Land Management Plan 2020 - 2039

This plan sets out the strategic direction for management over the next 20 years and provides details of the operations proposed in the first 10 years.



Land Management Plan

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of responsible forestry



Promoting Sustainable Forest Management www.pefc.org

Contents	
1. Sum	nmary6
1.1	Location6
1.2	The site6
1.3	Certification6
1.4	Key Issues6
1.5	Proposals in Brief6
1.6	Changes over Plan Period
1.6.	1 Proportion of Species
1.6.	2 Age Class Distribution
1.7	Timing8
1.7.	1 Plan Period8
1.7.	2 Previous Plan approval8
1.8	Consultation and Further Information
1.8.	1 Scoping
1.8.	2 Felling Approval
1.8.	3 Further information8
2. Scot	tish Forestry Regulatory Requirements11
2.1	Summary of Planned Operations for Phases One and Two
2.1.	Proposed Felling in Years 2020-202911
2.1.	2 Details of Clearfell by Coupe Over Plan Period
2.1.	Changes in Age Class over Plan Period
2.1.	4 Proposed Thinning (2020-2029)11
2.1.	5 Proposed Restocking (2020-2029)
2.1.	6 Proposed Restocking by Coupe 2020-2040
2.1.	7 Proposed Woodland Creation12
2.1.	8 Species Change Over Plan Period
2.1.	9 Access and Roading in Years 2020-2029
2.2	Departure from UKFS Guidelines
2 EIA	Screening Determination 14

	3.1	Defo	prestation	L4
	3.2	Fore	est Roading1	14
	3.3	Qua	rries	14
	3.4	Affo	restation1	14
	3.5	Addi	itional Regulatory Requirements	14
	3.5.	1	Water Framework	14
	3.5.	2	Prior Notification	14
	3.5.	3	Planning Consent	14
	3.5.	4	Consent for Works Within a SSSI.	14
4.	Intro	oduct	ion1	15
	4.1	Exist	ting Land Holding	15
	4.2	Setti	ing and Context	15
	4.2.	1	Landform	15
	4.2.	2	Land use	15
	4.2.	3	History	15
	4.2.	4	Community	15
	4.2.	5	Heritage Features	15
	4.2.	6	Water / Hydrology	15
	4.2.	7	Flooding	15
	4.2.	8	Fire	15
	4.2.	9	Utilities	15
	4.2.	10	Tree Heath and Pathogens	15
	4.2.	11	Peat	15
	4.3	Lanc	d Management Plan Management Zones	L6
	4.3.	1	Productive Woodland	16
	4.3.	2	Woodland Principally for Biodiversity	16
	4.3.	3	Community Woodland	16
	4.3.	4	Open, Non Woodland Habitat	16
5.	Plan	Brief	f and Objectives	18
	5.1	Issue	es1	18

5.2 Key Challenges	18	9. Management Prescriptions	32
5.3 Key Strategic Direction	18	9.1 Stewardship	32
5.3.1 National Spatial Overview	18	9.1.1 Beatup	32
5.3.2 Other Key Policies and Drivers	18	9.1.2 Chemical Minimisation	32
5.4 Management Objectives	19	9.1.3 Pruning	32
5.4.1 Objective 1	19	9.2 Silvicultural Systems	32
5.4.2 Objective 2	19	9.2.1 Thinning	32
5.4.3 Objective 3	19	9.3 Future Habitats and Species	34
5.4.4 Secondary Objectives	19	9.3.1 Restocking	34
6. Analysis and Concept	20	9.3.2 Woodland Creation	34
6.1 Analysis	20	9.4 Ancient Woodland	34
6.2 Concept Map	22	9.5 Operational Access	37
7. Long Term Land management Plan Proposals	23	9.5.1 New Access	37
7.1 Management	23	9.5.2 Timber Haulage to Public Road Network	37
7.2 Silvicultural Systems	23	9.5.3 Timber transport Routes	37
7.3 Harvesting Proposals	23	9.5.4 Management Access	37
7.3.1 Thinning Proposals	23	9.6 Wildlife Management	39
7.3.2 Felling Proposals	23	9.7 Management of Open Ground	41
7.4 Future Habitats and Species	27	9.7.1 Hill Ground	41
7.4.1 Restocking Species	27	9.7.2 Internal Open Ground	41
7.4.2 New Woodland	27	9.8 Public Access	41
7.5 Open Land management	29	9.9 Heritage Features	41
7.5.1 Open Hill Ground	29	9.10 Plant Health	42
7.5.2 Integral Open Ground	29	9.10.1 Phytopthora ramorum	42
8. Critical Success Factors	31	9.10.2 Chalara Ash Dieback	42
8.1 Broadleaf Areas	31	9.10.3 Dothistroma Needleblight	42
8.2 Confer Areas	31	10. Appendices	43
8.3 Integral Open Ground	31	10.1 Land Management Plan Consultation Record	43
8.4 Hill Ground	31	10.1.1 Record of Responses from Statutory Consultees	43
8.5 Community	31	10.1.2 Other Consultees	45

10.3	1.3	Responses From Public Meeting 24 th August 2019	46
10.3	Ana	lysis of the Previous Plan	49
10.4	Sch	edule of Works	51
10.5	Bacl	kground Information	52
10.5	5.1	Physical Site Factors	52
10.5	5.2	Climate	53
10.5	5.3	The Existing Forest	54
10.5	5.4	Land Use	55
10.5	5.5	Biodiversity and Environmental Designations	55
10.5	5.6	Landscape	55
10.5	5.7	Social Factors	56
10.5	5.8	Statutory Requirements and Key External Policies	56
10.6	Tole	erance Table	58
10.7	Land	d Management Plan Brief	Error! Bookmark not defined.
10.7	7.1	Strategic Influence	Error! Bookmark not defined.
10.8	SSSI	Management Plan	59

Land Management Plan

1. Summary

1.1 Location

Westfield is located on the edge of Strathmore in Perthshire just North West of Alyth town centre. The town of Alyth itself has a population of approximately 3,000 in a region where agriculture dominates the landscape.

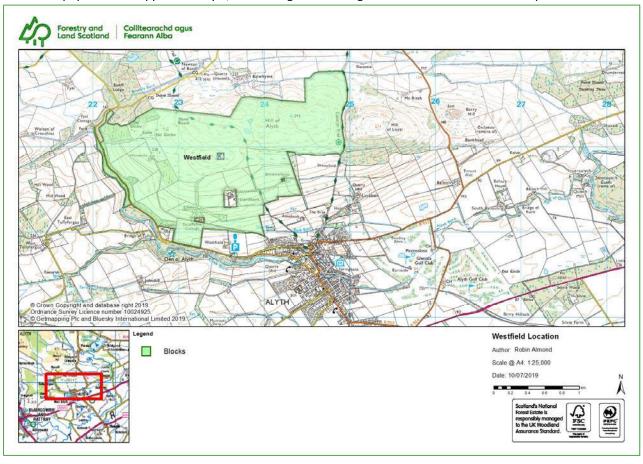


Plate 1: Westfield Land Management Plan Area

1.2 The site

The site totals some 333.82 hectares and comprises a mix of young mixed conifer and broadleaf woodland planted in 2010. There are some 13.93 hectares of pre-existing predominantly conifer shelter strips. The Hill of Alyth which is open land occupies approximately half the site. The woodland area includes approximately 1/3rd of the Den of Alyth Site of Special Scientific Interest (SSSI) for upland mixed ash woodland and is part of the River Tay SAC.

1.3 Certification

The management of the woodland is certified and at all times seek to adhere to the UK Woodland Assurance Standard (UKWAS).

1.4 Key Issues

The key issues in this plan are:

- To maintain and improve the connection between the site and local community
- To continue to manage the crops towards the production of high quality timber.
- Manage the historic coniferous woodlands / shelter belts to better meet the overall objectives for the site
- Improvement of the forest road network to enable forest management operations to be undertaken
- Look to maintain and further improve the biodiversity interest of the open hill ground.

1.5 Proposals in Brief

- Undertake works to manage the young crops to improve the timber quality.
- Fell 6.86ha of mature conifer woodland. Fell 1.23ha of young oak woodland to facilitate construction of the anticipated new road line.
- Restock felled areas with 6.37ha of broadleaf woodland, 1.53ha of Scots Pine
- Construct some 650m of new forest road and upgrade the existing section to Whiteside Farm to provide access for management.
- Management of scrub areas for biodiversity, landscape and safety.
- Management of grass land areas to increase biodiversity.
- Create 46.6ha of new native woodland, 2.0ha of shrubs and 650m of extended hedgerow to improve the biodiversity of the open ground.

Land Management Plan

1.6 Changes over Plan Period

1.6.1 Proportion of Species

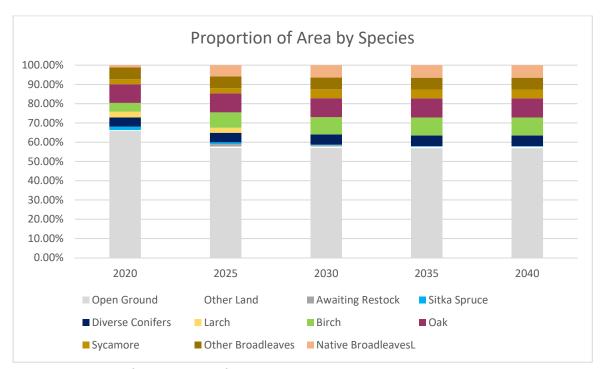


Chart 1: Proportion of species at Westfield by area. This shows the woodland is diverse but the site is still predominantly open.

Main points to take from the proportion of species is that the block is diverse with a spread of species with Birch and Oak dominating the net woodland area. As the plan proceeds the larch is removed and the Sitka spruce all but removed. In line with the objectives of the site the proportion of native woodland increases through the plan period.

1.6.2 Age Class Distribution Due to the age of the woodland

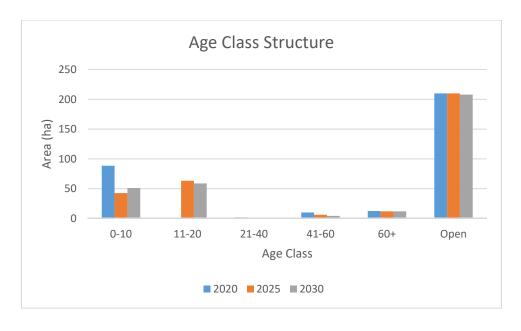


Chart 2: Chart showing the spread of age classes becoming more even as the plan progresses.

Land Management Plan

1.7 Timing

1.7.1 Plan Period

This plan is for the twenty year period 2020 to 2039. This first ten year period (2020 to 2029) is particularly important because it relates to the part of the land management plan that requires specific approval from Scottish Forestry. Longer term management of Westfield is included in the plan to provide an indication of the direction of travel and to provide context.

Previous Plan approval

Ref: 033/T/W/08 (16))

Expiry date: 24th August 2020.

Consultation and Further Information 1.8

During the development of this plan we have written to statutory consultees, neighbours and specific stakeholders. We held a public drop in event at the Airlie Street Halls on the 25th July 2019. At this event we were able to illustrate draft proposals and allow comment. This was advertised through posters at access points to the site and by advert in the Alyth Voice. A record of the above can be seen in Appendix 1 of this plan.

1.8.2 Felling Approval

This plan once submitted to Scottish Forestry will appear on the public register for a further period of 30 days allowing for comment to Scottish Forestry.

1.8.3 Further information

We remain open to dialogue regarding management of this site for further information on the plan please contact:

Forestry and Land Scotland

East Region

Inverpark

Dunkeld

Perthshire

PH8 OJR

T:

0300 067 6380

E: enquiries.east@forestryandland.gov.scot

We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of responsible forestry



www.pefc.org



M3: Felling

Author: Robin Almond Scale @ A3: 1:10,000

Date: 13/02/2020

Legend

Felling Phase

Phase 1 felling (2020 -

Phase 2 felling (2

After 2054

Long Term Retention (Fell after Phase 3)

Minimum Intervention

Low Impact Silviculture

Open

Sub-compartments

Sub-compartments
Species/ Planting Year

Land Management Plan Areas

Land Management



Reproduced by permission of Ordnance Survey on behalf of HM SO.

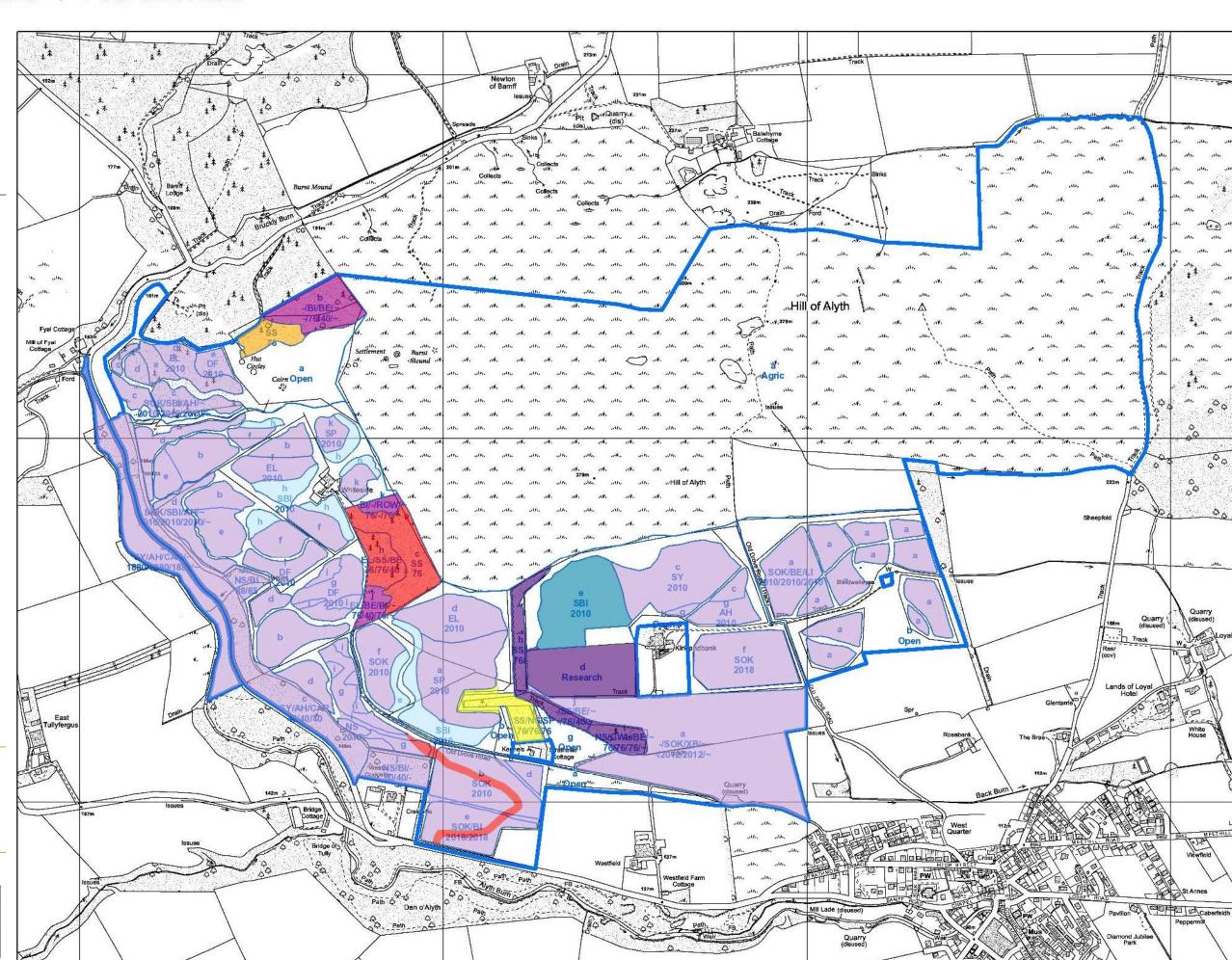
© Crown copyright and database right 2020. All rights reserved.

Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.









M6: Future Species

Author: Robin Almond

Scale @ A3: 1:12,500

Date: 11/02/2020

Legend

Scenario Management Coupes

Scenario Restock Areas

A

Oa Oa

Other Broadleaves

Other Conifers

Douglas Fir

Larch

Lodgepole Pine

Norway Spruce

Scots Pine

Sitka Spruce

Open

Core Paths (Scot.)

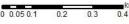
Core Paths (Scot.)

Land Management Plan Areas

Land Management Plan Areas

OS 50k Contours (GB)

OS 50k Contours (GB)



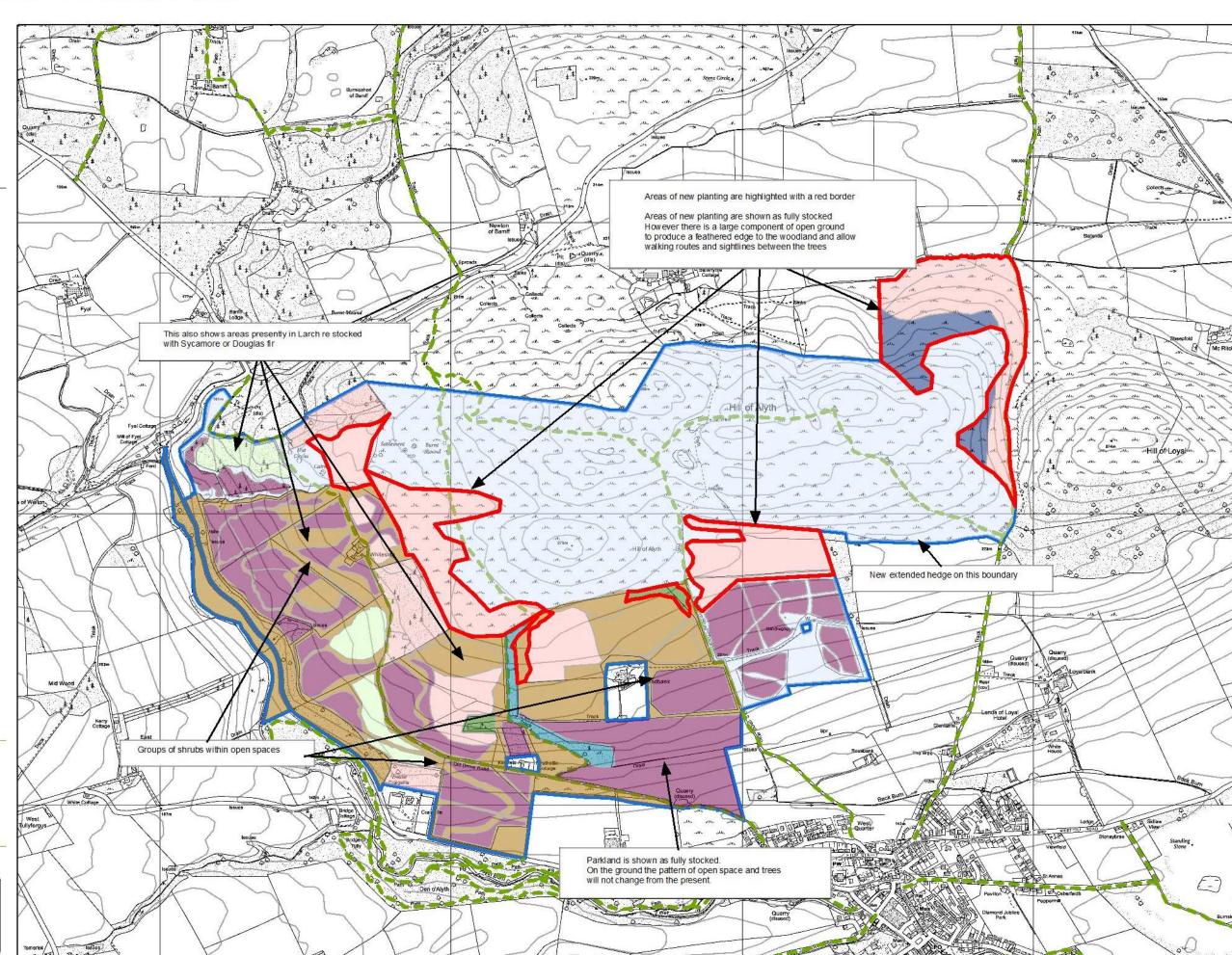
Reproduced by permission of Ordnance Survey on behalf of HM SO.

© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.







Land Management Plan

Scottish Forestry Regulatory Requirements

This section provides a summary of the elements of the Land Management Plan which are regulated by Scottish Forestry. In line with approvals sought, this focusses on relevant operations and activities proposed for the first 10 years of this plan.

2.1 Summary of Planned Operations for Phases One and Two

Proposed Operations	2020 - 2029
Felling (ha)	8.09
Thinning (ha)	31.59
Restocking (ha)	5.63
New Road Construction (Metres)	650
Road Upgrade (Metres)	760
Woodland Creation (ha)	46.06

2.1.1 Proposed Felling in Years 2020-2029

Proposed Phase	Area to be Felled (ha)	Proportion of Woodland Area (%)		
Phase 1 (2020 – 2024) (ha)	5.63	1.6		
Phase 2 (2025 – 2029) (ha)	2.46	0.7		
Total (ha)	8.09	2.3		

2.1.2 Details of Clearfell by Coupe Over Plan Period

Coupe	Species	Area	Species	Area	Species	Area	Species	Area	Open	Total
Reference	1	(ha)	2	(ha)	3	(ha)	4	(ha)	Area (ha)	Area (ha)
60018	SS	3.09	EL	1.14	BE	0.07	-	-	1	4.30
60016	SS	0.88	NS	0.30	SP	0.18	-	-	1	1.35
60013	SS	1.1	-	-	-	-	-	-	-	1.11
60028	OK	0.91	ВІ	0.18	DF	0.14	-	-	0.1	1.33
Total										8.09

2.1.3 Changes in Age Class over Plan Period

Age of Trees	Growth Stage	Percentage of Class at Given Year					
		2020	2030	2040			
0-10	Establishment	75.1	51.1	15.1			
11 - 20	Thicket	0	58.7	43.3			
21 – 40	Pole	1.6	0	54.1			
41 - 60	Maturing High Forest	9.9	4.2	1.5			
61+	Old High Forest	12.2	11.8	14.5			
Open Ground	N/A	235.0	207.9	205.3			

2.1.4 Proposed Thinning (2020-2029)

Land Management Plan

Proposed Phase	Area to be Thinned (ha)	Proportion of Woodland Area (%)
2020 - 2024	21.70	6.5
2025 - 2029	54.35	16.3

2.1.5 Proposed Restocking (2020-2029)

Proposed Phase	Area to be Restocked (ha)	Proportion of Woodland Area (%)
2020 - 2024	1.33	0.4
2025 - 2029	4.32	1.3

2.1.6 Proposed Restocking by Coupe 2020-2040

Coupe Reference	Species 1	Area (ha)	Species 2	Area (ha)	Species 3	Area (ha)	Species 4	Area (ha)	Open Area (ha)	Total Area (ha)
60001	SY	6.68	DF	1.22	-	-	-	-	-	7.90
60013	ВІ	1.10	-	-	-	-	-	-	-	1.10
60016	BI	0.36	OK	0.27	NBL	0.27	SP	0.70	0.11	1.71
60018	MB	1.5	BI	1.00	WCH	0.49	HAW	0.49	1.5	4.32
60028	WSH	1.23	-	-	-	-	-	-	0.1	1.33
Total										

Coupe	Spp	Area	Spp 2	Area	Spp 3	Area	Species	Area	Spp 5	Area	Open	Total
Reference	1	(ha)		(ha)		(ha)	4	(ha)		(ha)	Area	Area
											(ha)	(ha)
60019	Birch	0.97	Wild Cherry	0.2	Hawthorn	0.32	-	-	-	-	1.61	3.23
60020	Scots pine	0.67	-	-	-	-	-	-	-	-	0.17	0.83
20021	Birch	4.0	МВ	1.46	Scots pine	0.15	Oak	0.31	Aspen	0.73	6.18	10.36
60023	Birch	6.76	Rowan	2.15	Juniper	2.02	Willow	1.87	Oak	1.07	5.57	19.43
60024	Birch	3.38	Aspen	1.13	Hawthorn	1.13	MB	1.23	-	-	4.51	11.26
60026	МВ	0.57									0.38	0.95
Total		_		_		_		_		_		46.06

Land Management Plan

Species	2020 (0	2020 (Current)		2030 (End of 2 nd Phase)		2040 (End of Plan)	
	(Ha)	(%)	(Ha)	(%)	(Ha)	(%)	
Open Ground	219.81	65.83	190.28	56.99	190.02	56.91	
Other Land	1.52	0.46	2.50	0.75	2.50	0.75	
Awaiting Restock	-	-	2.45	0.73	-	0.00	
Sitka Spruce	6.08	1.82	1.01	0.30	1.01	0.30	
Diverse Conifers	15.72	4.71	17.83	5.34	18.53	5.55	
Larch	9.98	2.99	0.38	0.11	0.38	0.11	
Birch	15.29	4.58	29.23	8.75	30.69	9.19	
Oak	32.34	9.68	32.91	9.86	33.18	9.94	
Sycamore	8.77	2.63	15.45	4.63	15.45	4.63	

Native Broadleaves	4.00	6.12	21.5	6.09	21.77	6.09
Other Broadleaves	20.42	1.20	20.35	6.44	20.35	6.52

2.1.9 Access and Roading in Years 2020-2029

Period of Works	Proposed Length for Construction (m)	Proposed Length for Upgrade (m)
2020 - 2024	650	760
2025 - 2029	0	0
Beyond 2030	0	0

2.2 Departure from UKFS Guidelines

The Land Management Plan seeks to follow the UKFS in all requirements. Where possible no felling will take place until any neighbouring restock areas have achieved two metres in height. If this is not achieved the separation will be agreed with Scottish Forestry.

Land Management Plan

3. EIA Screening Determination

3.1 Deforestation

No deforestation is planned on this site within the period of this plan.

3.2 Forest Roading

One new forest road is planned within the first phase of this plan. Due to access practicalities and the requirement to remove timber from the site, a new access road will be constructed. The total length of this new section of road will be 650m. This will includes 1.09 ha of restocking within open areas as shown in section 7.4. A further 750m of existing track will be upgraded to a specification suitable for 44t HGV timber lorries. Part of this road will include ramps to enable forest machinery to access stands from the road. Specific design and location of these will be specified in the prior notification application.

No designated or sensitive sites will be impacted by the proposed construction works.

The road will be constructed in accordance with FLS Standard Operating Procedures and the Timber Transport Forum document "Design and Use of the Structural Pavement of Unsealed Roads (2014)" See section 9.4.

3.3 Quarries

It is not anticipated that new quarries will be required. Any borrow pits created for the formation of the new access route will be reinstated on completion of the road construction.

3.4 Afforestation

46.06 hectares of new woodland are proposed within the scope of this plan. As this is over the 20 hectare threshold area an Environmental Impact Assessment Determination will be required.

3.5 Additional Regulatory Requirements

3.5.1 Water Framework

Given the scale of the proposed new access roads, as long as General Binding Rules are adhered to, it is not anticipated that a SEPA Construction Site Licence will be required.

3.5.2 Prior Notification

Prior notification will be required for any new sections of track out with 25 metres from the public road. Although the approximate route will be included in this plan. Detailed application for the final route and required hard standing including access ramps and borrow pits will be submitted prior to construction.

3.5.3 Planning Consent

Planning consent will be required where the proposed new forest road joins the public road at NGR NO 2300 4887. Planning approval and any required work permits will be in place prior to construction.

3.5.4 Consent for Works Within a SSSI.

See Appendix 8 for the SSSI Designated Area Management Plan.

Land Management Plan

4. Introduction

4.1 Existing Land Holding

Westfield extends to 333.82 hectares and is located on the edge of Strathmore just North West of the town of Alyth in a region where agriculture dominates the landscape. The site comprises a mix of young woodland and pasture, with rough grazing on the Hill of Alyth (approximately 50% by area) and small conifer shelterbelts. It includes part of the Den of Alyth, a SSSI upland mixed ash woodland.

4.2 Setting and Context

4.2.1 Landform

The site is on a whale-back formation on the Northern margin of Strathmore. The site forms the backdrop to Alyth.

4.2.2 Land use

Land use to the south of the site is predominantly intensive agriculture, to the north grazing predominates. The south western margin is formed by the Den of Alyth which is a locally important river feature approximately two thirds of the whole site was gifted to the town and is managed by the local council. The remaining third is covered within this management plan.

4.2.3 History

The site was acquired in 2008 with the intention of creating a new woodland in-line with Scottish Government targets for woodland creation. The primary objective of the woodland is to sequester carbon. To achieve this the aim is to create a woodland of complex structure growing high quality timber. In addition areas of native woodland have been planted to better link the open hill to the Den of Alyth and subsequently the wider River Tay river system.

4.2.4 Community

To help secure the woodland for the future great effort has been put in to create strong links between the woodland and the local community. The lower portion of the site is identified as a community woodland with the intention that management of this section is community led. This a This has led to a number of community led initiatives within the woodland including paths, an orchard and a bike park. There are close historic links between the local community and the Hill of Alyth itself.

4.2.5 Heritage Features

Map M1: constraints provides information as to the location of features of heritage interest. These principally lie to the western end of the site and include burn circles and pillow mounds. A group of cairns line on the open hill above Strathellie Cottage and Whiteside Farm. A further group of pillow mounds can be found in the gully on the open hill adjacent to the Old Drove Road.

4.2.6 Water / Hydrology

There are very few drains or minor water courses on the site. The river Alyth lies on the Western side of the site within the Alyth Den SSSI. The Alyth Burn is included within the River Tay Special Area of Conservation.

4.2.7 Flooding

Westfield is within the catchment for the Alyth Burn. This is identified as a Natural Flood Management Area but has no actions. The National Forest makes up a minor component of the catchment, therefore individual operations will have minimal impact on water flow. However action can be taken so as not to add to woody debris within the flood

zone of the Alyth Burn. Woody debris has caused issue at constrictions further downstream leading to localised flooding.

4.2.8 Fire

The aim that Westfield is inviting and used for recreational activities brings with it an increase in ignition sources. The age of the stands means in the near future there will be a well formed layer of dry grass in much of the site. Contiguous areas of gorse scrub on the hill also provide areas of potential fuel and route for any fire to spread. There have been two fires in the gorse in recent years.

Given present predictions suggest this region will experience hotter and dryer summers planning to minimise the risk of fire and for tackling of fire on Westfield will remain an important element of the design.

4.2.9 Utilities

There are a small number of wooden pole lines and undergrounded low voltage electricity lines within the site. Private water supply points and associated pipes also lie within the site.

4.2.10 Tree Heath and Pathogens

Significant proportion of the site was planted to Ash woodland. The subsequent infection by Chalara Ash Dieback led to high mortality within these areas. Maintenance work has replaced most areas of ash with Oak or Sycamore. Some areas still require work. Ash has not been removed from these sites. As the disease is now endemic, infected individuals will be allowed to deteriorate in their own time.

Phytophthora ramorum is not yet present in the locality There is a minor Larch component within the woodland.

4.2.11 Peat

In order to meet the Scottish Government target on carbon emissions it is critical that where trees were planted on peatland and it is feasible to restore the peat this is undertaken. At Land Management Plan stage areas of peat within Scotland's Forests and Lands are identified and a exercise undertaken to assess the feasibility for restoration.

There are no areas of peatland on Westfield.

Land Management Plan

4.3 Land Management Plan Management Zones

To better prioritise the objectives on the site there are four zones of management at Westfield:

4.3.1 Productive Woodland

This includes existing shelterbelts within the core of the site and most of the more recently planted areas of productive woodland.

The prime aim of this zone is the production of high quality timber to maximise sequestration of carbon. This objective should retain sympathy to impact on the landscape.

4.3.2 Woodland Principally for Biodiversity

The native woodland element is formed primarily of the Den of Alyth SSSI. Small areas of the more recently planted woodland will come under this as buffers and habitat linkage between the SSSI and Open Hill.

The principle objective for these areas is improving the condition of the SSSI woodland and strengthening habitat linkage. The agreed designated site management plan for the FLS managed part of the SSSI can be seen in appendix 8.

4.3.3 Community Woodland

Although recreational use of the entire site is encouraged one specific area has been identified where management should be for and led by the community. This area lies towards the lower entrance points to the woodland. The site is signed as the Alyth Community Woodland and includes parkland planting with areas of open ground for activities. An orchard and bike park are also within this zone.

Management should be undertaken with sound silviculture at heart with the aim of providing a high quality area for education and recreation.

Management of this area should be driven by the local community. FLS shall prevent degradation of the site and facilitate appropriate community management.

4.3.4 Open, Non Woodland Habitat

The open ground is higher on the hill than the plantation woodland which is on the valley side. There is a relatively large proportion of internal open ground within the planted areas. 65% of the site is classed as open ground at the time of writing. The objective within this plan is to ensure these areas are actively contributing to the site objectives. This will principally be through provision of ecosystem and biodiversity services.



M2: Species 2020

Author: Robin Almond Scale @ A3: 1:10,000

Date: 12/02/2020

Legend

Component Visualisation (Species)

As

Beech

Birch

Oak

Other Broadleaves

Other Conifers

Douglas Fir

Larch

Lodgepole Pine

Norway Spruce

Scots Pine

Sitka Spruce

No Species

Land Management Plan Areas

Land Management
Plan Areas

N N

Reproduced by permission of Ordnance Survey on behalf of HMSO.

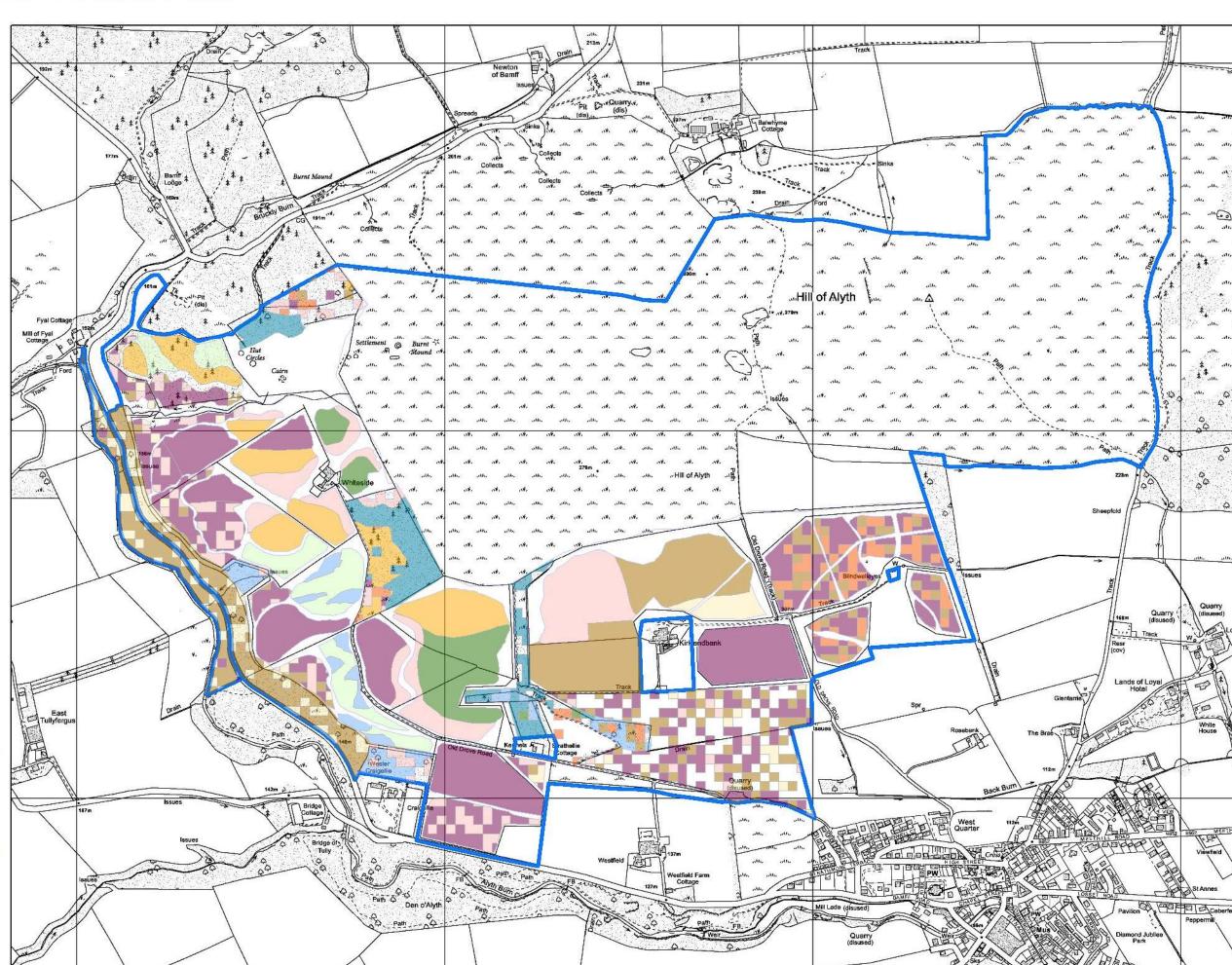
© Crown copyright and database right 2020. All rights reserved.

Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.







Land Management Plan

5. **Plan Brief and Objectives**

Issues

The pertinent issues to be considered within this land management plan are:

- Maintaining and working with the strong local community link with the site.
- Meeting key Scottish Government drivers including: The Climate Emergency and the Scottish Biodiversity Strategy.
- Tree diseases Phytopthora ramorum and Chalara ash dieback (Hymenoscyphus fraxineus) - have led to or are likely to lead to high mortality rates in the Larch and Ash respectively on the site.
- Access to the site for woodland management operations is severely constrained.
- The open hill ground is becoming colonised by gorse there is opportunity to increase the ecological value of the site.
- Browsing damage has affected the establishment and form of many broadleaves. The current levels of browsing will, in the longer term, prevent recruitment of natural regeneration of tree species therefore the level of browsing must be brought under control.

5.2 Key Challenges

- Achieving an improvement in the biodiversity function of open ground both integral to the woodland and on the hill.
- Enabling access to allow management operations.
- Controlling browsing to enable the production of high quality timber.
- Maintaining and improving community interest and engagement with the site.

5.3 Key Strategic Direction

National Performance Framework

The FLS Corporate Plan 2019-2022 sets out how the FLS Corporate Outcomes and how these are aligned with the Scottish Government's wider National Performance Framework.

FLS is best placed to deliver the following National Outcomes:

- Economy
- Environment
- Health
- Communities
- Fair Work and Business
- Education

Scottish Forestry Strategy

The Scottish Forestry Strategy states:

'In 2070 Scotland will have more forests and woodland, sustainably managed and better integrated with other land uses. These will provide a more resilient, adaptable resource, with greater natural capital value, that supports a strong economy, a thriving environment and healthy and flourishing communities.'

The FLS Corporate Plan identifies three Objectives to deliver over the ten years to 2030:

- Increase the contribution of forests and woodland to Scotland's sustainable and inclusive economic growth.
- Improve the resilience of Scotland's forests and woodland and increase their contribution to a healthy and high quality environment
- Increase the use of Scotland's forests and woodland resource to enable more people to improve their health, wellbeing and life chances.

5.3.1 National Spatial Overview

To best manage the National Estate in order to meet the above strategic drivers an approach has been formulated which directs that national corporate targets should be met by the land holding as a whole. This moves away from the requirement to try to meet all corporate objectives on every site. This directive has led to the production of the National Spatial Overview which zones Scotland, recommending which of these zones can most appropriately meet each of the national corporate priorities.

The Forestry and Land Scotland National Spatial Overview includes Westfield within zone 3: Dornoch, Black Isle, North East, Lowland Angus and North Fife.

The aims and objectives identified that this area can best contribute to are:

- Ecosystem services and additional public benefits Secure carbon sequestration through low impact silvicultural systems, High recreation use of National Forest Estate contributes to increased health and wellbeing, support for small sawmills and sustainable timber production.
- Contribution to financial stability: High quality timber crops, high potential for saw logs and specialist timber products.
- Other National Commitments: Woodlands in and around towns, habitat management, investment in silvicultural practices, management of tree disease, education, outreach and community engagement.

5.3.2 Other Key Policies and Drivers

Section 4.3 of the FLS Corporate Plan details national strategies that encompass our work. Those of note for Westfield are:

- National Pollinator Strategy
- Climate Change Adaption Programme
- 2020 Challenge for Scotland's Biodiversity

Land Management Plan

5.4 Management Objectives

5.4.1 Objective 1

Secure carbon sequestration through the growth of high quality timber. – The site is well suited to the growth of high quality timber and will be of an age within the period of this plan where interventions can be undertaken to maximise stand stability enabling movement towards a diverse stand structure. High quality timber is more likely to be used in end uses which have a longer life therefore hold the embodied carbon longer.

5.4.2 Objective 2

Improve the wellbeing of the local population through recreational use of the site. – The layout and location of the site mean it is inviting for recreational use and is easily accessed by foot and bike from Alyth. Adding biodiversity interest including more diverse flowering shrubs and ground flora would also increase the appeal of the site.

5.4.3 Objective 3

Maintain and improve the ecosystem services provided by the site. - The site lies adjacent to the Den of Alyth SSSI which is part of the wider River Tay SAC. This connectivity provides strong habitat linkage to and through the site to higher ground. In an area dominated by agriculture this will form a vital remaining habitat corridor for species such as otter. Developing the woodland structure including the structure of the woodland edge, scrub and hedgerow habitats will further improve linkages

5.4.4 Secondary Objectives

In addition to objectives driven by the National Corporate Plan and directed by the National Spatial Overview there are also aspirations that are locally significant to the land management plan area:

- Ensure the historic environment is protected and accessible in line with national guidance and importance.
- Manage operations within the landscape with location and visibility in mind.
- Reinforce connections between the woodland and local population.
- Manage the site to assist Regional financial stability.

Land Management Plan

6. Analysis and Concept 6.1 Analysis

Objective	Opportunities	Constraints	Concept
	Thicket stage crops form the majority of the woodland. This enables early intervention to improve stability and stem form.	The woodland has two main age classes: Historic shelter belts and 2010s planting.	Manage the young crops to improve stability and stem quality to ensure the site can best respond to future management requirements.
	A diverse range of woodland types and species are present on and suited to the site. Ground conditions and topography allows for good access to most areas of the site.	Tree pathogens have caused high mortality in the planted Ash and are likely to lead to mortality in the larch in the coming years	To replace failed trees with alternative species to maintain stocking. Manage the larch to reduce the risk of infection from pathogens.
Secure Carbon Sequestration through	The short rotation forestry research plots provide an opportunity to engage with local communities and potential markets.	The open area below Blindwelleyes cottage is the control open ground for the research plots.	Facilitate ongoing research within these plots.
growth of high quality timber	Areas of more mature conifers are present on the site	With no history of thinning management of these blocks is restricted to clearfell and restocking.	To manage the regeneration of these crops to best fit with the rest of the site.
	Plantation areas are enclosed within deer fences.	Existing deer fencing was erected to serve a single phase of planting and is now reaching the end of its serviceable lifespan.	Maintain browsing levels at an acceptable level to achieve all objectives. Shooting as a control measure is less than ideal given the recreational element of the site. Maintaining the perimeter fence is likely the best method of achieving this.
	There is a large proportion of un planted ground. This may provide opportunities to investigate suitability for further woodland creation on the site.	Mammal control in the open areas is hindered by lack of march fencing.	Investigate areas of open ground which may be suitable for woodland expansion in line with government strategy and plan objectives.
Improve the wellbeing of the local population through recreational use of the site.	The site is close to the town of Alyth and the long distance Cataran Trail. Various community groups lease sections of the site for cycling and an orchard.	Motorised access to the site is causing concern with the local community	Continue to facilitate informal access. Work with the community to enable the community to achieve maximum gain from the site. This should be community led through formal community groups. Participate in larger cooperative projects looking to maintain long distance paths. Work to stop illegal motorised access to the site.
Maintain and improve the ecosystem	The site has a high proportion of open ground both integral and on the open hill.	The lack of appropriate grazing regime on the higher ground has enabled the spread of gorse.	Manage the further spread of gorse on the open hill.
services provided by the site.		Historic farming practice has increased the site fertility meaning grasses will tend to dominate the open ground on lower areas over herbaceous flowering plants.	Take opportunities to contribute to the Scottish Government Pollinator Strategy.

The Den of Alyth SSSI is linked to the wider environment through the River Tay SAC. This linkage of habitat is vital to woodland and transient species.	Non and semi native tree species have been colonising the site.	Improve linkage from woodland in the Den of Alyth through the site to the hill ground by restocking felled conifer areas to form a woodland margin. Monitor and improve where possible the important features of the SSSI. Follow the Designated Site Management Plan. Include areas managed primarily for biodiversity to create links from the River Tay SAC, via the Alyth Den SSSI through the woodlands at Westfield up to the open hill. This linkage
Gorse on the Hill of Alyth provides a locally rare extent of scrub habitat.	The spread of gorse, if it remains un checked will cover the hill reducing variety of potential habitats.	between sites leverages the ecosystem value of each individual site. Manage dense areas of gorse and gorse around path ways to improve access and produce a variety of age classes of
	Large areas of old gorse combined with public access present a significant fire hazard.	scrub.



M1: Constraints

Author: Robin Almond Scale @ A3: 1:15,000

Date: 24/02/2020

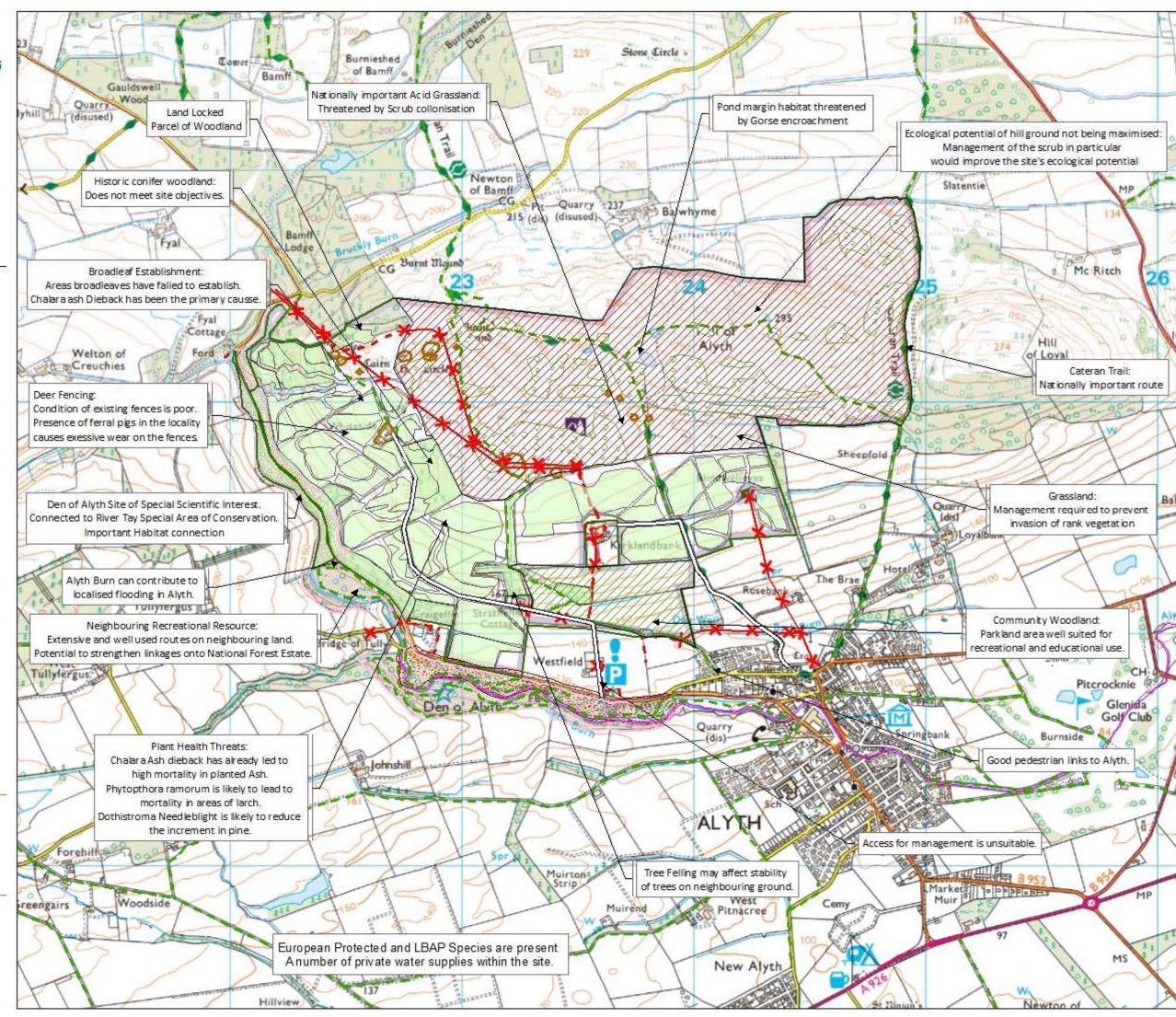
Legend Scotlands Lands and Forests Sub-compartments SAC SSSI PAWS Heritage Impact Zones Community Woodland Alyth Hill Gorse Core Paths Forest Roads Overhead powerline Underground powerline Timber Consultation Route

Reproduced by permission of Ordinance Survey on behalf of HM SO.
© Crown copyright and database right (2020). All rights reserved.
Ordinance Survey Licence number (100021242).
© Getmapping Pic and Bluesky international Limited 2020.

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.







Land Management Plan

7. **Long Term Land management Plan Proposals**

Management

The Westfield Land Management Plan has been designed in accordance with sound silvicultural, legal and environmental principles set out within the UK forestry Standard and UK Woodland Assurance Standard and in line with the Forestry and Land Scotland Corporate Plan. Operational techniques will follow industry best practice and FLS standard operating procedures.

Detail of all operations scheduled for the first phase of this plan can be seen in Appendix 4: Schedule of Works.

7.2 Silvicultural Systems

In line with corporate objectives where possible and they meet site objectives alternative silvicultural systems to clearfelling should be utilised. The National Spatial Overview as noted in section 5.3 Westfield lies within an area where continuous cover forestry is the preferred management system.

The location, soils, present species and climatic conditions all mean that continuous cover silvicultural systems are best placed to meet the management objectives. Where possible all present crops will be managed towards Continuous Cover Forestry (CCF) systems. The precise system utilised will be tailored as the crop matures to suit the present and subsequent species.

7.3 Harvesting Proposals

Areas of existing conifer woodland (P 1976) are not suitable for conversion to a CCF system this rotation. These areas will be clear felled and restocked to better meet the site objectives with future management towards a CCF type system.

7.3.1 Thinning Proposals

The areas of larch have been identified for early thinning to increase air flow and so reduce likelihood of infection by Phytopthora ramorum.

All stands identified in map M5 overleaf will be thinned within the first ten years of this plan. Thinning of these stands will improve crop stability and create access for further thinning operations. The intention is that the site is worked in one or two coupes – likely the conifer element in one and the broadleaf element in another depending on the available operational resource

Access to thinning blocks will include road improvement works and access ramps at strategic locations.

7.3.2 Felling Proposals

Clear felling is proposed in this plan period only for areas of mature conifer shelterbelts which are no longer suitable for transformation to continuous cover management.

Pattern of Felling

Map M4 details the management coupes showing the phasing and shape of the proposed coupes.

There are no neighbouring clearfell coupes proposed in this plan. There are therefore no conflicts in terms of adjacency guidelines.

Scale

The scale of clearfell coupes in this plan is suitable to the complexity of the terrain and constrained by the size of the areas of mature trees.

Volume

The following table summarises the anticipated average annual felling and thinning volumes (m³ obs) expected for the plan period.

Felling Phase	Felling Period	Thinning	Clearfell	Total
Phase One	2020 - 2024	400	1,500	1,900
Phase Two	2025 - 2029	1,045	600	1,645
Phase Three	2030 - 2034	700		700
Phase Four	2035 - 2040	700		700

Methodology

All coupes on Westfield will be worked using standard short wood harvester - forwarder methodologies. The exception would be works in the Den of Alyth which will be motor manual felling with winch and forwarder extraction and areas of broadleaf thinning which may be felled using motor manual methods.



M3: Felling

Author: Robin Almond Scale @ A3: 1:10,000

Date: 13/02/2020

Legend

Felling Phase

Phase 1 felling (2020 - 2024)

Phase 2 felling (2 2029)

After 2054

Long Term Retention (Fell after Phase 3)

Minimum Intervention

Low Impact Silviculture

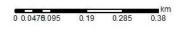
Open

Sub-compartments

Sub-compartments
Species/ Planting Year

Land Management Plan Areas

Land Management



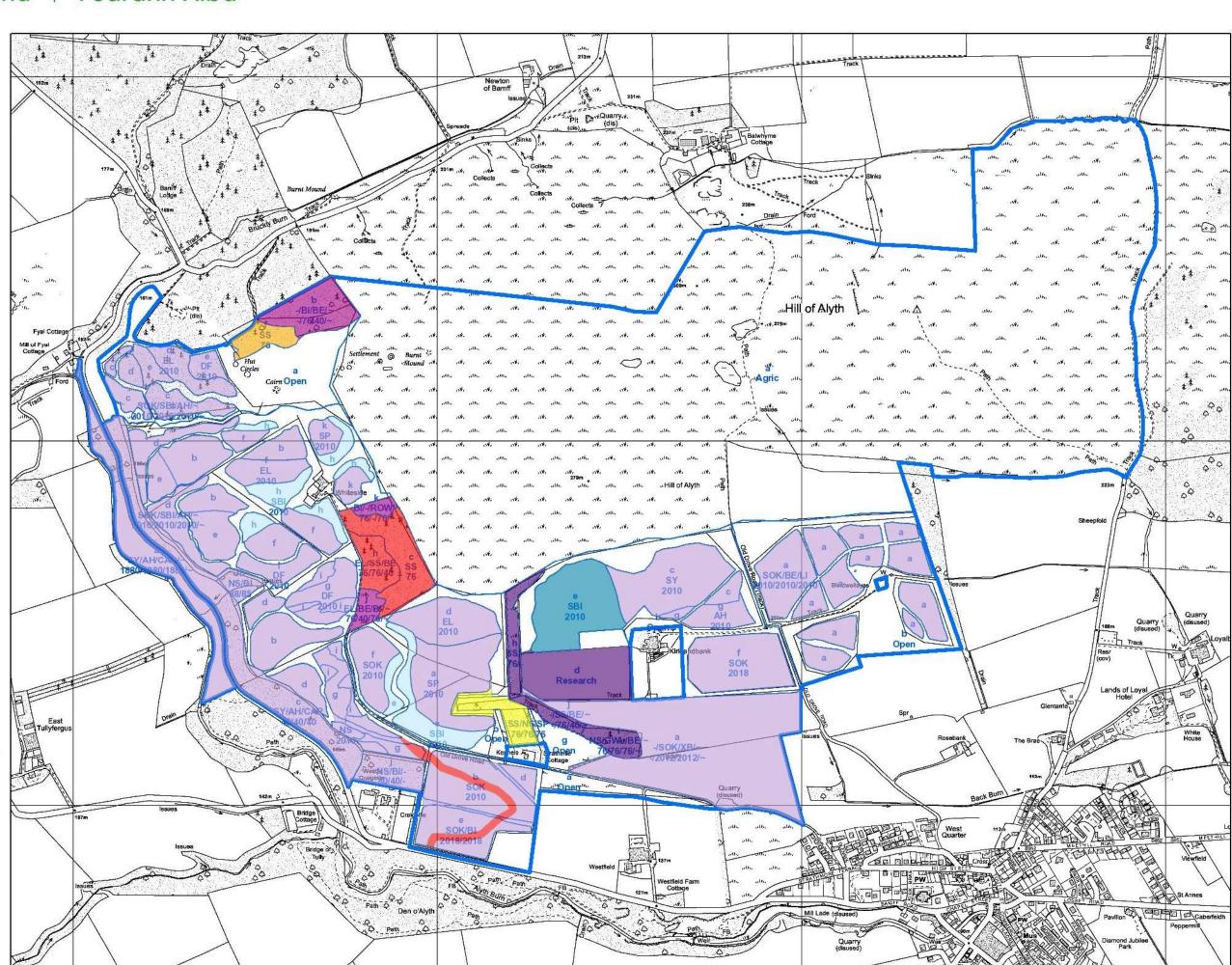
Reproduced by permission of Ordnance Survey on behalf of HM SO.

© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.









M4: Coupes

Author: Robin Almond Scale @ A3: 1:10,000

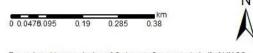
Date: 13/02/2020

Legend

Management Coupes

Land Management Plan Areas

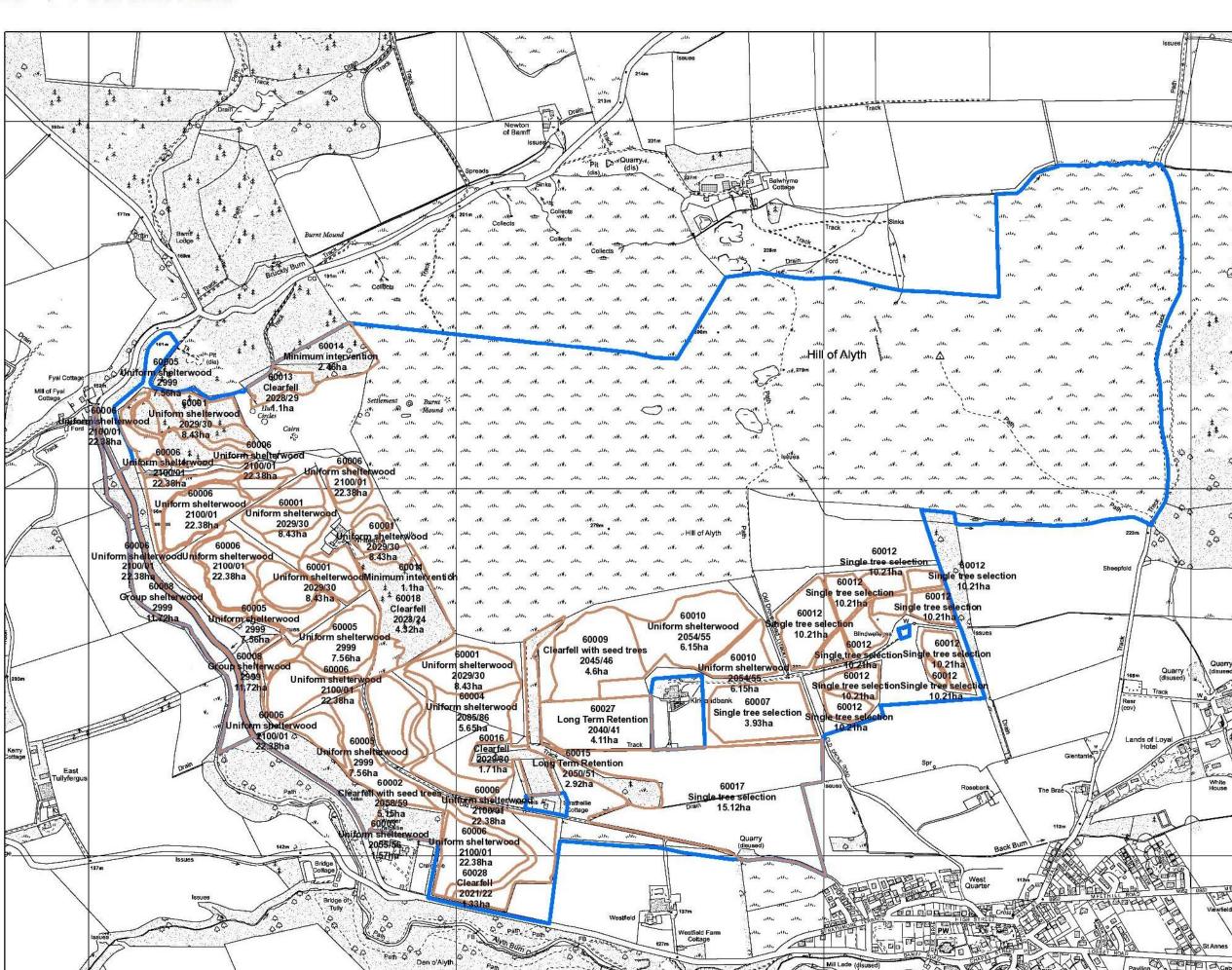
Land Management
Plan Areas



Reproduced by permission of Ordnance Survey on behalf of HM SO.
© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.
© Getmapping PIc and Bluesky International Limited 2020.









M5: Thinning Areas 2020 -2029

Author: Robin Almond Scale @ A3: 1:7,500

Date: 12/02/2020

Legend

Thinning Areas 2020 -2029

Blocks

Blocks

À

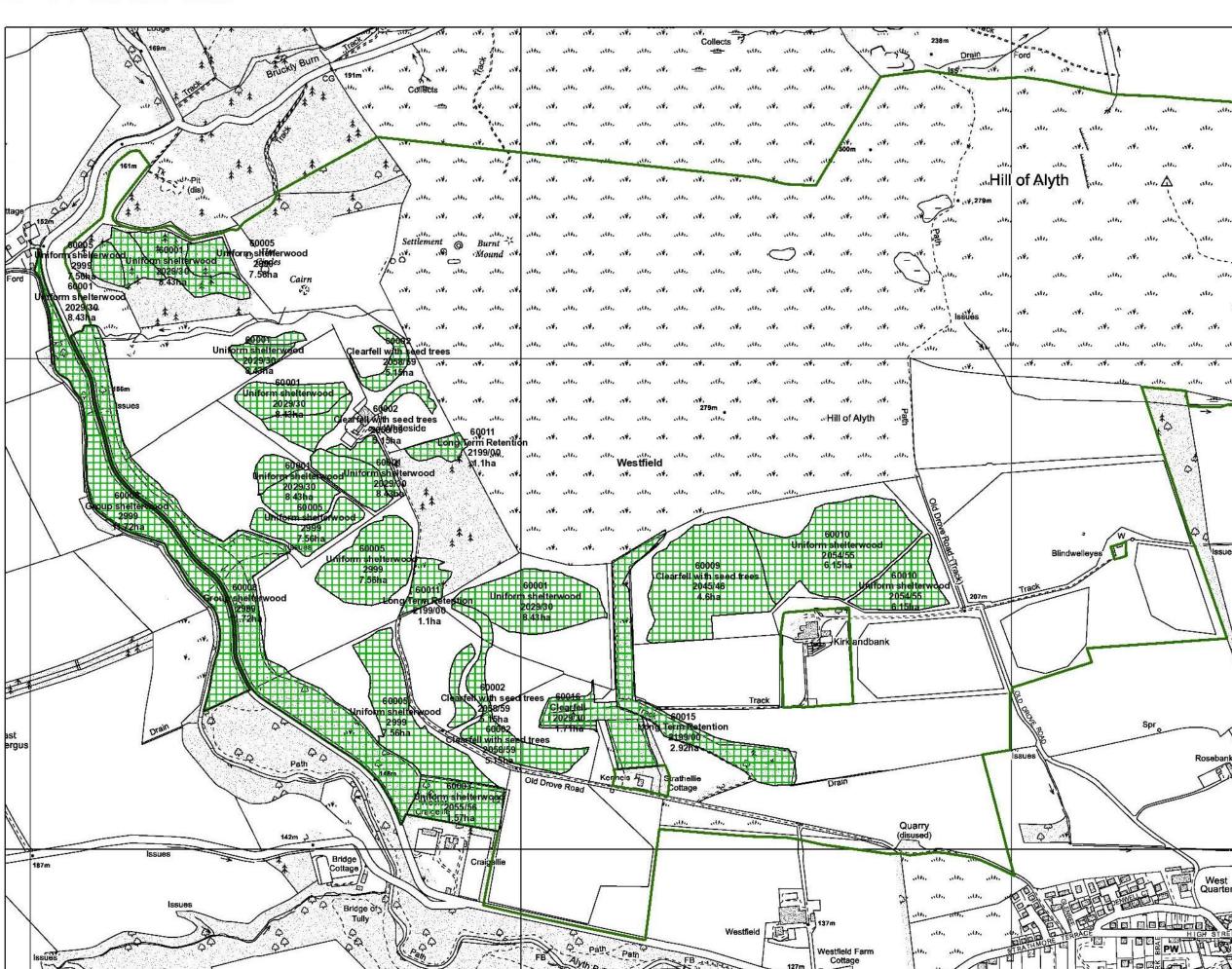
Reproduced by permission of Ordnance Survey on behalf of HMSO.

© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.







Land Management Plan

7.4 Future Habitats and Species

7.4.1 Restocking Species

Restocking species will be to best match the micro site conditions. Illustrations of how the species composition will change through the plan can be seen in sections 1.6 and 2.1. Within felled areas restocking is to best meet site and location objectives. Details can be seen on maps M6: Future Species and M9: Restock Areas and in section 9.

7.4.2 New Woodland

Our management philosophy is to, on balance, make the best use of all the land we manage. For the large part Alyth Hill is best left as open land. There are areas where the site could better contribute to overall site objectives of biodiversity, landscape and carbon sequestration better if they were native woodland.

To achieve this we propose to establish areas of low density native woodland on specific areas of open ground. The design will mature to form a more natural woodland edge habitat rather than the abrupt margin at present. Species planted will include oak and birch with cherry on the lower slopes changing to a montane type covering of Juniper and the occasional birch higher up. Juniper is low growing, rarely reaching three metres in height so will therefore not impede the present character of the higher parts of the site.

Planting pattern and tree protection will be designed to ensure access is maintained through the site. This will entail limited new fencing but also the removal of sections of existing fence. Gates will be installed where necessary fencing crosses established desire lines for access.

The intention is to create a diverse mix of groups of trees and shrubs in a matrix of grass and flowering plants. This mix will attract a range of fauna including insects, birds, reptiles and small mammals. Hopefully this will become a very attractive area to spend time.

The design of this woodland can be seen on Maps M6: Future species and M9: Restock species.



M6: Future Species

Author: Robin Almond

Scale @ A3: 1:12,500

Date: 11/02/2020

Legend

Proposed Areas for New Native Woodland

Species

Other Broadleaves

Other Conifers

Douglas Fir

Lodgepole Pine

Norway Spruce

Scots Pine

Sitka Spruce

Open

Core Paths (Scot.)

Core Paths (Scot.)

Land Management Plan Areas

Land Management Plan Areas

OS 50k Contours (GB)

OS 50k Contours (GB)

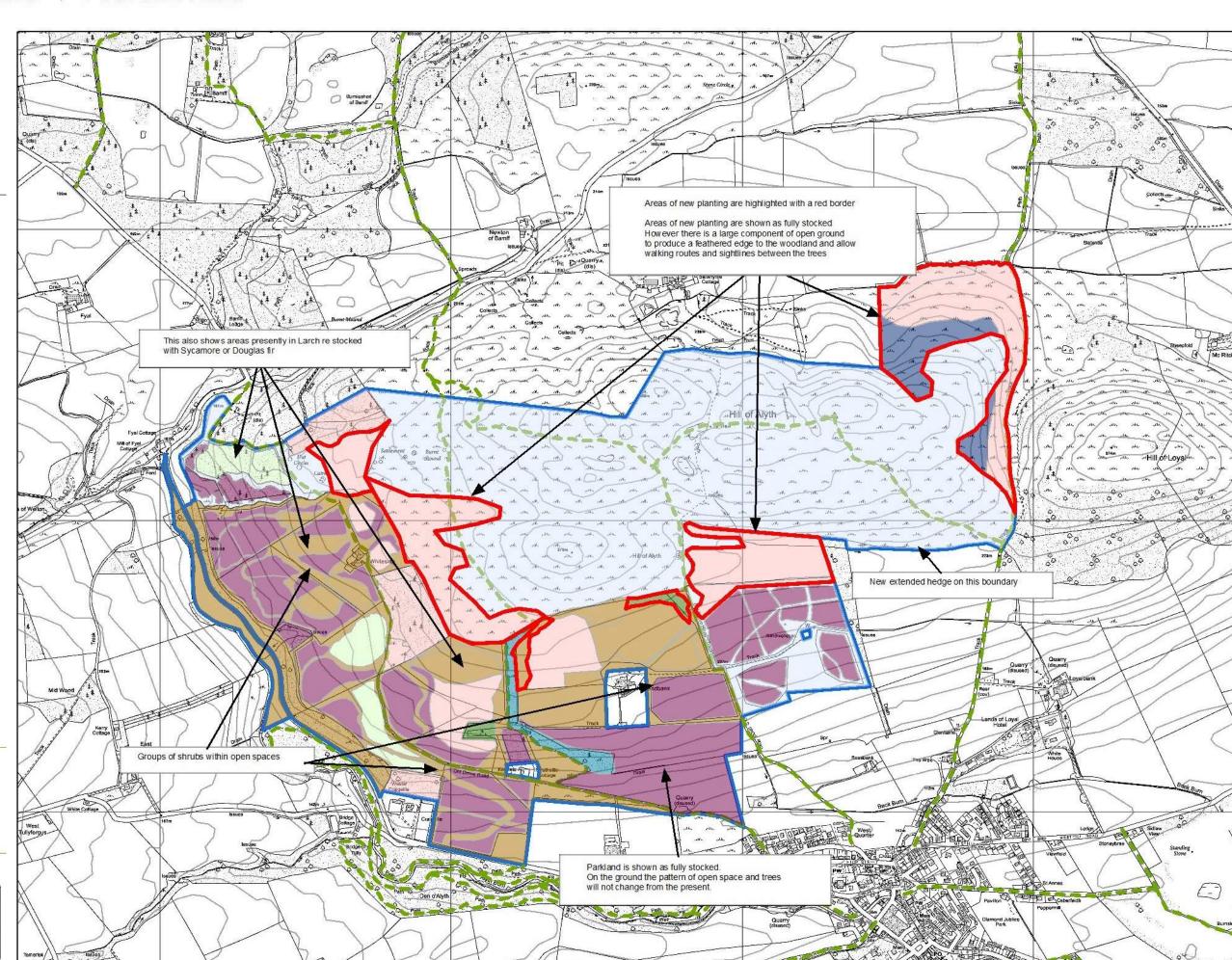


Reproduced by permission of Ordnance Survey on behalf of HM SO. © Crown copyright and database right 2020. All rights reserved. Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.







Land Management Plan

7.5 Open Land management

7.5.1 Open Hill Ground

This ownership block has a significant area of open ground attached (65% by area). FLS are required to achieve maximum benefit from Scotland's forests and lands. This means all areas should perform a function to meet the objectives set by the Scottish Ministers. Those identified for Westfield are detailed in section 5.

The announcement of a Climate Emergency has increased the focus on woodland creation. As part of this plan we have made an assessment of all the open ground within Westfield to ascertain how to best meet the site objectives as they stand at present.

For the open ground at Westfield, the primary objectives this can fulfil are those of biodiversity and recreation. One element of this ecosystem service is managing the transition from the afforested lower slopes of the woodland to the open ground of the hill. In order that this transition is most effective areas have been identified on the presently open hill for tree planting. Aras identified for tree planting can be seen in map M6: Future species on the preceding page.

Semi Improved Grassland

To the North of Blindwelleyes is a fenced semi improved rushy area. A comparison of the vegetation either side of the top fence shows how grazing of this has kept gorse at bay providing an illustration of the ultimate succession should grazing be discontinued. This field is well suited to new woodland creation within the scope of this plan. Wetter areas would be left un planted in a matrix of open ground between groups of trees.

Acid Grassland

One area above the planted woodlands to the west of the Old Drove Road shows potential to remain herb rich Acid Grassland. The best examples of acid grassland can have more than 25 plant species per square metre. The vision is that mowing be undertaken of this area with cutting removed to reduce the fertility. Reducing the fertility better enables herbaceous species to out compete grasses.

Gorse and Scrub

This is a locally important habitat. Current farming practice means areas of scrub such as this are becoming rare. The areas of gorse on Westfield offer breeding sites for bird species such as Yellowhammer.

The true habitat value is where scrub forms a matrix with more open areas. This matrix creates little sheltered pockets which are sheltered and safe from predation. Large monoculture areas of gorse scrub do support bird life but not to the same extent.

The intention within this plan period is to commence a program of control of areas of gorse to create this mosaic of habitats.

Other Hill Ground

Three small lochans on the top of the Hill of Alyth represent locally important habitats and so where operations allow should be actively protected. This would include cutting gorse and scrub back from the edges when operatives are onsite.

7.5.2 Integral Open Ground

The site includes a high proportion of open ground as rides within planted area. Due to past farming practices on the site the soils have been substantially improved. This means that more vigorous species such as grasses, thistle, docks and nettles dominate. Eventually succession will lead to domination by gorse or broom. Should resource come available thought should be given to extending any cutting regimen to some of these areas to reduce the fertility. This cutting would also assist in deer management within the site. However over time the widths of these spaces will reduce as tree canopies expand in from either side.

Areas of scrub planting will be undertaken to provide structural diversity to the woodland and add shelter for fauna making use of the grassland.

M7: Environment and Heritage

Author: Robin Almond

Scale @ A3: 1:10,000

Date: 25/02/2020

Legend

Special Areas of Conservation (Scotland)

Special Areas of Conservation (Scotland)

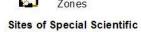
Watercourses

Watercourses

Heritage

Heritage

Heritage Impact Zones



Interest (Scotland)
Sites of Special



Core Paths (Scot.)

Scientific Interest

Heritage Impact

Core Paths (Scot.)

Forest Roads

Forest Roads

Blocks

Blocks



OS 50k Contours (GB)

OS 50k Contours (GB)

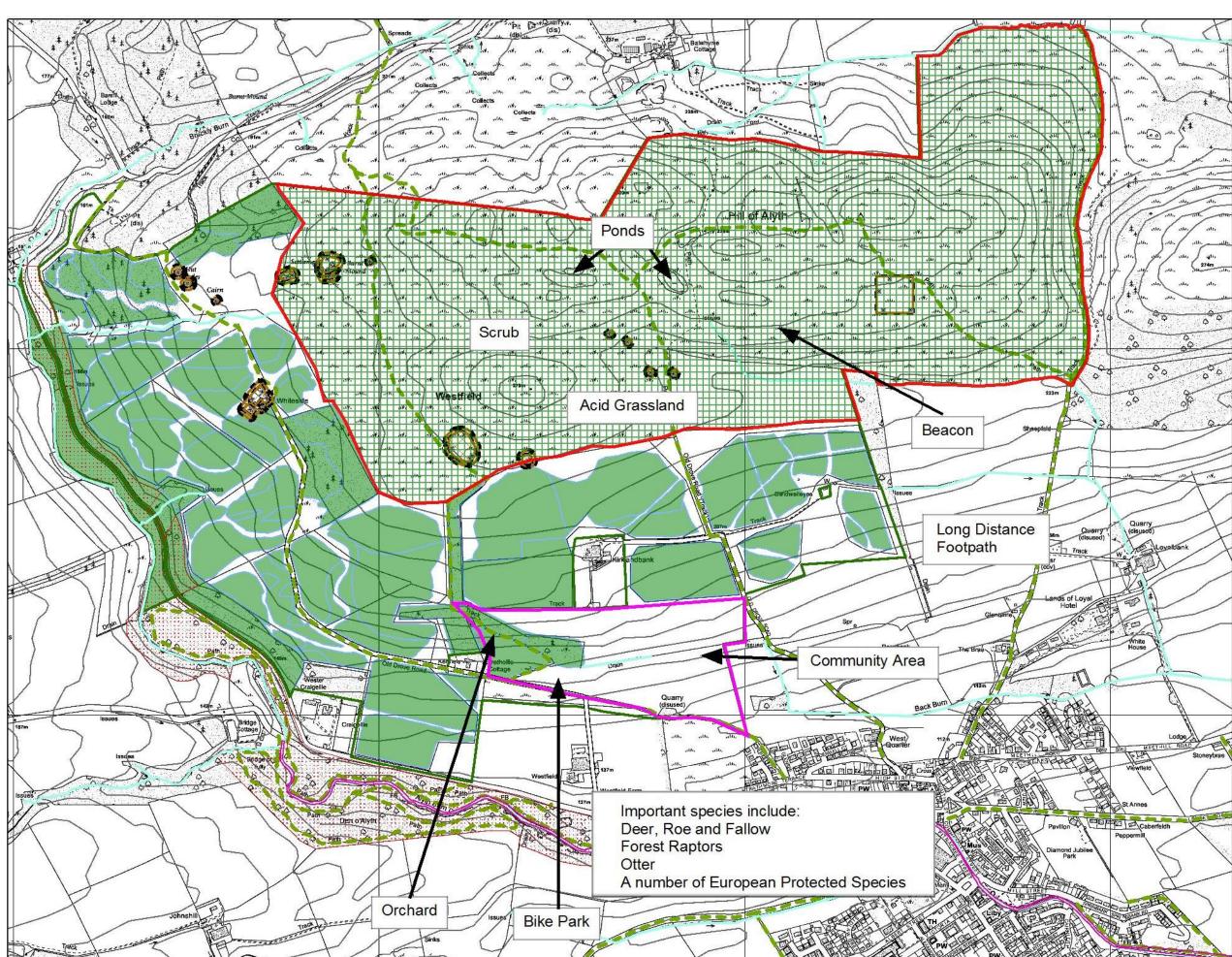




Reproduced by permission of Ordnance Survey on behalf of HM S0 © Crown copyright and database right 2020. All rights reserved. Ordnance Survey Licence number 100024925. © Getmapping Plc and Bluesky International Limited 2020.







Land Management Plan

Critical Success Factors

8.1 Broadleaf Areas

- Improvement of stocking at least 1,600 trees per hectare in non-shrub areas.
- Improvement of form of potential final crop trees. Has pruning been undertaken correctly and on time?

8.2 Confer Areas

• Increase of stability and increased options for future management. Thinning operations identified in section 7 have been completed.

8.3 Integral Open Ground

• Introduction of scrub habitat areas complete.

8.4 Hill Ground

- Management of gorse areas has been commenced.
- New woodland has been established.

8.5 Community

- Communication with Alyth Hill Users Group is maintained
- Advances for works within the community woodland in particular have been considered.

Land Management Plan

Management Prescriptions

All operations will be undertaken in line with UKWAS and UKFS requirements and as set out in FLS guidance. https://forestryandland.gov.scot/what-we-do/planning/links

Please see Appendix 4: Schedule of Works for individual coupe specific prescriptions.

Stewardship

9.1.1 Beatup

Beatup of all restocked areas will be undertaken as part of regular maintenance program to ensure the establishment of the appropriate density and species to meet compartment objectives.

9.1.2 Chemical Minimisation

On areas of new planting the requirement for chemical weeding will be minimised though the use of ground preparation and use of suitably sized tree stock. In areas of beatup chemical weeding will be required to ensure successful and efficient establishment.

In the long term the use of natural regeneration will drastically reduce the requirement to weed to remove vegetation competition. This methodology should also reduce the requirement for the use of pesticide to protect establishing

It is not anticipated that Hylobius will be a threat to establishment of the restock areas identified within this plan. Therefore no fallow period shall be utilised.

9.1.3 Pruning

To meet the objective of growing high quality broadleaves for timber: Broadleaf areas should be subject to formative pruning.

Pruning is essential in the early development of a tree to ensure good form of the final crop. Timber of higher quality is more likely to be utilised in higher value products and so sequester carbon for a longer period. Those trees least likely to make final crop will not require intensive pruning.

Pruning should be undertaken at the correct season depending on species and pruning type. Whole whorls of branches will not be removed in a single operation instead this will be phased over two or more operations. Co dominant stems should be subordinated through removal of more than half of the leafing area in an initial operation rather than immediate removal in one operation – co dominant stems do not produce callus growth as well as lateral branches. Continual pruning later in the rotation will be financially viable only on the trees most likely to reach final crop.

The maintenance of a beech and hazel understorey such as in cpt 5902 will reduce the requirement for pruning.

Silvicultural Systems

The aspiration is to manage these woodlands as a continuous cover silvicultural (CCF) system. The precise system used will depend on the intended final crop and desired species of regeneration. The management within this plan should be undertaken to promote longer term crop stability and favour higher quality trees independent of species. This approach will provide strong foundations for a breadth of future management choices.

Historic conifer areas are not sufficiently stable to enable transformation to a continuous cover system. These will therefore be managed to clearfell and restock system with the longer term aspiration to manage these sites under CCF systems.

9.2.1 Thinning

Thinning will be undertaken at the point at which crops reach threshold basal area or appropriate top height, whichever is sooner. Removals in any one thinning operation will be at marginal thinning intensity. (70% of yield class multiplied by the number of years to the next intervention. This would typically be on a six year cycle) The exception to this will be at the start of the regeneration phase of a shelterwood coupe where a heavier thinning yield may be required to sufficiently reduce the crop basal area.

The schedule of works in this document provides objectives of an prescriptions for all operations in this plan period.

To minimise the risk of infection from P.Ramorum the larch will be thinned before the crops have reached full stocking (threshold basal area). The aim is to increase airflow within the larch stand and to convert the stand to an alternative species. In the first thinning operation 50% of the volume will be removed. This will be within access racks and progressive thinning of the matrix initially through removal of poor quality trees. (greater removals close to the racks and less further from the rack). Racks will be double spaced i.e. c.a 12 rows apart rather than 6 in a standard operation.

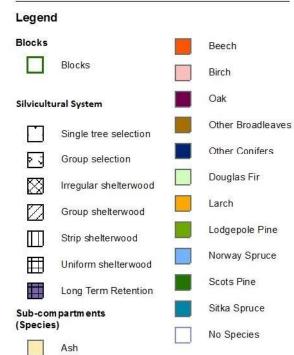
Thinning of pine and Douglas fir areas will be line thinning to gain access to the block. Felling and thinning operations are anticipated to be programmed to minimise frequency of operations on the site.

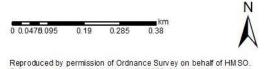


M8: CCF Silvicultural Systems

Author: Robin Almond Scale @ A3: 1:10,000

Date: 11/02/2020

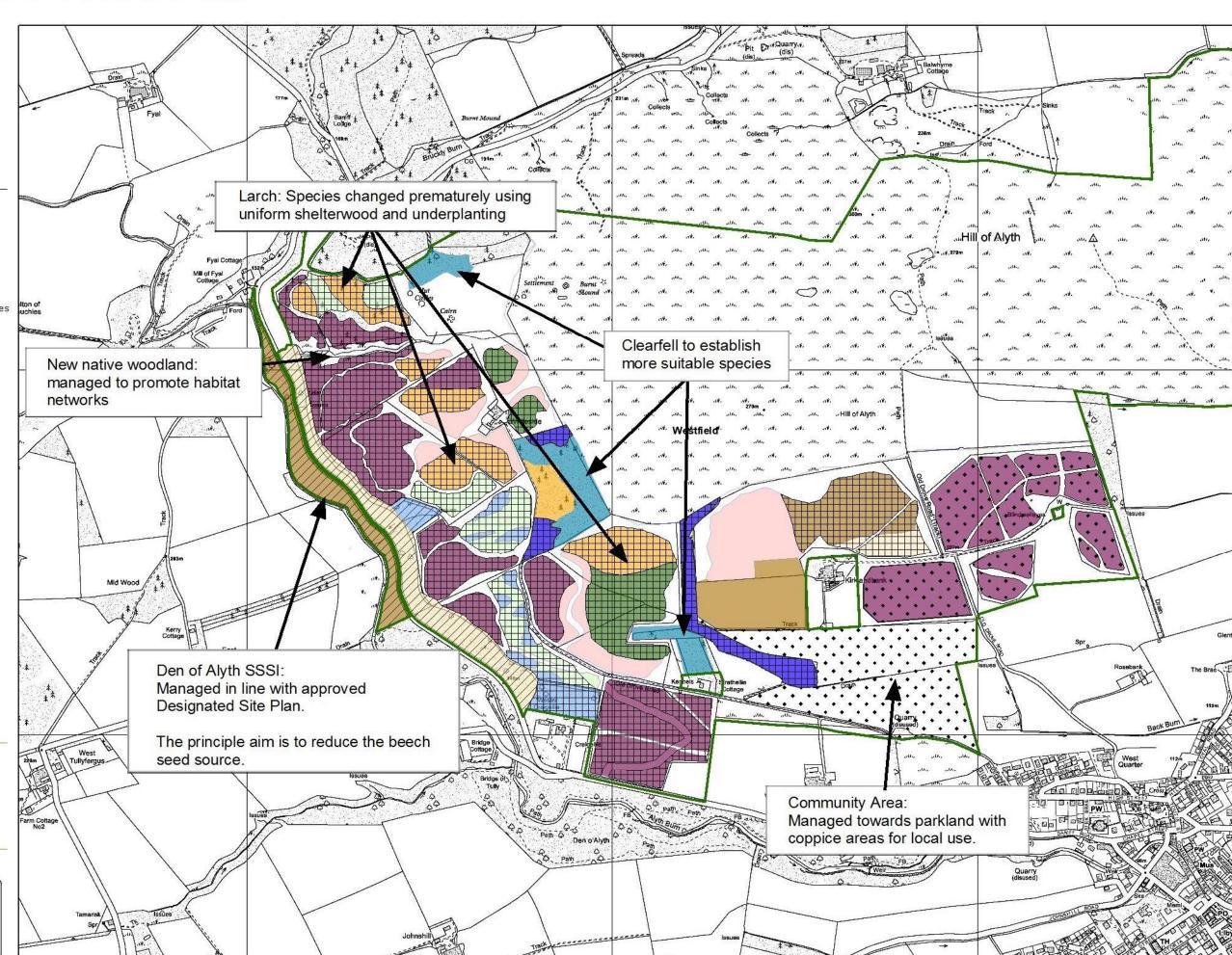




Reproduced by permission of Ordnance Survey on behalf of HMS(
© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.
© Getmapping Pic and Bluesky International Limited 2020.







Land Management Plan

9.3 Future Habitats and Species

9.3.1 Restocking

Species

There have been a couple of species choices which have required change from the original site plan. These are:

Ash which has since been compromised by Chalara Ash dieback. Failed areas have been restocked with Oak or Sycamore.

Larch: due to the threat of Phytopthora ramorum the intention is to commence the change the existing areas of larch to less susceptible species. This will be undertaken through heavy thinning of the larch and under-planting with the replacement species.

Spruce: Mature areas of spruce are to be felled and replaced with native broadleaves such as Oak and Birch or Scots pine.

Plant Density

The intention is that going forward regeneration is recruited from natural regeneration from seed cast by the previous stand. Where the densities below are not evenly met by natural recruitment additional planting or clearing may be required to bring the density to those below.

Stand type	Planted / recruited	Established at year five	
Commercial conifer	2,700 to 4,400 evenly spaced per net	2,500 to 3,900 trees evenly spaced	
	hectare	per net hectare	
Commercial Broadleaves	Species dependant but an	As per previous column.	
	anticipated range would be:		
	3,500 – 5,000 per hectare		
Broadleaves for Biodiversity	1,600 per net hectare. For reduced	As per previous column.	
	stocking areas plant in groups up to		
	20m between groups. Shrubs may		
	be up to 3,000 per hectare.		
Riparian areas	40% gross stocking. Achieved by	As per previous column	
	planting groups at 1,600 per net		
	hectare. (640 trees per gross		
	hectare)		

Ground Preparation

The requirement for and specification of ground preparation will be identified at the work planning phase. As drainage is not a constraint it is anticipated that only screefing or other minimal intervention technique would be required. There are no conflicts over adjacency guidelines in this plan due to the disparate nature of the felling coupes.

To improve the biodiversity services of open rides and provide woodland margin habitat areas of scrub will be created. A minimum of 1.09 hectare of scrub will be planted in discrete groups no larger than 0.04ha each (20mx20m). The precise location of these groups will be confirmed with the wildlife rangers at the work plan stage to identify locations where sight lines and shelter would assist in mammal control.

Amendment

At the work planning stage should species selection differ markedly from those identified in the LMP revised restock plans will first be agreed with Scottish Forestry in line with the tolerance table in appendix 10.6

9.3.2 Woodland Creation

Three areas within Westfield totalling some 46.6 hectares have been identified as being suitable for additional woodland creation:

Blindwelleves Field

Totalling 9.66ha, this area will form the woodland margin from the adjacent oak crop. A birch, Rowan and aspen mix will feather to hawthorn and willow by the wetter flush to the north. The wet flush will remain open. Occasional groups of scrub will be planted on the northern bank to further break up the margin.

Protection of this area will be through upgrading the existing stock fence to a deer fence and linking this to the existing deer fence to the south. No new significant fence lines will be created and all present access routes will be retained. See Map M10: Protection Map for details of how the trees will be protected from browsing.

North Westfield / Loyal

The larger of the three blocks at 19.43ha. This block wraps round the northerly face of the site and east into the gully by the Hill of Loyal. Lower most northerly slopes will be 30% open with groups of Willow (Salix spp) with birch and rowan on the north facing slopes. Small groups of scots pine will pick out craggy landform features.

The planting will include 40% open ground becoming more diffuse at the upper edge. The tongue running south will be juniper scrub. Due to the location of this site the intention is that once established this woodland would be left as low intervention.

Protection from browsing animals will require deer and rabbit fencing. In the area to the north. Self closing gates will be installed to facilitate access to the area. The eastern line of this fence will be set back from the Cateran trail, the lie of the land will hide this fence from the trail. The fence will cut back west before the path which runs north east from the Hill of Alyth. South from this point individual tree shelters will be used to protect trees. These will enable free access between the groups of trees, allow a clumped planting pattern and hide the fence line. Details can be seen on Map M10: Protection.

Whiteside

This section totals 14.5 hectares. The site includes a number of overhead power lines. Over time the new woodland will help make these less visible. The woodland type will be wetter woodland and link in with the restocking to the south of Whiteside. Species will be Birch, willow and aspen with shrubs and cherry.

The least intrusive method of protection of this site will be to re align the existing deer fence at the upper edge of the woodland. The proposal is to remove the existing fence and gates above Whiteside and move this to the top side of the proposed planting. Again all present paths will have gated access through the fence. At the eastern end the fence will stop short of the mature conifer strip and path onto the hill. Details can be seen on Map M10: Protection.

Ancient Woodland

The Den of Alyth Woodland is included on the Ancient Woodland Inventory. Towards the southern end of the site included within this plan are exotic conifers. Our vision is to revert this to natural woodland. The exotic conifers will be removed as opportunities arise. Appendix 8: The Designated Area Site Plan provides further detail.



M9: Restock Areas

Author: Robin Almond

Scale @ A3: 1:10,000

Date: 11/02/2020

Legend

Restock Species

Ash

Beech

Birch

Oak

Other Broadleaves

Other Conifers

Douglas Fir

Larch

Lodgepole Pine

Norway Spruce

Scots Pine

Sitka Spruce

Open

Land Management Plan Areas

Land Management
Plan Areas

0 0.0476.095 0.19 0.285 0.38

A

Reproduced by permission of Ordnance Survey on behalf of HM SO.

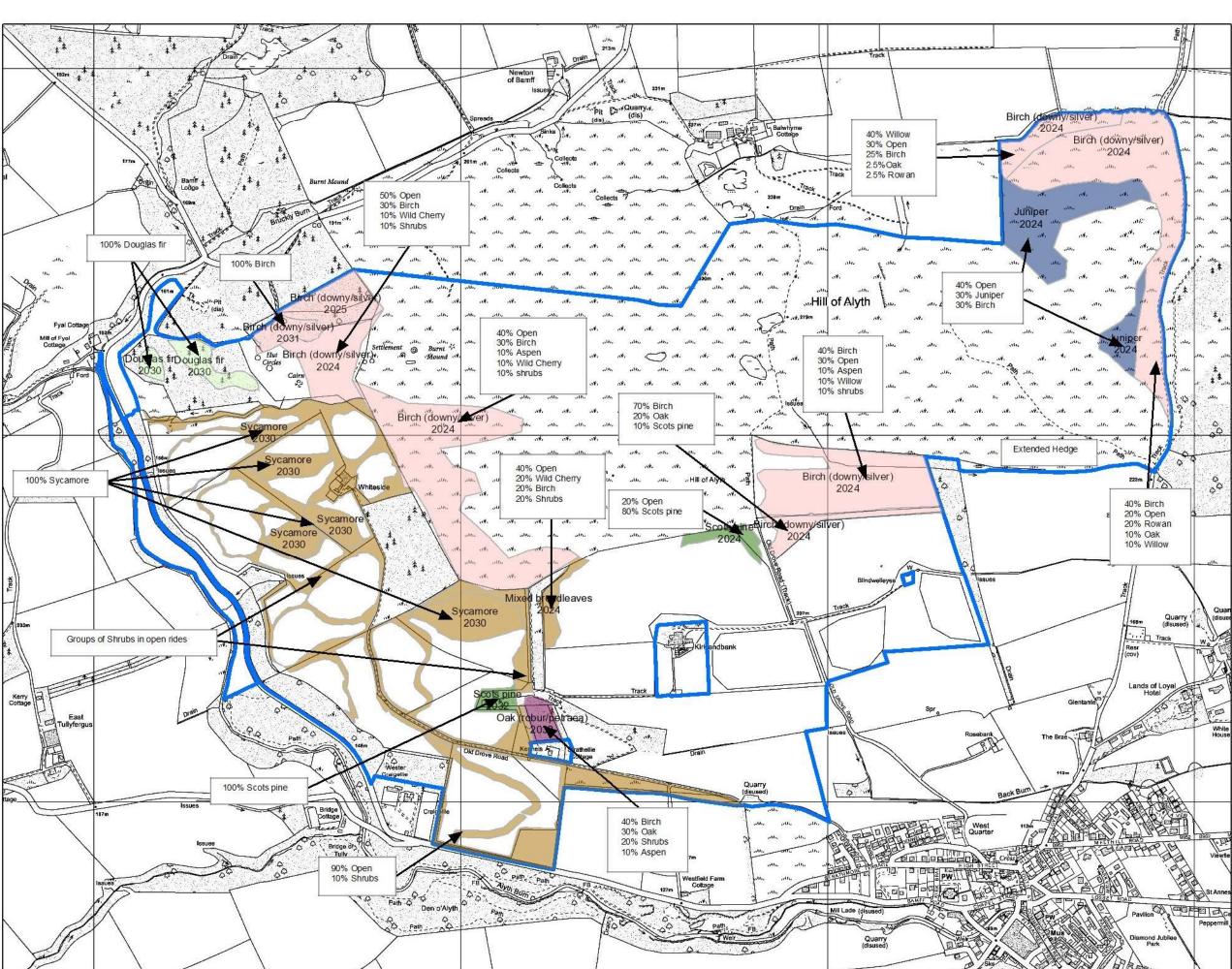
© Crown copyright and database right 2020. All rights reserved.

Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.









Protection

Author: Robin Almond Scale @ A3: 1:10,000

Date: 04/12/2019

Legend

Heritage Impact Zones



Heritage Impact

Next Perspectives 5m Contours (Scot.)

- Index

Intermediate

Blocks

200

Fences (Scot.)

Fences (Scot.)

Blocks

Scenario Restock Areas

Beeches



Larches





Other Conifers

Other Broadleaves



Pines

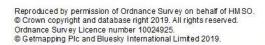


Spruces
No Species



7 ...

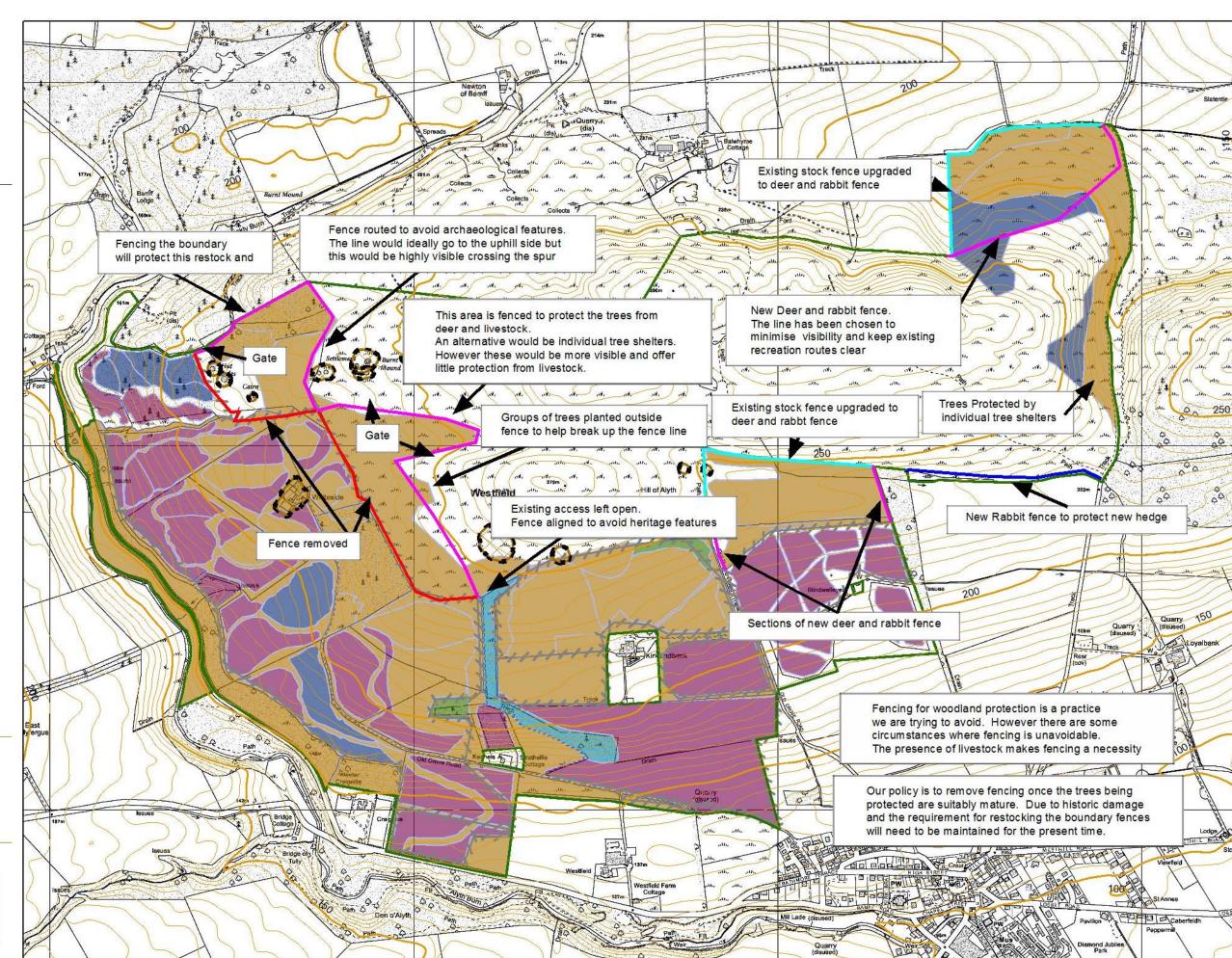




Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.







Land Management Plan

9.5 Operational Access

9.5.1 New Access

A new forest road will be built on the line shown overleaf on Map M11: Roading. The road line will not cross any watercourses or drainage features.

Access will be created in line with the publication "Design and Use of the Structural Pavement of Unsealed Roads" authored by the Timber Transport Forum and the Forestry Commission's Civil Engineering Handbook. All requirements of the Water Framework Directive will be adhered to.

EIA determination for this new road is sought as part of this land management plan. Prior notification and planning consent will be applied for prior to construction. This will include provision for access ramps for operational site access.

This road will be the primary operational access route to the site and will be suitable for timber harvesting operational traffic and timber haulage.

9.5.2 Timber Haulage to Public Road Network

The following table provides and estimation of the timber volumes anticipated to be hauled from each site entrance over the period of the plan.

Exit point	Grid Reference at Public Road Entrance	Phase	Anticipated Timber Volume		
Proposed New Access	NO229448	1	1,900		
Point		2	1,645		
		3	700		
		4	700		

9.5.3 Timber transport Routes

The road onto which timber will be transported towards Alyth is classified as a Consultation Route. As such Perth & Kinross Council will be consulted prior to all timber haulage operations.

9.5.4 Management Access

Due to the firm, dry ground conditions and scale of the operations it is not anticipated that new ATV tracks will be constructed at Westfield for the purpose of this plan. Should access tracks be required these will be subject to the appropriate Prior Notification process.



Coilltearachd agus Fearann Alba

M11: Roading

Author: Robin Almond

Scale @ A3: 1:7,500

Date: 12/02/2020

Legend

Timber Transport Routes (Scot.)

Consultation Route



Heritage Impact

Sites of Special Scientific Interest (Scotland)



Sites of Special Scientific Interest (Scotland)

Core Paths (Scot.)

Electricity Powerlines



Overhead powerline

Core Paths (Scot.)



Underground

Forest Roads

Planned Roads



OS 50k Contours (GB)

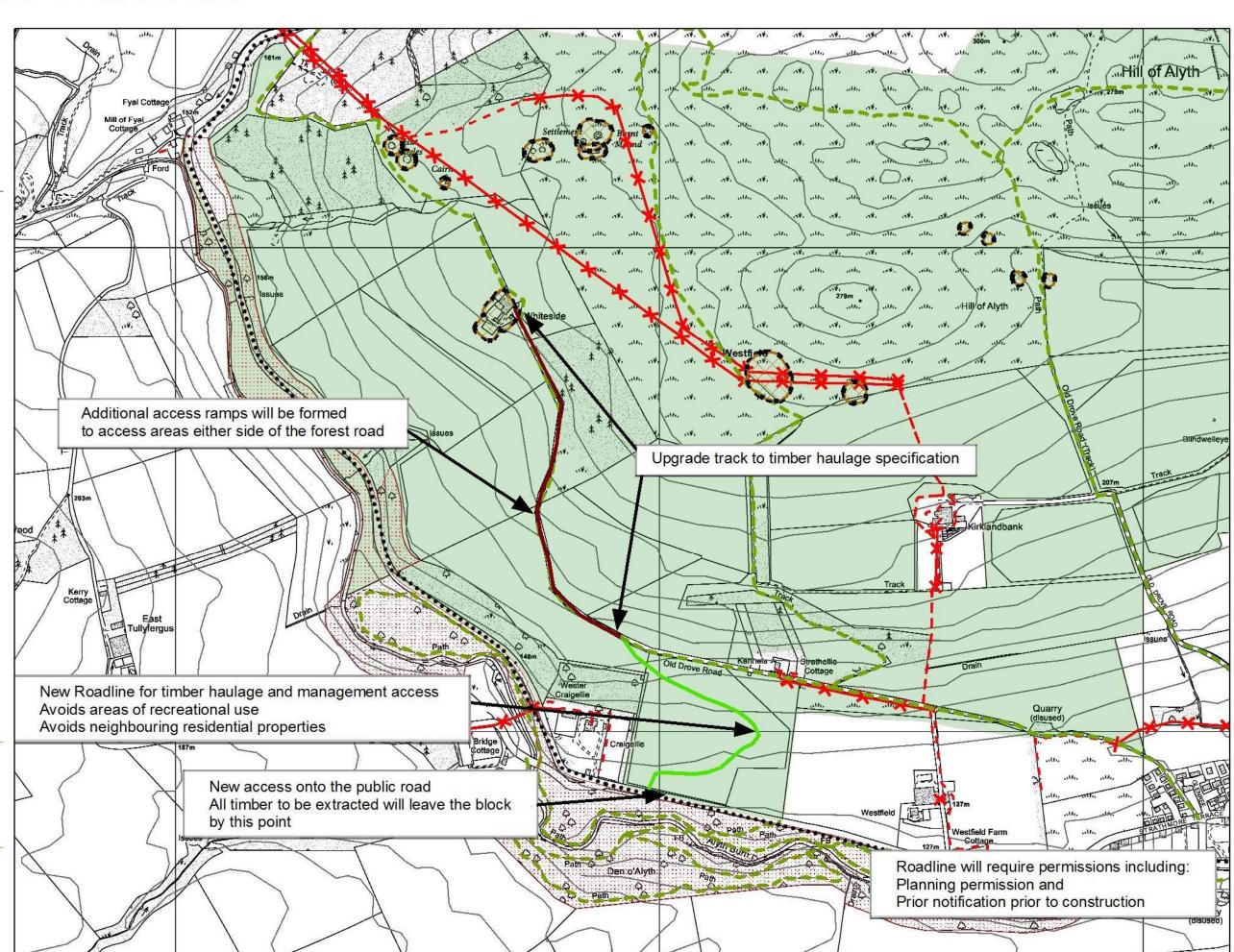
Reproduced by permission of Ordnance Survey on behalf of HM SO. © Crown copyright and database right 2020. All rights reserved. Ordnance Survey Licence number 100024925.

© Getmapping Plc and Bluesky International Limited 2020.

Scotland's national forests and land are responsibly managed to the **UK Woodland** Assurance Standard.







Land Management Plan

9.6 Wildlife Management

The site is subject to pressure from a number of species of browsing mammals. These include Deer (Roe and Fallow) Rabbits and feral pigs.

The site is divided into a number of discrete enclosures to assist with population control. The fences are now over 10 years old and approaching the end of operational life. However to meet the site objectives browsing damage will need to be kept at a tolerably low level. This is to enable the establishment of replacement broadleaves areas, enable restocking of felled areas and improve the biodiversity value of the open hill.

Operational staff will form a prioritised plan for maintenance, replacement and removal of fences. In line with FLS policy, redundant fences will be removed.

Management of deer populations onsite will be in line with the East Region Protection Strategy. The aim of this strategy is to maintain deer populations at a level which protects regeneration from negative impacts of over grazing.

Areas of integral open ground will be mown to form deer lawns to reduce pressure on young trees and provide safer locations for population control. The specific location of these glades will be dependent on deer control requirements at that time.

The map overleaf, Map M12: Wildlife shows the location where specific actions will be required to enable wildlife control to be undertaken effectively. Map M10: Protection illustrates required fencing to enable management of the site.



Coilltearachd agus Fearann Alba

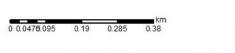
M12: Wildlife Control

Author: Robin Almond Scale @ A3: 1:10,000

Date: 12/02/2020

Ash

Legend Proposed new woodland Blocks Blocks Fences (Scot.) (Type) Other Broadleaves Other Conifers Douglas Fir Larch Fence Removal Proposed Fence Lodgepole Pine Sighline Required Norway Spruce ATV Access Required Scots Pine Sitka Spruce Open Core Paths (Scot.) OS 50k Contours (GB) Core Paths (Scot.) OS 50k Contours (GB) Scenario Restock Areas

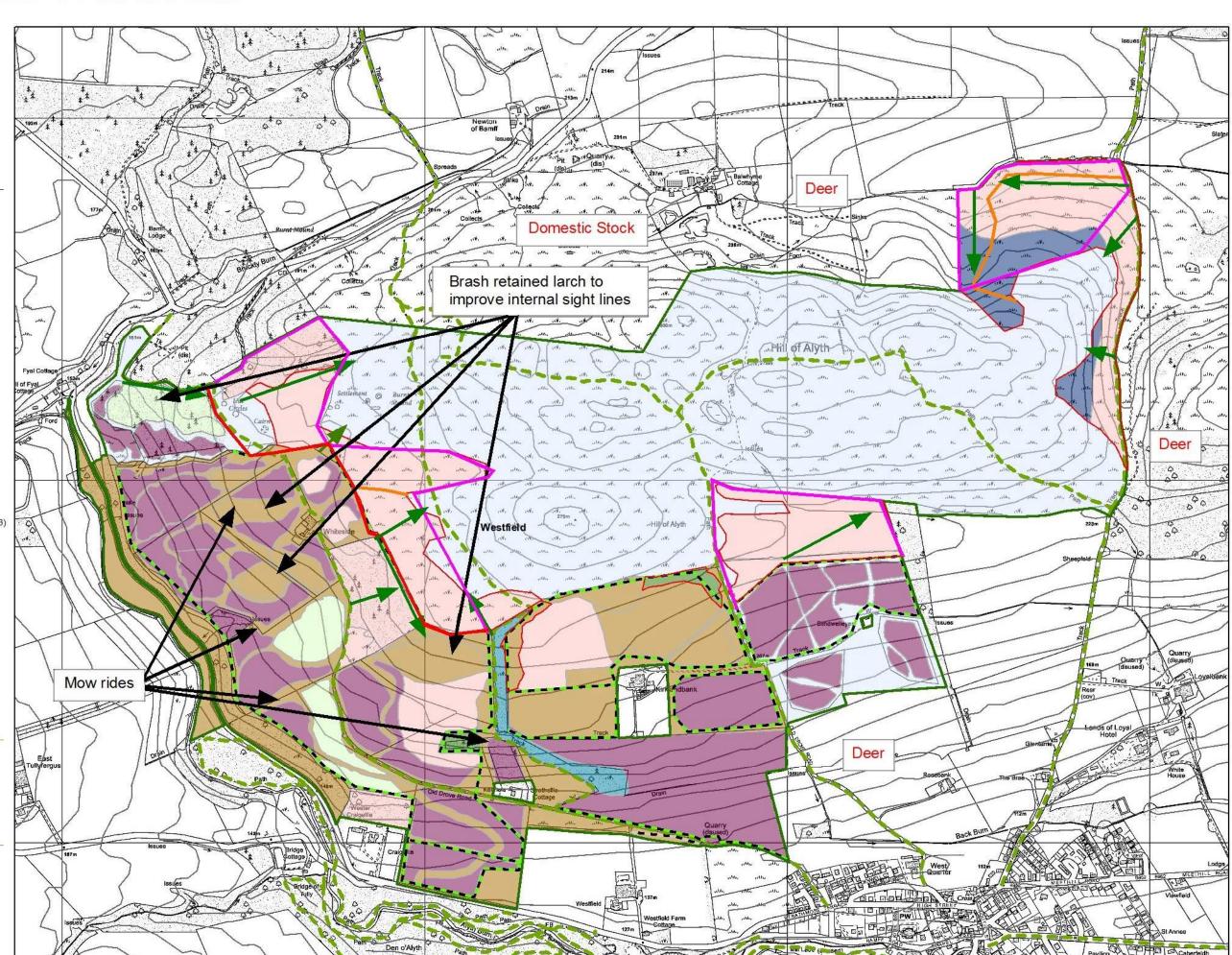


Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2020. All rights reserved.
Ordnance Survey Licence number 100024925.
© Getmapping Plc and Bluesky International Limited 2020.

Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.







Land Management Plan

9.7 Management of Open Ground

9.7.1 Hill Ground

Improved Grassland.

One area of grass above Blindwelleyes is stock fenced and has historically been grazed. The sword does contain a proportion of herbaceous plants but more rank vegetation is out competing these. Due to the presence of a private water supply in this field, cattle grazing is not the optimum management practice.

The proposal is to plant this area with scrub and native broadleaves.

Upland Acid Grassland

An area of herb rich upland acid grassland to the north of Kirklandbank is an LBAP habitat and is locally significant. Grazing of this grassland keeps the sward short and prevents larger more vigorous plants and scrub from dominating. However this area is used widely for dog walking and recreation meaning grazing of cattle would be problematic given the desire to promote access to the hill ground.

Given the proximity to the improved grassland our vision is that this area should be mown with cuttings removed to reduce fertility and maintain this sword structure. Cutting is likely to be required annually for the first three years then less frequently thereafter.

Upland Dry Heath

The remainder of the hill ground is benefiting from a reduction in grazing pressure. Management of this area will be minimal intervention allowing succession to continue from acid grassland to lowland dry heath. The real threat to this succession is encroachment by scrub.

Scrub

One feature of the Hill of Alyth is the distinctive yellow flowers of gorse as seen from Alyth and beyond. Gorse is a valuable habitat for nesting birds, smaller plants and insects protected by the sharp spines. However gorse tends, over time to form blocks of monoculture shading out other ground vegetation.

9.7.2 Internal Open Ground

Due to historic management practices the fertility of the soils on the site mean grasses are likely to dominate the ground layer until the available light is reduced as the trees grow. To provide additional benefits from these areas, pockets of scrub will be planted. This scrub will be planted in patches of less than 0.04 ha each. At the centre of these patches the density will be higher decreasing towards the edges. These groups will provide habitat and havens for birds and insects which forage in the grassland. The scrub will also break up the sharp edges of the plantation.

9.8 Public Access

Public access to the site is a fundamental driver for site management. Right from the policy document "Getting the Best from our Land a Land Use Strategy for Scotland" through the Scottish Forestry Strategy to the detail of this land management plan recreation and community involvement are core management objectives. Recreation and involvement can be split into two zones in Westfield. One is the core Community Woodland where the intention is that the management is community led. To date this has led to new paths, sculptures, an orchard and bike park. The other is the remaining site where we aim to continue to facilitate access through site design and operations such as

aligning fences, installing gates, planting design and gorse control but will not look to install new capital items such as formal paths.

Paths within the community woodland area will be maintained and the grass cut. The recreation element of Westfield has from the outset been a community led initiative. Therefore the approach to any ongoing development of the site will be to facilitate community groups.

9.9 Heritage Features

All known heritage features are shown on the map overleaf. Features will be maintained at present condition. Their location will be confirmed prior to all operations. Any scrub encroachment will be removed where this is deemed to be of threat to the feature condition of that feature. All works will follow FLS standard operating procedure and Forests and Historic Environment guidance.

Land Management Plan

9.10 Plant Health

In the case of Westfield there are a number of known pathogens either present or known to be likely to infect the crops and therefore the increment available in the present rotation. One of the prime objectives for the site is maximising carbon sequestration it is therefore important that impacts from pathogens are minimised.

Winter are becoming milder and wetter which is contributing to an increase in the impact of plant pathogens. In the medium term this is being combated through planting of tree species and provenance most appropriate to each site. This approach increases the diversity within the woodland, spreading the risk but also means those trees on the site are least climatically stressed and so better able to respond to threats.

9.10.1 Phytopthora ramorum

Phytopthora Ramorum is a plant pathogen spreading rapidly across Scotland. P. Ramorum initially took hold in the South West but is now prevalent across the country. P. Ramorum is known to be fatal to larch with mortality frequently within a season of infection.

This site is within risk zone 3. The FLS policy within this area is continue with management of Larch to full rotation but aim not to retain past a normal rotation length.

On this site the opportunity will be taken to thin the larch heavily to increase air flow to minimise the chance of infection. Through this early thinning the hope is that infection of these stands can be delayed sufficiently to allow the retained trees to a marketable size before removal.

9.10.2 Chalara Ash Dieback

Trees infected by Chalara do not require removal specifically. However should an infected tree show signs of structural deterioration in the vicinity of a known access route this should be monitored by the tree risk management system and removal undertaken if required for safety.

Where areas of young ash trees have failed through infection of Chalara Ash Dieback at Westfield they will be beaten up with trees of a different species. Suitable species would be Sycamore (Acer pseudoplatanus) lime (Tillia cordata) Oak (Quercus Spp) or cherry (Prunus Spp)

9.10.3 Dothistroma Needleblight

Dothistroma Needle Blight in pine is caused by a fungal pathogen leading to year on year defoliation in pines. The site is further from another pine stand than the pathogen is known to travel so the probability of infection can be anticipated to be low. However to minimise the likelihood of infection spreading within the stand if infection does occur, maintaining low humidity within the canopy is important.

As with the larch stands it is critical that the pine stands are thinned on time and correctly to maintain air flow within the canopy.

Land Management Plan

10. Appendices

10.1 Land Management Plan Consultation Record
10.1.1 Record of Responses from Statutory Consultees

Statutory Consultee	Date Contacted	Date Response Received	Issue Raised	Response
Perth & Kinross Council	27/06/2019	31/07/2019	With reference to the consultation request at the above reference and location, we wish to make the following comments:	No works within the plan will impact on these items. In fact the afforestation of the site and continued growth of the tree canopy should moderate water flows from
			Part of the site is located within an Ancient Woodland – Gauldswell Wood, Parish: Alyth.	the site.
			There are 10 Cateran Trail paths running through this site.	
			There is one scheduled ancient monument site located in the area – Barry Hill, Fort.	
			• There are 2 listed buildings within this site – Craigellie House, Category B, LB4376 and Land of Loyal Hotel, Alyth, Category C, LB4374.	
			All of the site is located within a low priority military flying zone which is less likely to raise concerns.	
			All of the site suffers from low-high surface water flooding and low-medium river flooding.	
		26/07/2019	Works should be undertaken in coordination with neighbouring landowners where practical.	Neighbours have been contacted as part of the consultation for this plan.
			Maintenance of Gorse on the Cateran Trail is difficult for PKC.	Management of the Gorse is being investigated as part of this plan.
		01/08/2019	When replanting a proposed forest a buffer strip should be maintained along all open watercourses. Guidance for buffer strip distances from watercourses can be found in the UK Forestry Standards. Maintenance of buffer strips will reduce the amount of woody debris entering a watercourse and potentially causing blockage at downstream structures.	UKFS and the Forest and Water Guidelines will be adhered to during all forestry operations. There are no plans to undertake ground preparation within riparian buffer zones within the scope of this plan.
			Woody debris should not be placed within the watercourse due to the potential mobilisation of the material and the potential to cause blockages at downstream structures.	
			Any new or upgraded watercourse crossings should be able to convey the 1 in 200 year flood flow with an allowance for	

Land Management Plan

	1			,
			freeboard. Ground levels should remain as existing and overland flow pathways should enable flood waters to pass over, or around the crossing and back into the watercourse without creating new flow pathways.	
			During replanting ploughing of furrows should be undertaken across the slope and not up and down to reduce surface water runoff rates to nearby watercourses.	
			Good practices and management should be undertaken during forestry works and The UK Forestry Standards should be followed at all times	
Historic Environment Scotland	27/06/2019	08/07/2019	No comments.	
RSPB	27/06/2019		No Comments	
SEPA	27/06/2019		No Comments	
Scottish Natural Heritage	27/06/2019	25/07/2019 – Public meeting	Before the meeting it was good to visit the north of the SSSI site and see the well-developed native woodland there.	The requested management is within the scope of the Designated Area Management Plan.
			The main native trees are ash, oak, goat willow, downy birch, plus a few gean and occasional immature wych elm. Non-native trees included beech, nowhere near as abundant as in the south of the site, and lime.	
			The ash trees include some notably large examples, and younger poles, which appeared to be affected by Chalara. Good clumps of recent ash regeneration appeared to be currently unaffected - but you cautioned may in turn succumb to Chalara, as with recent planting elsewhere on FLS's Westfield and Alyth Wood of estate.	
			The shrub layer, mainly hazel, is well developed, as is the field layer. This ranges from dense Luzula sylvatica to mixtures of Mercurialis perennis and Dryopteris filix-mas, and with abundant or dominant Filipendula ulmaria in some areas. Rocky banks by the burn locally support stands of other ferns including Polystichum aculeatum.	
			Thanks for your reassurance me that FLS's mapping of the SSSI as "non-intervention" does not mean that beech would not continue to be controlled. It would be good to prioritise beech remove from the north of the SSSI. You also mentioned proposals to fell the beech on FLS land above the road and just outside the SSSI which I also welcomed. The roadside lime is not regenerating and is therefore less problematic.	
			Keen on Feathering upper margin of woodland edge in coupe adjacent to Whiteside.	

Land Management Plan

RPID	27/06/2019	Nil response	
Scottish Forestry	27/06/2019	Nil response	

10.1.2 Other Consultees

Consultee	Date	Date Response Received	Issue Raised	Response
	Contacted			
Alyth Primary School	28/06/2019	No response		
Alyth Development Trust	01/07/2019	No response		
Perth Kinross Heritage Trust	27/06/2019	No response		
Alyth Hill Users Group	27/06/2019	No response		
Strathellie Cottage	27/06/2019	Attended public meeting		
Kirklandbank	27/06/2019	Attended public meeting		
Loyal Farm	27/06/2019	No response		
Craigellie	27/06/2019	No response		
Balwhyme	27/06/2019	Attended public meeting		
Westfield House	27/06/2019	No response		
Wester Craigellie	27/06/2019	No response		

Land Management Plan

10.1.3 Responses From Public Meeting 24th August 2019

10.1.3 Responses From Public Meetil	ng 24 th August 2019	
Item	Aspiration	Outcome in this Plan
Whiteside – Are there any plans to develop this	This asset should be put to use to maximise the return from the national forest estate. On	Analysis as to potential uses for the site will be undertaken once access issues have been
site?	confirmation that the access road will be upgraded options for this site will be analysed.	resolved.
Research Plots – What are the plans for these?	Plots will be managed in line with the research presently underway. At the end of this	These sites will remain under management of Forest Research for this plan period.
Can the weeds be cut to prevent the spread of	process the site will be restocked to better reflect the surrounding woodland and site	
seeds?	objectives.	
Path Maintenance – Grass cutting has not been	Grass cutting program is undertaken on a prioritised basis across the region given the	Management of grass paths will be undertaken to maintain the site. The timing of this will be
often enough this year	resources within FLS.	assessed annually.
Interpretation – Desire to see more site	Alyth Hill/Alyth Wood is not a core recreational asset therefore will be a lower priority for	FLS has no plans for further recreational infrastructure. FLS would however work with any local
interpretation relating to lithology, soils, fauna	installation of interpretation.	constituted group in conjunction with Alyth Hill Users Group on any aspirations for future
and land use. – specific reference to the Cateran		interpretation.
Trail	The Cateran Trail is managed by Perth and Kinross Countryside Trust and any interpretation	
	proposals for this trail would be agree directly with them.	
Fire concerns on the open hill. – With the lack of		Gorse management will be undertaken during this plan period.
grazing and levels of access combined with the	provision for fire containment and access.	
age of the gorse there are concerns regarding hill		
fires. – Aspen planted as a firebreak may be an		
option.		
Fence removal.	The service life, maintenance and efficacy of fences will be examined within the scope of	The retention of fences is periodically reviewed. Fencing will be removed where no longer
	this plan.	required.
	Fences will be removed as the protected crops no longer require protection from the	
	species being excluded.	
How long are tree shelters going to be on the	Tree shelters will be removed in line with a prioritised program. This is typically five years	Tree shelter removal will be undertaken once management inspections deem that the trees are
trees?	from planting depending on establishment.	no longer at risk.
Are tree tubes biodegradable?	In the most part the Tree shelters used are sold as being degradable.	Nil
No objection to trees on the hill especially if they	Within this plan consideration will be given to the extent and location of potential	Woodland Creation is covered in section 9.2
are to include Rowan and Aspen.	woodland creation on hill.	
Would like to see more trees on the hill. Rowan,	Within this plan consideration will be given to the extent and location of potential	Woodland Creation is covered in section 9.2
Elder and Aspen.	woodland creation on hill.	
Opportunities to produce coppice products for	Within this plan opportunities will be examined to bring coppice into management.	
local use and educational resources for land based	Opportunities for community involvement will be explored.	FLS welcomes approaches from constituted groups looking to utilise the National Forest Estate.
skills and artists.		
	Local schools have been contacted as part of this plan process.	
Plant Rowan, Birch, Oak, Hazel, Scots Pine on hill.	Consider extent type and location of potential woodland creation on hill.	
Find ways of making archaeology more visible and	The potential for interpretation will be explored where funding permits.	FLS has no plans for further recreational infrastructure. FLS would however work with any local
accessible in order to build more experiences for		constituted group in conjunction with Alyth Hill Users Group on any aspirations for future
the cateran trail.	Access is presently open to all known archaeological sites.	interpretation.
	As these sites are not Scheduled Monuments, they are low on the priority for any	
	interpretation.	
land a		
What are you doing to prevent Motorised access to the hill?	Preventing unauthorised motor vehicle access is very difficult as FLS do not have any staff based on site.	Options for management of illegal access on the National Forest Estate are reviewed annually. Signage will be installed at Westfield.

Land Management Plan

	FLS will soon be erecting more permanent signage regarding unauthorised access by motor vehicles.	
	FLS always encourages the public to report any unauthorised motor vehicle access directly to the police using the non-emergency number 101, making sure that an incident number is obtained.	
Stop Motorcycle access to the hill near hut circles	Preventing unauthorised motor vehicle access is very difficult as FLS do not have any staff	Options for management of illegal access on the National Forest Estate are reviewed annually.
and cateran trail.	based on site.	Signage will be installed at Westfield.
	FLS will soon be erecting more permanent signage regarding unauthorised access by motor vehicles.	
	FLS always encourages the public to report any unauthorised motor vehicle access directly	
	to the police using the non-emergency number 101, making sure that an incident number	
	is obtained.	
Add a section of path to the south west of the site	Alyth Hill/Alyth Wood is not a core recreational asset in Tay therefore will be a lower	FLS has no plans for further recreational infrastructure. FLS would however work with any local
to make a longer circular link from Whiteside to	priority for any path development.	constituted group in conjunction with Alyth Hill Users Group on any aspirations for new paths.
the northern end of the Den of Alyth. This will		
need a bridge on the southern side of the road.		
What will the impact of climate change be on		The species chosen are thought to be well suited to the site conditions and therefore best able
these proposals? How will plantings		to adapt to a changing climate.
accommodate and adapt to this?		
Fences are in a poor condition could you not just		The retention of fences is periodically reviewed. Fencing will be removed where no longer
remove them to improve access?		required.
Access track from above Westfield to Whiteside is deteriorating.		A maintenance of this access road will be undertaken.
Welcome the proposed access track. There must		Barriers are installed as standard on new access roads.
be a lockable barrier at the roadside to prevent		
unauthorised access.		
Felling proposals seem sensible.		
Are there plans for further woodland creation on	In line with Scottish Government instructions all agricultural areas within the National	Areas which have been identified as suitable for tree planting are shown in the restocking map.
the unplanted areas?	Forest Estate are periodically examined to ascertain suitability for tree planting.	
Stop Motorcycle access to the hill near hut circles	Preventing unauthorised motor vehicle access is very difficult as FLS do not have any staff	Options for management of illegal access on the National Forest Estate are reviewed annually.
and cateran trail.	based on site.	Signage will be installed at Westfield.
	FLS will soon be erecting more permanent signage regarding unauthorised access by motor	
	vehicles. FLS always encourages the public to report any unauthorised motor vehicle access directly	
	to the police using the non-emergency number 101, making sure that an incident number	
	is obtained.	
More Signage and information about the trees	Alyth Hill/Alyth Wood is not a core recreational asset in Tay therefore will be a lower	FLS has no plans for further recreational infrastructure. FLS would however work with any local
and information about the site in the community	priority for any path development.	constituted group in conjunction with Alyth Hill Users Group on any aspirations for new facilities.
area. More mowing within the community area.	F	and the state of t

Land Management Plan

Motorbike access and irresponsible use of the hill	Preventing unauthorised motor vehicle access is very difficult as FLS do not have any staff	Options for management of illegal access on the National Forest Estate are reviewed annually.
is out of control. Access points are Glen Isla,	based on site.	Signage will be installed at Westfield.
Whiteside, WestQuarter, Loyal Farm		
	FLS will soon be erecting more permanent signage regarding unauthorised access by motor	
	vehicles.	
	FLS always encourages the public to report any unauthorised motor vehicle access directly	
	to the police using the non-emergency number 101, making sure that an incident number	
	is obtained.	

Land Management Plan

10.3 Analysis of the Previous Plan

Aims of the Previous Plan	Have these been Achieved and are they Relevant Today?	Present National Outcomes and Strategic Goals Met
To Create a mainly broadleaf woodland using silvicultural prescriptions which maximise the potential for carbon sequestration	The woodland intended within the initial plan has been established. Generally the trees are now growing well.	Productive Manage ¼ of broadleaf woodlands to produce quality hardwood and fuelwood
	The introduction of Ash Dieback disease hindered the establishment of some broadleaf areas through mortality of the majority of the planted Ash (<i>Fraxinus excelsior</i>) onsite. Replanting of some failed areas has been completed however more work is required to ensure the site achieves the correct stocking density.	 Support the Scottish Government's woodland expansion policy Cared For Increase broadleaf tree cover from 8%
	One felling coupe identified within the plan to enable conifers to be replaced by broadleaves has been delayed from 2008 due to objections from a neighbour. This has now been re scheduled to phase two of this plan with agreement from the neighbour.	to 20% o Safeguard archaeological sites and recognise special places with cultural meaning
To provide for a range of recreational use and involve local communities and schools in forest related activities	The site is used extensively by the community.	 Productive Develops the Estate's potential for tourism.
	A community bike park and a community orchard have been established onsite. Potential to further improve local access links through new woodland management access provision.	 Accessible Invest available resources into high quality visitor experience. Encourage the use of the Estate for health benefits and outdoor learning.
	Potential for further interpretation of activities onsite to further increase the educational offering.	 Treasured Actively engage with local communities and be open to working in partnership.
Provide a demonstration site for short rotation forestry with a view to encouraging woodland establishment and support the utilisation of wood energy locally	The research and demonstration plots for short rotation forestry have been established.	 Productive Manage ¼ of broadleaf woodlands to produce quality hardwood and fuelwood Realise the Estate's renewable energy potential
The production of high quality broadleaved timber	The broadleaves planted have the potential to be managed to a crop of high quality timber. This requires further input over the lifespan of this plan to ensure this potential is retained. This aim that the woodland is Healthy, productive and good value is in line with the FLS corporate plan.	 Healthy Practice high quality silviculture Look after the carbon locked up in trees and soils Productive

Land Management Plan

		 Manage ¼ of broadleaf woodlands to produce quality hardwood and fuelwood
To extend the forest habitat network with emphasis on native species.	The extension of the forest habitat network has been improved. The site now extends native woodland from the Den of Alyth SSSI woodland. The woodland established adjacent to the SSSI is of native species.	 Healthy Help the Estate adapt to climate change and become more resilient to pressure Cared For Maintain priority open and native woodland habitats in good ecological condition.
To increase the biodiversity of the upper slopes of the hill.	Management of the open hill ground has to date been to remove domestic stock and so reduce grazing pressure. This has improved the diversity of ground flora but has also led to the expansion of gorse whinns over the site. There are opportunities which could be taken to further diversify the range of floral species onsite.	Cared For Safeguard archaeological sites and recognise special places with cultural meaning

Land Management Plan

10.4 Schedule of Works

Planned next interventionYear	Coupe	Cpt	Sub Cpt	Operation	Species	P yr	GYC	Year at Max MIA	Fell year	Area (ha)	Aims and Objectives	Vision	Comments	CCF plan. Rotation-Conversion- Return	Prescription of next intervention	Anticipated Volume (m3)
	60000	5902	h	Maintenance	OG		n/a	n/a	n/a	8 28	Biodiversity and landscape	Mown grass rides with groups of shrubs.	Maintain sight lines for stalking as appropriate.			
	00000	3302		Walletance						0.20	bloarversity and landscape	311 003.	арргориисе.		plant groups of shrubs at	
							n/a	n/a	n/a			Mown grass rides with groups of			western and northern	
	60000	5903	b	Maintenance	OG		-			4.8	Biodiversity, Recreation	shrubs.			margins	
															Shrubs are to be planted in groups on the sides of	
							n/a	ln/a	n/a						rides so as not to block	
							", "	'', u	11,7 4						mowing or deer control	
2022/23	60000	5903	b	Planting	OG					0.5	Biodiversity, Recreation				sight lines. Total area	
							n/a	n/a	n/a			Mown grass rides with groups of				
2022/23	60000	5904	b	Maintenance	OG		11, 4	117 u	,	3.72	Biodiversity, Recreation	shrubs.			Plant groups of shrubs.	
													groups are to be planted in groups on the sides of rides so as not to			
							n/a	n/a	n/a				block mowing or deer control sight			
2022/23	60000	5904	b	Planting	OG	2022	<u>.</u>			0.4	Biodiversity, Recreation		lines.			
, -	60000	5904			OL					1.65	-	Community Orchard				
							n/a	n/2	n/a			Mown grass rides with groups of				
	60000	5905	а	Maintenance	OG		II/a	11/ a	II/a	13.81	Biodiversity and landscape	shrubs.				
													groups are to be planted in groups			
							n/a	n/a	n/a				on the sides of rides so as not to block mowing or deer control sight			
2022/23	60000	5905	ila	Planting	OG	2022	,			1	Biodiversity and landscape		lines.			
2022/23	00000	3303		i iditting		2022				_	bloatversity and landscape		groups are to be planted in groups			
							١,	,	,				on the sides of rides so as not to			
							n/a	n/a 	n/a			Mown grass rides with groups of	block mowing or deer control sight			
	60000	5906	а	Maintenance	OG		_			4.73	Biodiversity and landscape	shrubs.	lines.		Mow grassland	32.2
															D	
															Remove 50% by volume. Underplant SY. look to	
															further thin after 5 years	
															or remove final 50% of	
															larch if P. Ramorum risk	
2023/24	60001	5904	d	Thin	EL	2010	10	2059	2035	2.74	Timber Production	Replace larch with Sycamore		49-10-7	present.	70
															Remove 50% by volume.	
															Underplant Sycamore. look to further thin after 5	
															years or remove final 50%	
															of larch if P. Ramorum risk	
2023/24	60001	5905	f	Thin	EL	2010	10	2059	2035	3.94	Timber Production	Replace larch with Sycamore		49-10-7	present.	100
															Remove 50% by volume.	
															Underplant DF. look to	
															further thin after 5 years	
															or remove final 50% of larch if P. Ramorum risk	
2023/24	60001	5906	ild	Thin	EL	2010	10	2059	2035	1 75	Timber Production	Replace larch with douglas fir		49-10-7	present.	50
2023/24	00001	3300	, u	111111		2010	10	2033	2033	1./3	Timber Froduction	Replace laten with douglas in	Aim is to maintain crown height at	43-10-7	Line thin at Marginal	30
2026/27	60002	5904	e	Thin	SBI	2010	4	2058	2058	2.3	Timber Production		50% of tree height.	48-10-10	intensity	35
													Aim is to maintain crown height at		Line thin at Marginal	
2026/27	60002	5905	h	Thin	SBI	2010	4	2058	2058	2.85	Timber Production		50% of tree height.	48-10-10	intensity	50
															Thin at Marginal Intensity	
															removing NS with the intention of favouring bi	
												Grown for timber and shelter for			regen. Aim to get BA to	
				i												1

										Grown for timber and shelter for				
										Broadleaf 2nd rotation. Retain				
										occasional individuals for diversity			Line thin at Marginal	
2036/37	60004	5904 a	Thin	SP	2010	10	2085	2085	4.33 Timber Production	and future seed source.		72-10-8	intensity	300
										Uniform Shelterwood retaining			Line thin at Marginal	
2026/27	60004	E00E	Thin	SP	2010	1 10	2085	2005	1 21 Timb or Draduation	occasional oversize individuals		75 10 0	1	00
2036/37	60004	5905 k	Thin	34	2010	10	2083	2085	1.31 Timber Production	occasional oversize individuals		75-10-8	intensity	90
									Timber Production. Final crop	Uniform Shelterwood retaining			Line thin at Marginal	
2029/30	60005	5905 g	Thin	DF	2010	20	2062	2062	3.37 trees 90cm diameter	occasional oversize individuals		52-10-5	intensity	190
2020/20	60005	5005	Th.:	NC	2010	1 ,	2004	2004	1 50 Timb on Dun dunation	Uniform Shelterwood of DF with	Mark alargarida DE	74.40.5	Line thin at Marginal	20
2029/30	60005	5905 i	Thin	NS	2010	12	2084	2084	1.58 Timber Production.	NS where this regens	Work alongside DF	74-10-5	intensity	30
									Timber Production. Final crop	Uniform Shelterwood retaining			Line thin at Marginal	
2029/30	60005	5905 I	Thin	DF	2010	20	2062	2062	· ·	occasional oversize individuals		52-10-5	intensity	65
										Uniform Shelterwood retaining			Line thin at Marginal	
2029/30	60005	5906 e	Thin	DF	2010	20	2062	2062	1.22 Timber Production	occasional oversize individuals		52-10-5	Intensity	70
													Line thin at Marginal	
2034/35	60006	5904 f	Thin	SOK	2010	4	2100	2100	1.89 Timber Production		•	90-20-10	intensity	
2022/22	COOOC	5005 b	Maintanana	SOK	2010	ا ا	2100	2100	0.73 Timehou Duodusation		Prune trees capable of reaching final	1	Line thin at Marginal	
2022/23	60006	5905 b	Maintenance	SOK	2010	4	2100	2100	8.72 Timber Production.	Irregualr shelterwood as	crop	90-20-10	intensity Beatup to increase	
										permanent native woodland	Ash has failed. Therefore stocking is		stocking to 1,600/ha.	
2022/23	60006	5905 d	Maintenance	МВ	2010	4	2100	2100	4.88 Biodiversity	habitat link to Den of Alyth SSSI.	low and requires improvement		Groups of SOK, ASP, WSH	
1011/10		3333 (4		12	12020				inco productionally	l l l l l l l l l l l l l l l l l l l	Ash has failed. Therefore stocking is			
2022/23	60006	5905 e	Maintenance	МВ	2018	4	2108	2102	4.38 Landscape, amenity with timber	Timber	low and requires improvement	120-30-10	Bu with SOK and Birch	
											Requires beatup to bring to			
											specification. Early pruning of all			
2024/25		5005	-1.				2400		Biodiversity link. Also high quality	l	trees which may reach final crop	00.00.45	line thin at marginal	50.0
2034/35	60006	5906 c	Thin Thin	MB	2010		2100		2.1 timber from individual trees3.93 Commercial timber production.	Irregualr shelterwood	status.	90-20-15	intensity	58.8 110
2046/47	60007	5903 f	Inin	SOK	2018	4	2108	2108	3.93 Commercial timber production.	Timber in single tree selection Roadside strip maintain as	Remove exotics favouring native	90-20-10		110
As per DSMP	60008	5905 c	Thin	МВ	1940	ا ا	2010	2199	6.9 Biodiversity	irregualr shelterwood	broadleaved individuals	70-70-15		
7.5 per 251411	00000	3303 0	111111	1415	1340	1	2010	2133	Biodiversity and Timber	Removal of exotics favouring	Si oddiedved marvidadis	70 70 13	Line thin at Marginal	
2029/30	60008	5905 m	Thin	NS	1988	12	2063	2063		natives	Thin to favour BI	75-20-5	intensity	30
-													·	
										Continual cover, natural regen of	SSSI. In line with Designated Site		Thin non naitves to	
2024/25	60008	5907	Thin	MB	1880	4	n/a	2199	4.14 Biodiversity	Ash Oak and Birch	Management Plan		promote advanced regen.	50
													Remove c.a 50% of stems	
											L		favouring retention of	
2025 /26	60000	5000	T1 *	l cou	2040		2054	2054	4.6.6	Local art a trade at a st	Aim is to maintain crown height at	54.40.40	dominant and co	270
2025/26	60009	5903 e	Thin	SBI	2010	8	2054	2054	4.6 Commercial timber production.	productive birch stand Natural regen sycamore stand for	50% of tree height.	54-10-10	dominant stems.	270
										high quality hardwood and	Prune trees capable of reaching final		Line thin at Marginal	
2025/26	60010	5903 c	Thin	SY	2010	ا ا	2054	2054	4.9 Commercial timber production.	firewood.	crop	44-10-10	intensity	270
2025/26	60010	5903 g	Thin	AH	2008	8	2052		1.25 Commercial timber production.		1	44-10-11	BU with SY as required	35
,				1	+====					Retain as area of older trees			Line thin at Marginal	
2023/24	60011	5904 j	Thin	MC/MB	1976	6	2046		0.66 Biodiversity	towards LTR			intensity	30
										Retain as area of older trees				
		5904 k	1	МВ	1976	1	2026		0.44 Biodiversity	towards LTR	i .	i	1	

													Quality Oak timber stand with			Line thin for access no more than marginal	
2040/44	60013	F003	_	The in-	l _{AAD}	2010	١,	,	,,,,	2400	10.3	1 6	1	Character and lines in the second	00 20 45		200
2040/41	60012	5902	a	Thin	МВ	2010	4	1 4	2100	2100	10.2	1 Commercial timber production.	Beech and Lime understorey	Chance to pollard lime in due course	90-20-15	intensity	280
														Isolated by OHL and OG Acces will			
													Clearfell restock with Spp better	be required over neighbour			
2028/29	60013	5906	l _f	Fell	SS	1976	18		2028	2028	1	1 Timber Production	suited to site objectives	ownership		Fell	300
2028/29	60013	5906		T CII	MB	1940			2030	2028		6 Biodiversity	LTR. Isolated block		Miniumum intervention	thin at Marginal intensity	
2028/29	00014	3300	15	+	IVID	1340	-	\ 	2030	2033	2.4	Biodiversity	LTK. Isolated block	Mountain bike route runs through	Iviiiiumumum interventioi	tilli at Marginal intensity	
	60015	5903	h	Minimum intervention	SS	1976	12		2034	2040	1 2	Landscape, amenity	Grow on to oversize individuals.	this sub.			
	00013	3303	1	William and the credition		1370	12	1	2034	2040	1.2	Landscape, amenicy	Grow on to oversize marriagais.	Mountain bike route runs through			
	60015	5903	ļ.	Minimum intervention	MC/MB	1976	12		2051	2060	1.0	Landscape, amenity	Grow on to oversize individuals.	this sub.			
	00013	3303	 	Willimitati intervention	IVIC/IVIB	13/0	12	+	2031	2000	1.0	Lanuscape, amenity	Grow off to oversize individuals.	Mountain bike route runs through		+	
	60015	5903	l	Minimum intervention	MC/MB	1976	12		2051	2060	0.6	8 Landscape, amenity	Grow on to oversize individuals.	this sub.			
	00013	3903	l)	Willimidit intervention	IVIC/IVIB	19/0	12	4	2031	2000	0.0	b Lanuscape, amenity	Clearfell restock with Spp better	tills sub.			
2029/30	60016	E004	l.	Fell	l _{cc}	1976	16		2031	2020	1 2	5 Timber Production	1			Clearfell	600
2029/30	90019	5904	1	reii	SS	19/0	10	4	2031	2028	1.5	5 Timber Production	suited to site objectives			Clearien	600
														Detential for fronth or community			
														Potential for further community engagement. Hazel coppice			
													Individual aver meture calcovith a	1		Prune to improve form of	
													1	management for example or pruning		1 '	
2025/26	60017	F003		Davis	L _{AD}	2012	١,		1100	2100	1 - 1	2 amonity and wildlife	hazel and shrub understorey in a	for crop and openign up paths.	120 15 20	timber species. Thin to	200
2025/26	60017	5903	a	Prune	МВ	2012	4	1 4	2100	2100	15.1.	2 amenity and wildlife.	grass parkland.	Further grass management required.	120-15-20	gain access	300
2024/25	60040	5004		E. II		4076				2024	2.0		Clear fell. Restock to Productive			Clarif II	750
2024/25	60018	5904	С	Fell	SS	1976	16	4	2031	2024	2.9	5 Timber Production	broadleaves			Clearfell	750
			l.		<u> </u>								Clear fell. Restock to Productive				
2024/25	60018	5904	h	Fell	EL	1976	10	1 4	2031	2024	1.3	7 Timber Production	broadleaves	wetter areas Willow and aspen		Clearfell	400
							١.	١.		.				40% open remainder with birch,			
2022/23							n/a	n/a		n/a				cherry and hawthorn in mixed			
	60019	5906	а	Planting	OG	2022					3.2	3		groups.			
										.			Creation of a group of veteran				
2022/23			l.				n/a	n/a		n/a			pine on the entrance to the site				
	60020	5903	b	Planting	OG	2023					0.8	Planting of scots pine.	from the cateran trail.			Thin for stability	
																birch, on dryer areas	
2022/23							n/a	ln/a		n/a						transitioning through	
•								'		, ·						aspen to willow on wetter	
	60021	5901	а	Planting	OG	2022					7	Biodiversity, Recreation	Creation of new native woodland			areas. 30% open.	
																Birch, on dryer areas	
2022/23							n/a	l _{n/a}		n/a						transitioning through	
,							1	", "		.,, "						aspen to willow on wetter	
	60021	5902	b	Planting	OG	2022					1.5	5 Biodiversity, Recreation	Creation of new native woodland			areas. 30% open.	
																Willow on wetter lower	
																areas, birch on middle	
2022/23							n/a	n/a		n/a						slopes with juniper and	
																birch on higher slopes.	
	60023	5901	a	Planting	OG	2022					19.4	Biodiversity, Recreation	Creation of new native woodland			30% open	
													Mosaic of open ground and groups			Planting in tree shelters of	
2022/23	60024	5901	a	Planting	OG	2022	n/a	n/a		n/a	11.2		of trees			groups of trees. 40% of	
												Biodiversity, Recreation	0. 11003			area open	
																Manage gorse through	
																phased removals. Plant a	
							n/a	n/a		n/a						new extended hedge Flail	
													Mosaic of open, and scrub			path sides, break up	
	60025	5901	la l	Gorse	OG						13	D Biodiversity, Recreation	habitats.			larger areas of gorse.	

		T			1									Plant new hedge.(strip of	
														5-10m width including	
														ususal native hedge	
														species) this will be on the	
							n/a	n/a	n/a					south facing march at the	
														east of the coupe. The	
														march is rabbit proof so	
												Mosaic of open, and scrub		will need new rabbit net	
2022/23	60025	5901 a		Planting	OG					0.32	Biodiversity, Recreation	habitats.	gorse removal.	on one side.	
												Roadline with occasional shrub			
2021/22	60028	5905 b	·	Fell	SOK	2010	4	2100	2022	0.64	Clearfell for road access	groups on margin			0
												Roadline with occasional shrub			
2021/22	60028	5905 e		Fell	MB	2018	4	2108	2022	0.45	Clearfell for road access	groups on margin			0
												Roadline with occasional shrub			
2021/22	60028			Fell	DF	2010	20	2062	2022			groups on margin		Clearfell	20
		5903 d			МВ					4.73	Research				

Land Management Plan

10.5 Background Information

10.5.1 Physical Site Factors

Geology, Soils and Landform

The solid geology of the area is Old Red Sandstone (Devonian), the rock being mainly conglomerate i.e. pebbles set in a matrix of sandstone. This bedrock comes close to the surface in places in the mid-slopes of the property and emerges as outcropping rock in a few places. It is a rock type of relatively high nitrogen status which generally leads to freely drained soils, with occasional discrete springs (rather than more extensive flushes). The drift geology (overlying glacial material) is glacial till of mixed origin. This occurs on both the upper and lower slopes (but is largely missing on mid-slopes), giving rise to rather deeper, moister and apparently more fertile soils.

Soil types are split as follows:

- Brown earths 19%
- Gleyed brown earths 7 %
- Upland brown earths (not indurate) 21%
- Indurated upland brown earths 50 %
- Gleys 2%
- Iron pans 1%

Rooting depth varies between 25 and 80 cm and the site can be divided as shown below:

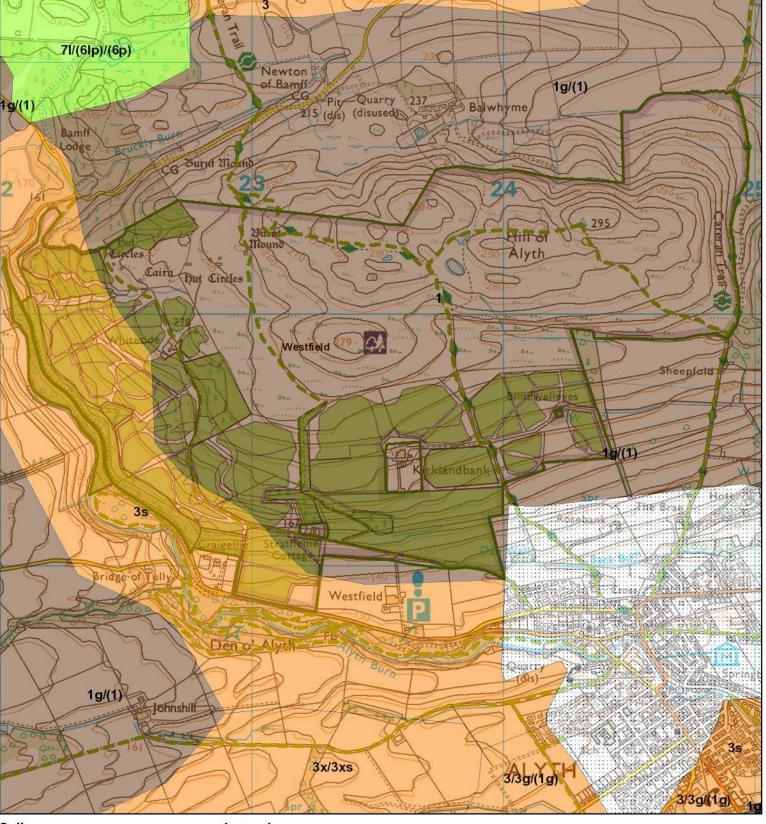
- Shallow rooting > 35 cm rooting depth 23 % of site
- Intermediate rooting 35-35 cm rooting depth 45 % of site
- Deeper rooting > 45 cm 32% of site

A little over half of the property has induration at 30-40 cm depth occurring mainly as indurated upland brown earths. A further 6% of the area has shallow soils overlying bedrock.

Areas of deeper rooting are located on the lower lying areas above the public road, especially in the west of the property. Areas with deeper rooting depth (< 45 cm) sometimes occur very close to areas with shallow rooting, and the pattern is difficult to predict from topographic features.



Coilltearachd agus Fearann Alba



Soils

Legend

Scale @ A4: 1:15,000 Date: 20/12/2019 Author: Robin Almond



Reproduced by permission of Ordnance Survey on behalf of
HMSO. © Crown copyright and database right 2019. All rights
reserved, Ordnance Survey Licence number 10024925.
© Getmapping Plc and Bluesky International Limited 2019.





Land Management Plan

Hydrology

There are no significant surface watercourses apparent on the hill itself, but there is an extensive network of agricultural drainage. There are two small lochs on the hill top. All the water supplies are sink or spring.

Soil moisture regime (SMR): Environmental Site Classification analysis shows:

- Moisture deficits are quite high (90-115 mm) i.e. the climate is dry.
- The available water capacity is fairly low
- Moisture availability is limited by the shallow rooting depths and the south facing aspect.

ESC suggests Soil Moisture Regime ranging from "moderately - very dry" on lower slopes to "moderately dry" on upper slopes. However this will be moderated by water moving downslope from Alyth Hill and field evidence suggests that SMR actually ranges from "fresh" in a few low lying areas, to "slightly dry" over most of the site, and to "moderately dry" on areas of shallow soil. The site has been drained, with several small burns piped down the hill or captured as water sources. It is not clear if fields have been more widely drained with field drains. Disruption of pipes/drains would restore small watercourses and provide some areas of flushing and moister soil.

10.5.2 Climate

The climate of the site is described in Ecological Site Classification terminology as borderline between "cool moist" and "cool dry". The ESC climate values are fairly typical for lowland sites in the northern and eastern half of Scotland:

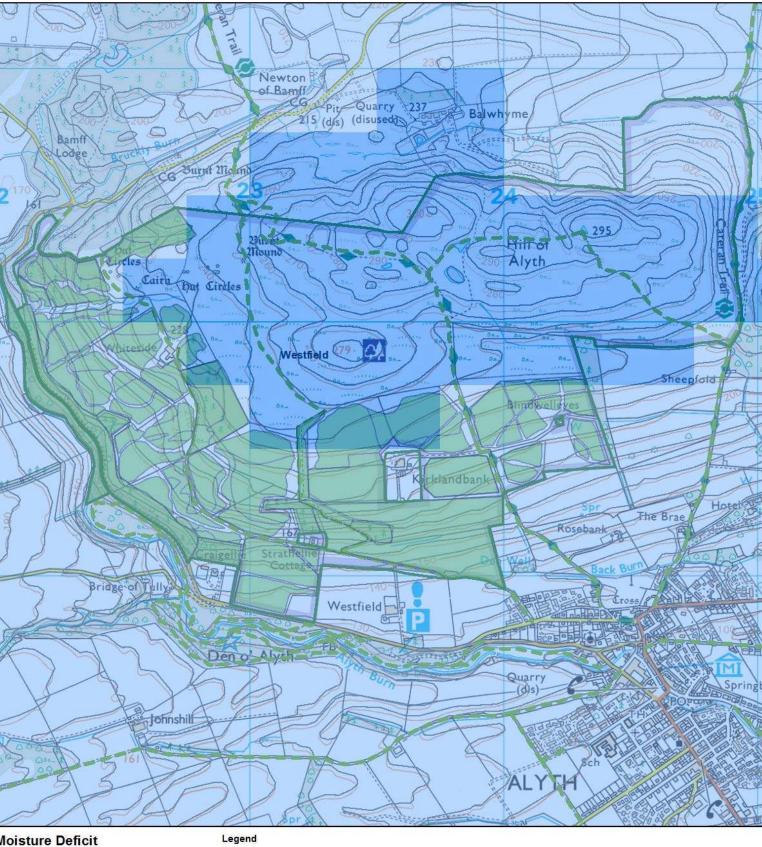
• Elevation: 140 – 230m

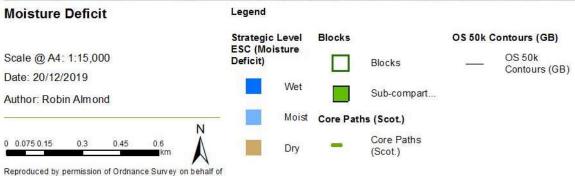
Accumulated temp: 1090 – 1200 C Moisture deficit: 90 –115 mm

• DAMS score: 10 - 13



Coilltearachd agus Fearann Alba





HMSO. © Crown copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 10024925.

© Getmapping Plc and Bluesky International Limited 2019.

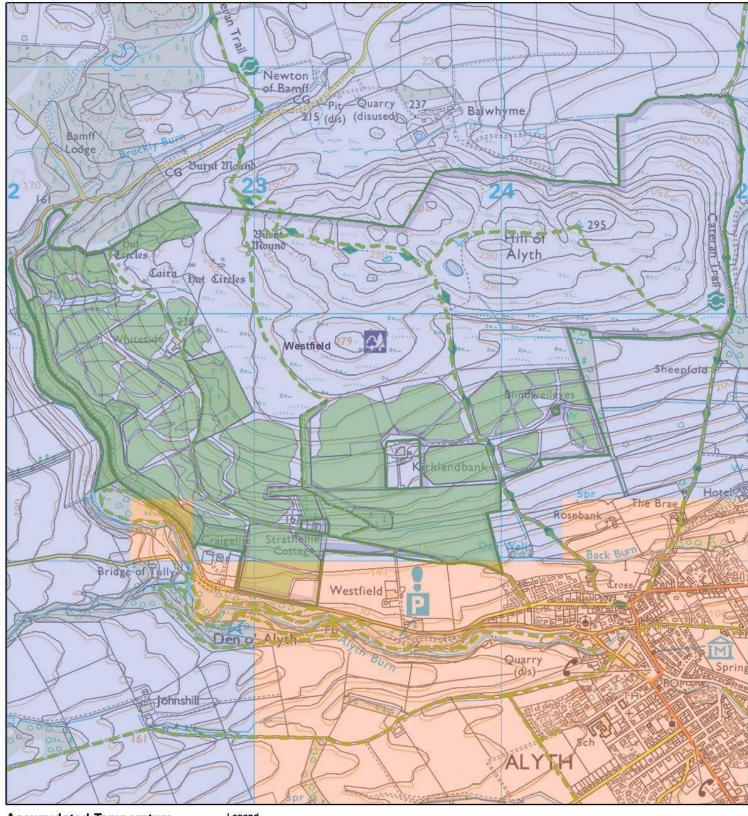
Scotland's nationa







Coilltearachd agus Fearann Alba



Accumulated Temperature Strategic Level ESC (Accumulated Temperature) Scale @ A4: 1:15,000 Date: 20/12/2019 Author: Robin Almond Cool Core Paths (Scot.) Warm O 0.075 0.15 OS 50k Contours (GB) OS 50k Contours (GB) Sub-Alpine Sub-compart... Core Paths (Scot.)

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 10024925. © Getmapping Plc and Bluesky International Limited 2019.

Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.



10.5.3 The Existing Forest

Age, Structure, Species and Potential Yield

The existing forest was planted in two periods: Shelterbelts from the original field structure which were planted in 1976. These are predominantly of coniferous woodland.

Newer plantings which were undertaken since transfer into public ownership. Planting was undertaken mainly in 2010. These younger plantings are of a mixed woodland.

Access

Management access is presently restricted through Westfield Farm. Other access routes are not suitable for HGV access.

LISS Potential

LISS is defined as "the use of silvicultural systems whereby the forest canopy is maintained at one or more levels without clearfell of areas over two hectares"

The soils are well drained and the exposure relatively low (DAMS score 10-13). The trees planted from 2010 are of an age where management towards future stability is possible. The older historic conifer plantings are not sufficiently stable to commence any management other than clear fell & restock. The seed source will be from the existing crops which should meet the long term site objectives.

Thinning Potential

Much as for the section above, the DAMS score is acceptable for thinning to be undertaken as long as thinning is commenced at a suitable age.

Land Management Plan

10.5.4 Land Use

Westfield is located at the edge of one of the largest and most productive agricultural areas in Scotland. The neighbouring land uses range from rich arable and berry producing areas to rough grazing with shelterbelts. The adjoining woodlands are generally plantations of long established origin.

Next to the site is the town of Alyth a flourishing small community based on agriculture and commuting to Perth and Dundee. There is a strong and motivated sense of community and many long-term residents. One third of the Den of Alyth was gifted to the local community in the 1920's and is managed by the local council. The remaining third is managed within this plan.

Westfield is nested in an area dominated by intensive agriculture. Arable ground lies to the south with grazing more typical to the north. Woodland is sporadic and confined to less accessible areas in gullies and on valley sides. Where plantations do exist they are narrow shelter for stock and game.

10.5.5 Biodiversity and Environmental Designations

The SSSI on the edge of the Den of Alyth and the Alyth Burn which is part of the River Tay SAC is the most important conservation area, although there is some residual heathland vegetation on the hill ground. However, it has been heavily grazed and has mainly gone over to grass and gorse. Alyth Burn in the Den of Alyth is within the River Tay SAC. The burn is not designated as an SAC until downstream of the block. However works undertaken within the Westfield block will take this designation into consideration.

10.5.6 Landscape

The SNH National Landscape Character Assessment places this block within character type 379: Foothills – Tayside and 384: Broad Valley Lowlands - Tayside at the south eastern corner including Alyth itself.

Foothills Tayside is characterised by:

- Narrow Foothills at the base of the boundary fault
- Small to medium scale landscapes
- Complex geological structure
- Hills act as transition between extensive and large scale summits of the cairngorm to the North and low valley
- Steep Whale backed Hills and south west to north east valleys
- Winding gorge-like river valleys flowing off the highlands along major fault lines
- Predominantly agricultural use of fertile grasslands and arable fields on flatter areas.
- Limited woodland cover, with broadleaf woodland on steeper slopes of the valleys and dens which cut through the hills and a small number of conifer forests on the hills themselves.
- Rich heritage of archaeological sites and relict landscapes of various periods.
- Limited modern settlements
- Very important backdrop and setting to low lying settled landscape to the south

Broad Valley Lowlands – Tayside is characterised by:

- Broad straths formed by glacial erosion loosely enclosed by the foothills and massif to the north and lower local hill risges to the south.
- Complex local topography caused by glacial deposition.
- Dominance of arable and root crops in large fields typically enclosed by post and wire fencing which contribute to the overriding horizontal landform and large to medium scale.
- Tree hand hedge loss weakens landscape character increasing openness of landscape.

- Well settled landscape with strong hierarchy of settlement types from large towns.
- Rich Historic landscapes with features including standing stones hillforts roman camps and medieval castles
- Wide panoramic views across the breadth of the strath running along and up to the enclosing hills. In particular there are unrivalled views from Strathmore up to the foothills and uplands of the Grampian Mountains.

Westfield

The site is part of a 'whaleback' feature typical of the Tayside Foothills starting at 130 metres above sea level adjacent to the Den of Alyth rising to three summits at of 279, 295 and 274 metres above sea level. The landform is part of a number of small ridges emerging from the flat Strathmore to the south. At this point the landform runs broadly West South West / East North East.

The present wooded area has a predominantly southerly aspect with the extreme western end having a true westerly aspect. The open hill ground covers the tops of the ridge line with all aspects represented. The extreme eastern section of the site has north and eastern aspects.

The predominant and most significant water feature on the site is the Alyth Burn which lies in a deep cut gorge is designated as part of the river Tay Special Area of Conservation. The woodland either side of the burn is designated as a Site of Special Scientific Interest for upland mixed ash woodland.

Due to the history of the site, the road and access network is insufficient for commercial timber harvesting operations. There are three main access points to the site: Through Westfield Farm, through West Quarter and along Loyal Road past Loyal Farm. Each one of these routes is shared and come with access constraints. There is no suitable access for heavy goods vehicles required for timber harvesting.

The site is well used by the local population taking informal recreation. At the time of planting a more formal community woodland was established which is accessed by foot from Strathmore Terrace. The open hill and to a lesser extent woodland areas hold a density of informal paths. Within the community woodland area these paths are maintained by FLS.

The wider site includes three residential properties which are not within the Forest and Land Scotland. These are Strathellie Cottage, Kirklandbank and Blindwelleyes. One farm steading - Whiteside - remains to the north west of the site accessed by track from Strathellie Cottage.

Westfield is a mixture of landscape types ranging from open upland moor to intimate glen. It features fairly strongly in a mixed landscape. The southern aspect is highly visible from Alyth and New Alyth and from many parts of Strathmore. The Hill of Alyth and the ridge afford all-round panoramic views of the surrounding countryside. Some of the shelterbelts above Strathellie are very prominent in the landscape.

Land Management Plan

10.5.7 Social Factors

There are long standing strong links between Alyth Hill and the local community.

There are also a number of unscheduled archaeological features (including Neolithic hut circles and Burnt Mounds) mainly concentrated on the hill ground.

The nationally important Cateran Trail passes through the site heading towards Alyth.

More recently the community have been pivotal in the construction of a path and mountain bike network on the site as well as planting of an orchard on the site.

10.5.8 Statutory Requirements and Key External Policies

SSSI

The only designated area is a part of the Den of Alyth SSSI – important for remnant native woodland and associated ground flora, although the SSSI is generally affected by a long history of planting introduced tree species. An approved Designated Site Management Plan detailing authorised works within the SSSI will be maintained. The present approved DSMP can be seen in appendix 10.8 to this document.

SAC

The site drains into the River Tay SAC.

Climate Emergency

The Scottish Government has committed to increase the area of woodland and forest within Scotland to 25% of land area by 2050.



Coilltearachd agus Fearann Alba

Landscape Viewpoints

Author: ...

Scale @ A3: 1:10,000

Date: 19/12/2019

Legend

Blocks

Westfield

Existing Woodland

Proposed Woodland

Core Paths

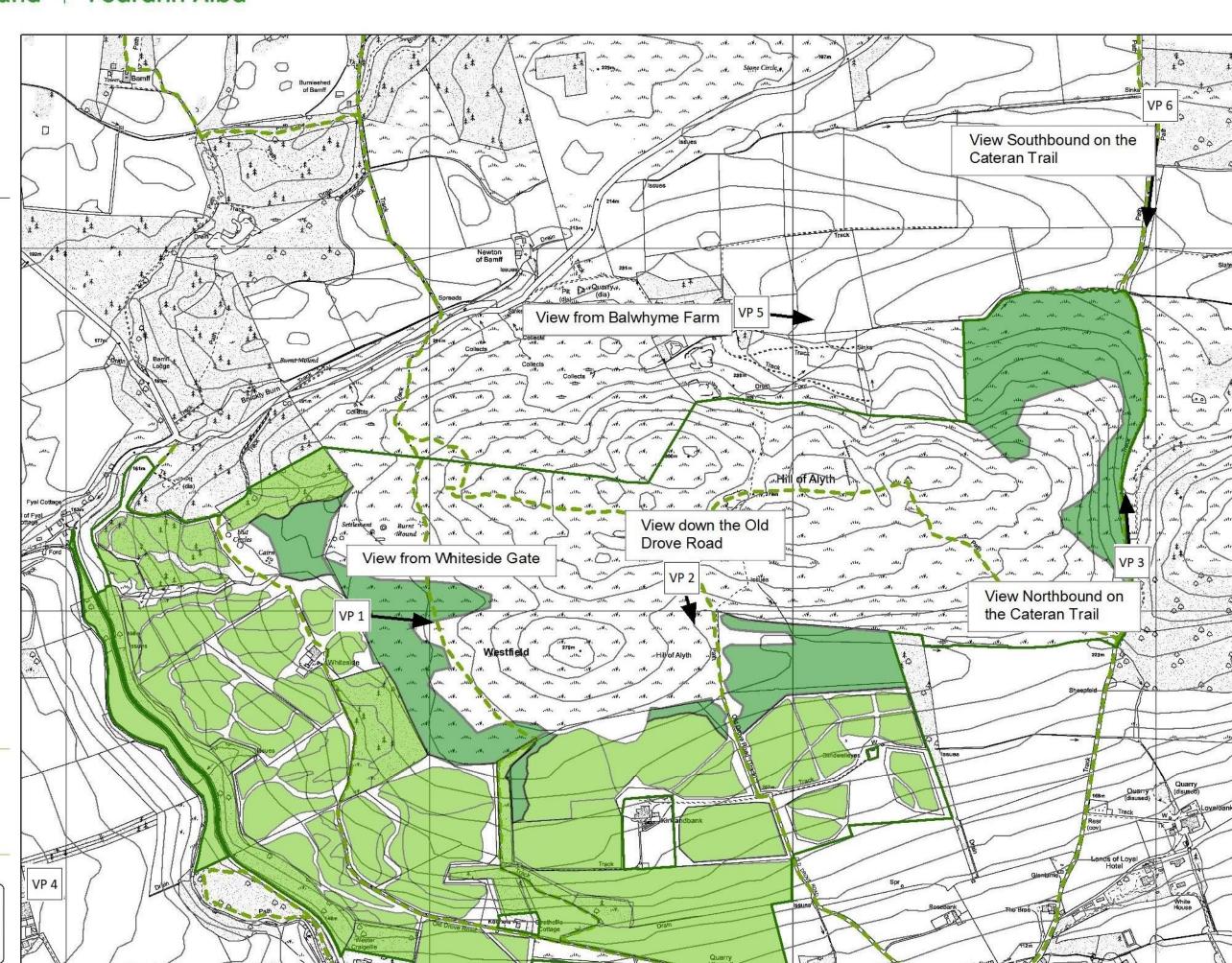




Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.













Whiteside New Woodland

View VP 1

Grid Ref: NO 228 500 Date: Autumn 2035

This image is taken from the gate at Whiteside leading out to the path along the Hill of Alyth.

The lower image is an illustration of the potential woodland in 2035 once the trees have reached maturity.

It is clear that the trees are widely spaced to invite you to walk between the trees and out onto the hill above.

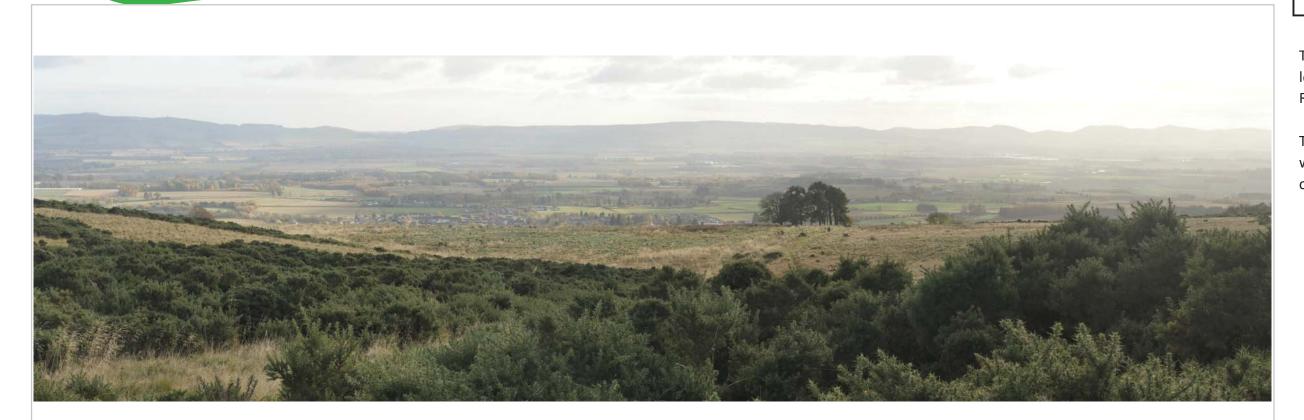
The open nature of the trees will retain the existing path which can be seen in the top photo.

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.











New Woodland at Blindwelleyes

View VP 2

Grid Ref: NO 237 502

Date: 2035

This image is taken from the path leading down towards the Old Drove Road and Blindwelleyes Cottage.

The lower illustration shows the new woodland tucking into the lower slope of the hill in the

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.











Cateran Trail Northbound: 2035

View VP 3

Grid Ref: NO 2490 5021 Date: 05/11/2019

This image illustrates that the new woodland will essentially replace the existing gorse thicket.

The trees will be open spacing and in groups particularly on the lower margin to prevent enclosing the path.

Further up the slope will be the occasional juniper. These will be low growing so as not to obstruct the view of Hill of Loyal from the eastern path on the Hill of Alyth.

Trees will be protected by tree shelters not fencing thereby enabling free access through the area.

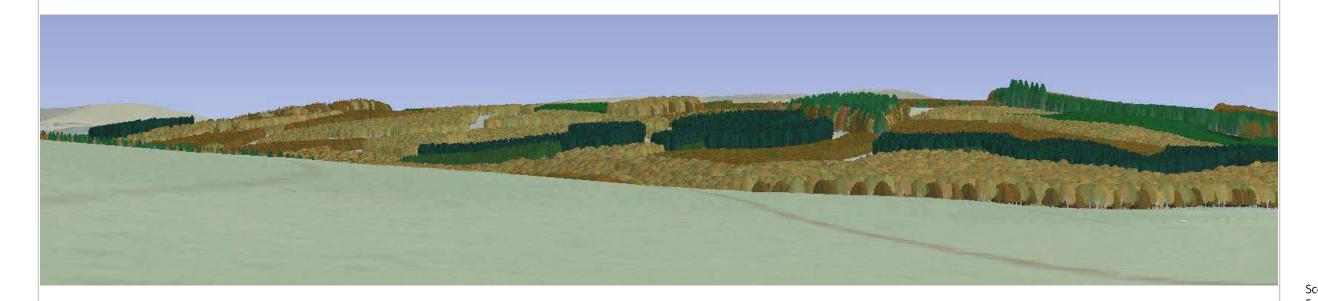
Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.











West Tullyfergus: 2035

View VP 4

Grid Ref: NO 2139 4820 Date: 05/11/2019

This view from West Tullyfergus shows three main points:

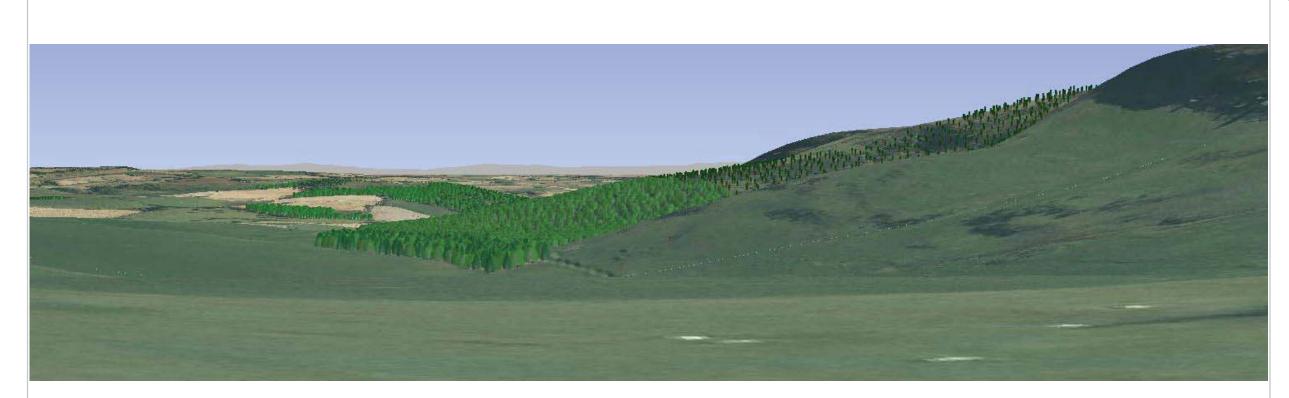
- 1) change is species from larch to broadleaf species.
- 2) The restructuring of the mature woodland east of Whiteside from conifer to braodleaf. The rendering slighty over exaggerates the size of the conifer long term retention to the east of this block.
- 3) Areas of new woodland can be seen above the original planting line but are not prominent from this location.

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.









New Woodland From Balwhyme

View VP 5 & VP 6
Grid Ref: NO 238 508
Date: Spring 2035

This illustration from near Balwhyme Farm shows the proposed new woodland to the north east of Westfield.

this ilustration shows the woodland becoming more open further up the hill the change in tree colour illustrates the higher proportion of juniper at the upper reaches.

This second illustration is of the same area of woodland but as seen travelling up the Cateran Trail from the North towards Alyth. The hIII of Alyth is on the right and Loyal HiII to the left.

In this image the extent of the juniper can be seen but a little less clearly.

The lower slopes will be a mixture of Bircg and Oak.

Scotland's National Forest Estate is responsibly managed to the UK Woodland Assurance Standard.





Land Management Plan

10.6 Tolerance Table

FLS East Region, South Tolerance table agreed May 2019

	Adjustment to Felling Coupe Boundaries	Timing of Restocking	Change to Species	Windthrow Response						
FC Approval Not Normally Required	0.5ha or 5% of coupe – whichever is less	Planting up to 5 seasons after felling (allowing for fallow periods for Hylobius). For natural regeneration up to 10 planting seasons after felling.	Change within species group, e.g. conifers: native broadleaves							
Approval by Exchange of Email and Map	0.5ha to 2.0ha or 10% of coupe – which ever is first		Greater than 15% species change	Up to 5.0ha –						
Approval by Formal Plan Amendment	Greater than 2.0ha or 10% of coupe	Delay in excess of that described above.	Increased native woodland component. Increase in native broadleaves and open/bog restoration	Greater than 5.0ha						
Tree Felling in Exceptional Circumstances	FLS will normally seek to map and identify all planned tree felling in advance through the LMP Process. However there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying felling. Felling permission is therefore sought for the LMP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage. The maximum volume of felling in exceptional circumstances covered by this approval is 40 cubic metres per Land Management Plan per calendar year. A record of the volume felled in this manner will be maintained and will be considered during the five year LMP review.									

Land Management Plan

10.7 SSSI Management Plan