen from afar, and views out will be maintained.</p>		<p>(iv) Manage LEPO by enrichment planting in cpt 3a/3b (plantable area 0.69ha, by 2011). Achieve by (a) control gorse by cutting/burning where threatening establishment (2008) (b) plant 1100 trees in 1.2m tubes (sessile oak 40%, downy birch 15%, silver birch 15%, ash 25%, rowan 5%) (2009) (d) weed control by proyzamide (1100 spots, 2009) and then subsequently with glyphosate (1100 spots, 2010 + , only if needed) (e) annual survey &amp; replacement planting if stocking below 90% (2009-2011).</p>
<p>Community Woodland Group</p>	<p>f3</p>	<p>The community group will maintain a high level of interest and involvement in the management of the woodland, both in the decision-making process and in practical management work.</p>		<p>(i) CWG to be involved in all major site management decisions. Achieved by regular attendance of the Woodland Officer (WO) at CWG meetings where current and future management works are discussed. When unable to attend the WO will email an update to the CWG chairperson.                  (ii) CWG has the opportunity to be involved in the practical management of the woodland - activities to be agreed between WO and CWG.</p>

## 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.

## **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.

## **Mixed Woodland**

Woodland made up of broadleaved and coniferous trees.

## **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.