

# Round Fell Land Management Plan 2017-27

Galloway Forest District

## ROUNDFELL

Land Management Plan

Approval date:

Plan Reference No: FDP

Plan Approval Date: 01 October 2017

Plan Expiry Date: 30 September 2027

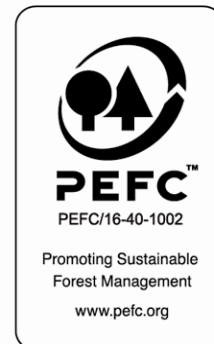
## Round Fell Land Management Plan 2017-27

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



# Round Fell Land Management Plan 2017-27

## CSM 6 Appendix 1

### FOREST ENTERPRISE – Application for Forest Design Plan Approvals Forest Enterprise – Property

Forest District:	GALLOWAY FD
Woodland or property name:	ROUND FELL
Nearest town, village or locality:	NEW GALLOWAY
OS Grid reference:	NX529723
Local Authority district/unitary Authority	DUMFRIES & GALLOWAY

1. I apply for Forest Design Plan approval\*~~/amendment approval\*~~ for the property described above and in the enclosed Forest Design Plan.
2. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included. Where it has not been possible to resolve specific issues associated with the plan to the satisfaction of consultees, this is highlighted in the Consultation Record.
3. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
4. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed .....  
Forest District Manager

Signed .....  
Conservator

District **GALLOWAY FD**.....

Conservancy .....

Date .....

**Date of Approval:** .....

**Date approval ends:** .....

\*delete as appropriate

# Round Fell Land Management Plan 2017-27

EIA Determination form if required

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## Summary of Proposals:

The main management objectives are sustainable timber production sympathetic to the significant demands of biodiversity (adjacent SSSI and Black Grouse habitat) and Environmental Quality (water quality issues).

### 1.0 Introduction:

#### 1.1 Setting and context

Part of Galloway Forest District that is based in Newton Stewart, Round Fell is a blocky, medium scale plantation totalling some 1369.0ha that is located around 12.0km north east of Newton Stewart.

The block is bounded by the A712 Newton Stewart to New Galloway road (Queens Way) to the north but essentially lies as a centre point to four other blocks of FES plantation with Queens Way to the west, Clatteringshaws to the north and the Bennan and Fleet Basin plans to the east and south.

The block is highly visible in the near and mid distance view from the A712 drive and contains significant tracts of open hill ground, particularly the imposing Round Fell hill.

An integral part of the Galloway Forest Park the block also lies within the larger Western Southern Uplands Environmentally Sensitive Area (ESA).

This plan is a revised submission of an earlier forest design plan approved in 2007.

#### 1.2 History of plan

A major part of the plan area was acquired in 1954 followed by two smaller areas in the 1960s and 1970s (see table below).

<b>Acquisition date</b>	<b>Deed No</b>	<b>Title</b>	<b>Seller</b>
Nov 1954	9595	Cally Estate - Cullendoch	Elizabeth E Murray-Usher
Feb 1967	10977	Loch Dee Estate Craigdews etc	Trustees of Mr J G Jarvie
Aug 1976	1217	Craigronald	Mrs E E Murray-Usher.

The rump of the block was established in the 1960s followed by further 1970s planting resulting in a virtual north / south split. Progressive felling has accounted for much of the early plantations and will continue through the period of this plan.

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In essence the block is a self-contained unit with easily identifiable geographic boundaries however the plan area does straddle two water catchments and has similar objectives to other plans in the locus. Although not easily split geographically it nevertheless remains a candidate for merging with plans to the east that currently form the Red Squirrel Stronghold Site.



## 2.0 Analysis of previous plan

### 2.1 Analysis from previous plan

Objectives from the previous plan were as follows:

Objectives	Assessment of Objectives during plan period
Maintain commercial softwood timber production in forest core and diversify the age structure and species composition of the block	Clearfelling and restock has continued as per previous plan period approval with noticeable benefits to the A712 corridor and plan wide restructuring ongoing
Increase area of BL, SP and open space to enhance conservation value of site	Restocking over the period has resulted in additional areas of BL & SP.
Create permanent open corridors linking unplanted hilltops of Round Fell, Brockloch Hill and Cairnsmore to the lower lying Palfern and Palnure Burn valleys benefiting Black Grouse and Golden Eagle habitat	Recent fell & restock has initiated link from Round Fell to both Brockloch Hill and Cairnsmore Some of the planned permanent open areas are naturally regenerating with conifer at low stocking density levels
Improve riparian zones along priority watercourses	Areas of conifer plantation have been removed along the Palnure Burn riparian corridor and replaced with open space & BL restock
Improve visual diversity along Queens Way public road	Clearfelling and restock has continued as per previous plan period approval with noticeable visual benefits to the A712 corridor
Red Squirrel conservation (area now part of Red Squirrel Stronghold Site)	Extended felling ages in second rotation crops and greater species diversity will at least maintain area suitability for this species NS restocking has taken place in recently felled coupes Appropriate mature retentions remain to be identified
Improve water quality over the site (Forest & Water guidelines)	Removal of productive conifer replaced with woodland fringe to generally below 300m should have a positive impact on local water systems

Whilst these approved plan objectives were generally met, they have over the interim period become slightly outdated. Key objectives for the plan, see table below, are now more directly related to the revised brief (see Appendix V).

Themes and objectives.	Priority
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<p>Productive;</p> <p>Promote sustainable timber supply through revised felling / thinning plans (modified to accommodate <i>P ramorum</i> infestation) and restocking plans</p> <p>Implement modest scale road building / road maintenance programme required to service proposed operations coupes</p> <p>Increase broadleaf woodland creation particularly small seeded native species for biodiversity</p>	<p>high</p>
<p>Healthy;</p> <p>Protect water, soil and air through agreed management plans for SSSI sites and follow UKWAS standards and Forest and Water guidelines to improve water quality within three water catchment to improve feeding and spawning conditions for fish</p> <p>Improve block resilience through increase area of broadleaf woodland with wider range of conifer and broadleaf species diversity</p> <p>Expand area covered by and develop Low Impact Silviculture systems in block particularly along highly visible roadside corridor and second rotation crops</p>	<p>high</p>
<p>Cared for;</p> <p>Maintain and enhance status of adjacent Cairnsmore of Fleet SSSI (achievable favourable status)</p> <p>Block is visually prominent; contribute to Scotland's landscape through the management of views from A712, improve external large scale landscape and internal design through revised species choice, selective open space and organic coupe shape</p> <p>Maintain and enhance plan area for priority species such as Red Squirrel and Black Grouse through creation of woodland fringe / open habitats</p> <p>Manage SAMs as per management plans and other heritage features according to FES Archaeological guidelines</p>	<p>high</p>
<p>Accessible;</p> <p>Retain and improve access and provide an enjoyable woodland experience through localised intensive management regimes, improved signage and linkages to nearby core facilities</p> <p>Maintain and expand road network</p>	<p>medium</p>

## 3.0 Background Description

### 3.1 Physical site factors

#### 3.1.1 Geology Soils and landform

Part of the Cairnsmore massive, a granitic igneous intrusion of the Lower Old Red Sandstone period, the area is almost wholly granite. A metamorphic aureole lies to the north where the intrusion merging with the Ordovician and Silurian sedimentary rocks.

The overall topography is a typical rugged glaciated upland dominated by Round Fell (402m), Low Craigeazle (336m) and High Craigeazle leading up to Craignarget (462m) and Craignelder (602m) just out of the plan area to the west. Altitude ranges from 200m in the valley bottom up to 600m.

The upper slopes are fairly steep with moraines and boulder scree evident but on the lower flatter ground the landform is covered by a layer of peat.

The combined result of geology and glaciation has resulted in a range of very poor stoney soil types ranging from shallow upland brown earths and ironpan podzols in the valley bottoms to peats and peaty gleys with impeded drainage at higher elevations.

The James Hutton Institute "Land Capability for Forestry" classification for the bulk of the area is F6 (land with limited and very limited flexibility for growth and management of tree crops) with F7 on the upper margins and open hilltop.

The poor site types and altitude result in an area with a lack of thinning opportunities, windthrow issues, difficult cultivation and limited species choices.

#### 3.1.2 Water

The plan area feeds two / three water catchment areas; the Dee, the Fleet and the Palnure. To the west the Palfern Burn feeds the Palnure Burn which eventually drains to the R Cree. The Palnure burn catchment is particularly important for Fresh Water Pearl Mussel (FWPM) and salmonid spawning. Pollution and poor water quality have been identified as major factors in the decline and extinction of FWPM populations therefore the catchment is of key environmental concern.

To the east the Cuttiemore Burn and Cuttie Shallow Burn are significant watercourses that feed into Loch Grannoch and further north the Pullaugh Burn feeds the R Dee. Loch Grannoch is a glaciated loch with a moraine dam at its southern end that lies where two separate water catchments meet. It drains both north through the Pullaugh Burn into the R Dee and south into the Big Water of Fleet.

All of these catchments have historically been quite heavily forested with surface water acidification, watercourse over shading, siltation risks and drainage and riparian management of particular concern. We aim to comply with best practice and minimise sediment release from any forest operations with efforts made to

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create wider aquatic and riparian zones to provide long term protection against disturbance from future forestry operations and loss of light from canopy closure (a minimum of 50m for the significant burns and a minimum of 30m on the others).

There is forest canopy cover currently over 300m in the catchment covering this plan area. With our planned restructuring and reduction in future conifer restocking at elevation this figure is likely to drop.

FES has considered flood risk of peak flows at the exit of the site and also further down stream and there are no known issues. It is appreciated that new planting with associated operations of draining and ploughing can give rise to a very slight increase in peak flow (up to 20% at site scale) but the lack of new planting and the well designed and significant sized buffers will minimise this effect. The significance of the potential increase in peak flow will reduce as more water joins from other tributaries and the peak flow is diluted. Clearly if whole water catchments were being proposed for planting this would require greater examination and consideration.

There are private dwellings very close to the block; details of all known private water supplies are held in a District GIS layer (see constraints map).

All work undertaken will comply with the Forests and Water Guidelines (Fifth Edition) although in this sensitive acidified catchment riparian buffer zones should be significantly enhanced.

### 3.1.3 Climate

The south west of Scotland has a predominantly mild windy oceanic climate influenced by the Gulf Stream. Annual rainfall in the block is generally above average for the district ranging from 1600 – 2000 and falls mainly during the winter months, October to February. Much of the block is exposed to the west to the prevailing Westerly winds with damaging gales likely during the early part of the year. Winters can be severe and a low cloud base is common.

Guidance on Climate Change suggests that the District can expect an increased frequency of extreme weather events with the climate remaining wet and mild. Whilst there may be little impact on this DP block with regard to primary species choice (mainly conifer) there may be future threats to wildlife habitats. The development and maintenance of habitat networks will be important.

## 3.2 Biodiversity and environmental designations

The following single designated site lies adjacent to and partially within the plan area:

Cairnsmore of Fleet SSSI

Cairnsmore of Fleet SSSI lies to the west and south of the plan area and is designated for its natural features; blanket bog and upland assemblage. The current condition of the blanket bog is unfavourable. A key factor relating to this is water management and its impact on water table height, critical for active

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growth of bog moss (*Sphagnum spp.*) Forest operations site drainage therefore has the potential to significantly impact on the sites hydrology.

Water quality however is also a significant environmental factor in the plan area with the R Dee catchment identified as being of local importance for breeding salmonid populations. Given that Loch Grannoch is classified as “high” in terms of its ANC there is little doubt that overall the catchment remains quite sensitive. Issues with forest encroachment onto watercourses has already been actioned through conifer clear fell to date, work that will benefit other aquatic species such as Brown trout and European Eel (UKBAP species), and will be further supplemented by our planned creation of additional aquatic and riparian zones improvements, generally in excess of basic guidelines identified in Forest and Water guidelines 5<sup>th</sup> edition.

### 3.2.1 FCS Biodiversity Programme key species

A number of upland LBAP priority bird species are associated with the open ground within and the SSSI ground surrounding the plan area. Wide ranging raptors such as Peregrine and Golden Eagle will particularly benefit from the planned creation of open ground / low density woodland corridors linking the lower elevation valley sites to the open ground hill-tops.

The plan area is a strategically important location for Dumfries & Galloway Black Grouse populations and is considered part of the core area for the species within the district. Lek sites, both current and historical are on record for the upper margins of both the northern and southern boundaries of the plan area.

Enhancing the wetter brood rearing areas in the valley floor with scattered broadleaf planting, increasing the amount of open ground present in the block, creating and strengthening habitat linkages between valley floor and the moorland edge and establishing stands of native broadleaf species such as Birch, Hawthorn, Willow and Rowan for winter browsing adjacent to the woodland edge sites will directly benefit Black Grouse. There is a presumption in the district against deer fencing with our current management in the plan area carried out by FES staff. If however deer fencing is subsequently proposed for crop protection it will be clearly marked for visibility to minimise bird fence collisions (see nearby example at the Goat park, Queens Way LMP).

Red Squirrel (UKBAP priority species) is present throughout the block at low densities. Given the low levels of existing large seeded broadleaf and a lack of connectivity to surrounding broadleaf woodland the block is less vulnerable to Grey Squirrel colonisation. The DP unit is therefore recognised as priority woodland and one of a small suite of “Red Squirrel Stronghold Sites” designated by the Scottish Government where Red Squirrel can be helped to survive.

Currently Norway Spruce and Scots Pine are relatively small components of the plantation area. A continued commitment to conifer plantation with substantial increases to the area of Scots Pine and Norway Spruce and small seeded Broadleaf restock will ensure that the block remains advantageous towards Red squirrel.

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### 3.2.2 Scottish Biodiversity List Species

Pine Martens favour similar forest habitats as Red Squirrels and have been recorded near the south west tip of Clatteringshaws Loch. Recent increases in sightings and scat observations suggest that they may be re-colonising former territories.

Otters have large territorial areas. Consequently, wide areas of adjacent and connecting land to water bodies and existing riparian habitats such as the Cuttie Shallow burn and Palfern Burn are regularly used by them for foraging and movement between river catchment systems. Otters are present on Loch Grannoch and there are known records for the Palnure Burn. There have also been a number of road casualties recorded along the A712 near to the Black Water of Dee crossing where the Pullaugh Burn runs close to the road. Positive riparian zone management measures, often exceeding basic water guidelines, such as an increase in small seeded BL cover coupled with our aim to keep sections of stream banks permanently vegetated and persisting throughout subsequent rotations will increase both the availability and connectivity of suitable breeding and feeding habitat for both of these species. Galloway FD Environment staff now also prepares brush piles along water courses, specifically providing excellent cover for rearing, resting and breeding otters. The main benefits for FES is that providing these features greatly reduces the likelihood that otters will create resting places or breeding sites within commercial forest stands and the brush piles are also likely to be used by a wide range of animal species and provide valuable deadwood habitat.

Water voles have previously used the block. Whilst sections of the plan habitat remain suitable for their recolonisation, numbers are increasingly scarce.

Although some distance downstream and out with the plan area, Fresh Water Pearl Mussel is present within the Palnure Burn catchment. Fully protected under WACA 1981 and listed on Annexes II and V of the EC Habitats Directive and Appendix III of the Berne Convention best practice guidance for FWPM should be followed at all times to minimise the delivery of sediments and nutrients into the Palnure Burn.

Recent survey suggests that there may be a relict population of Arctic Charr present in Loch Grannoch. Survival of the current Charr population and any potentially introduced population would be threatened by any further acidification of Loch Grannoch. The application of best practice streamside management measures suggested by Maitland (*Arctic Char in Loch Doon: A review and Conservation Management Plan; NCC 1988*) to mitigate the acidity of the inflow from adjacent catchments would seem appropriate.

Little detail is known about Bat populations and their use of plantation forest however local research has taken place in the nearby Clatteringshaws plan area suggesting that the general area is home to significant populations of a variety of Bat species. A series of bat boxes in the area and the maintenance of a matrix of woodland cover and open space should benefit all Bat species.

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## 3.3 The existing forest

### 3.3.1 Age structure, species and yield class

#### Species / Yield class

Open space is already a significant component of this plan with around 34% of the plan area comprising wild open hilltop, some agricultural land and transient clear felled areas.

<b>Open ground type</b>	<b>Area (ha)</b>
Open hilltop	370.1
Felled area	66.7
Agricultural land	2.1
Unplanted	15.7
Streamsides	13.2
Archaeology	1.8
	<b>469.6</b>

There will be a modest increase in the area of open space during the period of this plan when plantation initially planted above the 300m contour is felled and either converted to planned woodland fringe or not restocked and left as open space. Detailed treatment of open areas is covered under section 5.2 Future Habitats and Species.

Current species diversity in the plantation area is quite poor. Pure Sitka Spruce and Sitka Spruce / Pine mixtures dominate the poorer site types present in the block and account for almost 90% of the plantation area. The minor conifer species of Norway spruce, Scots Pine, Larch and other conifers (6%) and broadleaf (around 4%) account for the remainder of the area and are generally located to the more fertile sites. No broadleaf within the plan area is identified as Native Woodland under the Native Woodland Survey Scotland project.

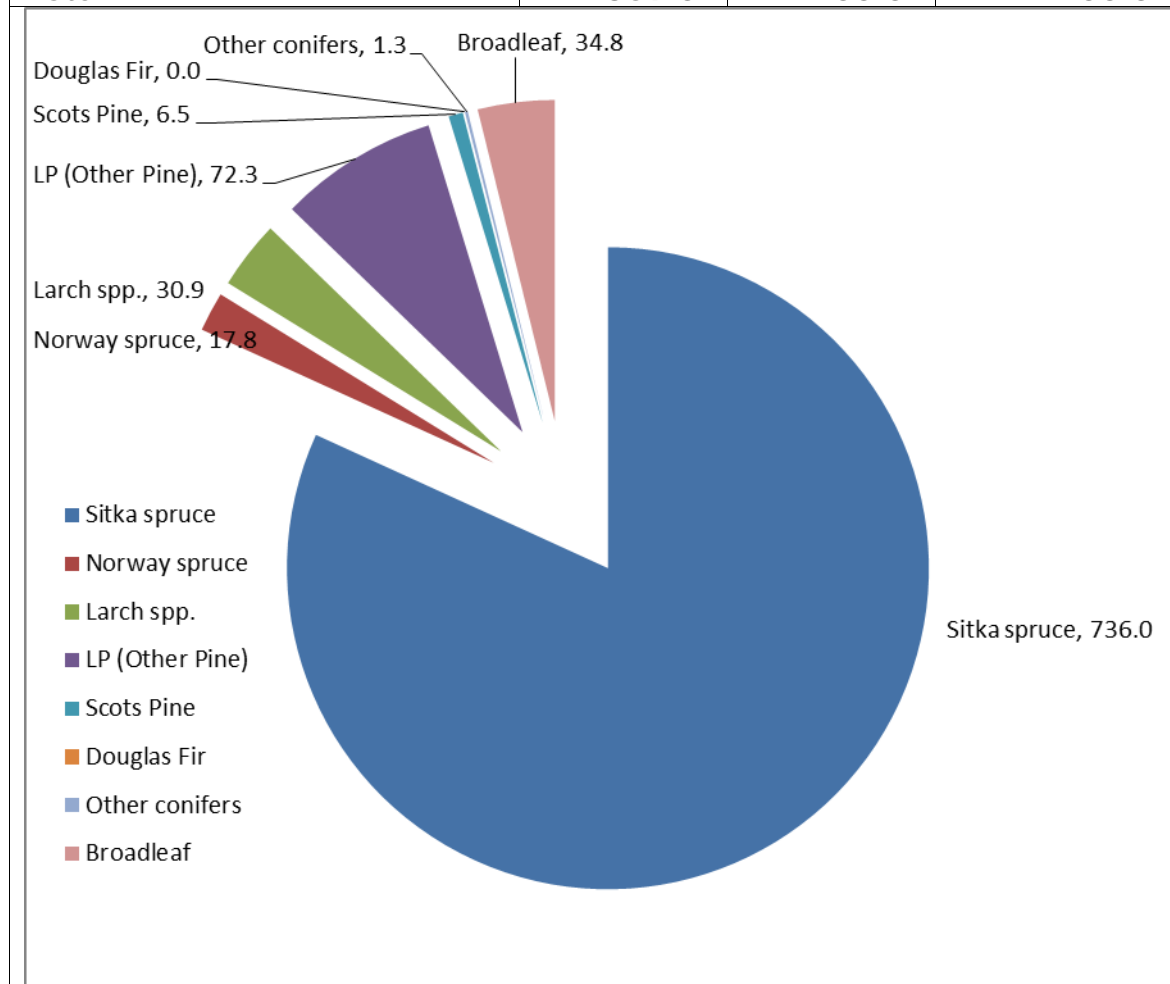
Over the lifetime of the plan species diversity will improve with planned increases in restocking of Scots Pine and Norway Spruce.

Yield class is variable across the block with spruce crops ranging from YC20 in the fertile sites down to YC 4 poorer crops on deeper peat areas and at elevation. Options available include restocking with alternative conifer species better suited to the site such as Scots Pine or converting the poorer spruce crops to peat land edge woodland or permanent open space.

<b>Species in 2017</b>	<b>Total area (ha)</b>	<b>Total area %</b>	<b>Plant. area %</b>
Sitka spruce	735.8	53.8	81.8
Norway spruce	17.8	1.3	2.0
Larch spp.	30.9	2.3	3.4
LP (Other Pine)	72.3	5.3	8.1
Scots Pine	6.5	0.5	0.7

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Douglas Fir	0.0	0.0	0.0
Other conifers	1.3	0.0	0.1
Broadleaf	34.8	2.5	3.9
Open space (includes felled areas & open water)	469.6	34.3	-
<b>Total</b>	<b>1369.0</b>	<b>100.0</b>	<b>100.0</b>



### Age Structure

Restructuring is a significant objective that began during previous plan periods so there is already a measure of spatial diversity within the Round Fell management plan with all stages of crop growth now represented. The growing stock however remains firmly skewed in favour of pole stage and maturing high forest (around 43.5% of plantation).

Our revised felling programme, with 8-10yr age gaps or a 2m height differential maintained between felling coupes (and possibly even wider gaps immediately adjacent to Black Grouse areas) will continue to improve the spatial appearance and structure of the block over the plan period. It remains an intention where possible to retain mature conifer species. Extending the rotation length of some of the first rotation crops (mainly Scots Pine and Norway spruce although all species will be considered) and the conversion of some second rotation crops



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from clearfell to Low Impact Silvicultural System (LISS) management should lead to even longer term improvements in structure maintaining levels of connected cone bearing plantation that will enhance Red Squirrel habitat and result in an enriched spread of age classes and in the block.

Age of trees	Growth stage	Percentage of class at given year	
		2017	2047
0 - 10	Establishment	10.7%	5.6%
11 - 20	Thicket	10.0%	11.9%
21 - 40	Pole stage	21.5%	22.5%
41 - 60	Maturing high forest	23.5%	14.2%
61 +	Old high forest	0.0%	3.9%
	Open space / felled areas	34.3%	41.9%
<b>Total</b>		<b>100.0%</b>	<b>100.0%</b>

### 3.3.2 Access

The block is accessible for timber haulage using the relatively extensive forest road network. All timber haulage exits south onto the A714 Newton Stewart to New Galloway road that is classified as an “agreed route” on the Dumfries and Galloway Timber Transport Group Agreed Routes Map west for Timber Haulage. Road upgrade of the existing forest road network and supplementary new road construction to facilitate access to some virgin first rotation crops will be required during the period of this plan approval. All of the current planned roads programme for the block is scheduled for construction during the plan approval period, mainly at the beginning of the second approval phase (see table below).

Period of Proposed Construction	Proposed length for construction
2018 to 2022	700m
2023 to 2027	1655m
Beyond 2027	0m

There are no active quarries in the plan area. Stone material for forest road upgrade and new construction to service the planned timber harvest will be sourced from nearby quarries such as Garraries and Craignell in the Clatteringshaws LMP. To avoid diffuse pollution arising from rainfall derived leaching, appropriate soakaways are in place in both quarries.

All quarries are identified in the suite of DP maps along with proposed / planned forest roads for the plan period and beyond.

District policy is to target Irish pipe bridges for removal as they are known barriers to fish migration however there are no such bridges identified in the Round Fell LMP area.

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## 3.3.3 LISS potential

Most of the plan area has low to moderate DAMS scores (Detailed Aspect Method of Scoring) of 17 or less, generally only the open ground leading up to Cairnsmore to the west and the Round Fell hill top and some associated plantation at elevation to the south show scores greater than 17.

Despite this opportunities for a significant expansion of LISS areas remain generally constrained by the poor, boggy site types leaving only some small areas to the north along the council road to be identified for thinning and LISS management (Low Impact Silvicultural System). LISS is defined as "Use of silvicultural system whereby the forest canopy is maintained at one or more levels without clearfell of areas over 2.0ha".

Second rotation crops will potentially provide opportunities for the future expansion of LISS.

## 3.4 Landscape and land use

### 3.4.1 Landscape character and value

With the A714 Queens Way virtually running along the entire northern boundary of the management plan the northern edge of the block is highly visible in both near and mid-distant view particularly Round Fell Hill. The rest of the block is less visible from the council road network but can be viewed from a variety of internal vantages from the internal forest road networks in Round Fell and the neighbouring Fleet Basin.

Over the lifetime of the previously approved plan there had been some movement towards restructuring in lower lying areas of the block, particularly coupes visible from the A714. Now with larger scale plantation removal scheduled, significantly more dramatic changes to the landscape is likely e.g. increased exposure of visible northern face of Round Fell.

The 1998 Dumfries and Galloway landscape assessment categorises the area to the north east of Cairnsmore of Fleet as "Rugged Granite Uplands with forests" where "the view of granite outcrops and unforested peaks are made distinctive by the contrasting colours of grey granite against dark heather and ochre grassland". The scale of the landscape here is grand with the character of a "highland" forest portrayed by the presence of rocky prominence, cliffs and boulders.

The main issues arising from the assessment of this landscape character type is

- The potential threat to the "highland" landscape qualities from further planting
- Opportunities to further enhance the existing forests in order to achieve a stimulating forest landscape with a distinct sense of place
- siting and design of tourist facilities within forests
- potential wind power development given the landscape sensitivity

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In developing this plan design the following key landscape specifics have been addressed:

“Creation of a stimulating landscape of “highland” character through redesign but with no potential for significant forest expansion”; planting will have particular regard for rock features allowing their display by leaving open ground, thinning and feathering in certain areas. Small scale changes in topography should also be reflected by more diverse planting mixes particularly broadleaf planting to enliven the landscape.

“design to allow greater access and virtual diversity for tourists”; opportunities exist for the enhanced design of open space and road edge treatments and more informal access to the rocky peaks. Management alternatives to clearfell will be targeted towards the roadside corridor and habitat networks creation, using broadleaf restock and existing scattered semi natural woodland will link lower valleys to the slopes and hill summits.

In addition to the above, there is a specific local design feature on the A712 at NX533740. Here plantation on both sides of the road (two separate plan areas) are drawn together to create a distinct pinch point that emphasises the topographical significance of where two separate water catchments meet.

### 3.4.2 Neighbouring landuse

The block adjoins other FES plantation to the north, east and west and by open hill or agricultural land to the south (includes Cairnsmore of Fleet SSSI designated site).

## 3.5 Social factors

### 3.5.1 Visitor Zone Recreation

Whilst the northern edge of the block along the A712 Queens Way is important for drive-by visitors and is immediately adjacent to the Red Deer carpark there is little other current use of the block save for informal walking and some access to the surrounding hills.

The blocks proximity to core Visitor facilities to the north and its current forest roads network may however offer future development opportunities for additional cycle and foot access.

The principal facilities are listed in the table below.

Facility	Concept / Opportunity	Constraint	Plan Development
Red Deer range car park	Enhance surround to car park location	Site separate from plan area by A712 road	Broadleaf expansion area on non priority site types enhancing riparian habitat networks

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### 3.5.2 Community

There are residential properties on the edge of the plan area at Craigdews however lying almost equidistant from New Galloway and Newton Stewart there are no real local communities associated with the area.

Local Community Councils were involved in our initial scoping exercise and are in receipt of the latest version of our local Strategic Plan.

### 3.5.3 Heritage

Following *FES Historic Environment Planning Guidance*, this Forest Design Plan describes and considers the conservation and management of the historic environment. The FDP includes details of all relevant scheduled monuments, listed buildings, designed landscapes and the most significant undesignated features.

Designated historic environment features are recorded in the Designated Historic Assets Register (maintained by the FCS Archaeologist). Scheduled monuments and listed buildings are managed within a programme of individual Monument Management Plans and Condition Surveys respectively. FCS also maintains a programme of detailed measured survey of our most significant sites in order to enhance the national historic environment record and inform conservation management.

Whilst there are no Scheduled Monuments or Category A listed buildings present in the plan area, other archaeological heritage features, settlement remains and sheep pens are present and listed in Appendix III.

All significant features will be protected and managed following the *Forestry and Archaeology Guidelines* (2011), the FCS policy document *Scotland's Woodlands and the Historic Environment* (2008) and the supporting *FES Historic Environment Planning Guidelines* (available from the FCS Archaeologist).

Known heritage features are marked on workplans before the start of forestry operations. Machine operators are fully briefed on their responsibilities prior to all sites being worked. The known record is based on features recorded on the 1<sup>st</sup> edition OS Map (1850).

Felling coupes, access roads and fence lines will be surveyed prior to any work being undertaken to ensure that upstanding historic environment features can be marked and avoided. Historic environment features, including drystone dykes, coming to light during forest operations will be surveyed, recorded, mapped and monitored for inclusion in future versions of the Design Plan and to demonstrate Forestry Commission Scotland compliance with the UK Forestry Standard.

At planting and restocking historic features will be removed from ground disturbing operations with opportunities to enhance the setting of important sites considered on a case-by-case basis (such as the views to and from a significant designated site).

Any recent archaeological surveys that have been undertaken on behalf of FCS have been incorporated into the Forester GIS Heritage Module geodatabase - and any new archaeological surveys required (in unimproved upland areas for

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example, or areas within which the archaeological record is unusually rich) are undertaken to the standards laid out in *FES Historic Environment Planning Guidelines*. This will ensure that undiscovered historic environment features are mapped and recorded prior to forestry establishment and management operations - and will ensure the continued comprehensive protection of the known archaeological resource.

### 3.5.4 Forest Renewables and Utilities

The potential for wind power development is low and currently there are no renewable developments planned for Round Fell LMP unit. However, the possibility remains that the area could be subject to future windfarm applications. Forestry Commission Scotland (FCS) is working to develop the wind and hydropower potential of the land and forests that we manage for the Scottish Ministers. Our aim is to ensure that the potential of the National Forest Estate is developed and managed in ways that

- contribute to the Scottish Government's renewable energy target
- maximise financial returns from the National Forest Estate
- secure benefits for local communities and
- achieve a reasonable and sustainable balance with other FCS objectives

### 3.6 Statutory requirements and key external policies

The legal status of the land is purchased.

The Land Management Plan has been prepared to ensure that the Planning and Operations functions will comply with the following legislation and policies:

#### Biodiversity

- Conservation (Natural Habitats) Amendment (Scotland) Regulations 2007
- Nature Conservation (Scotland) Act 2004
- Wildlife and Natural Environment (Scotland) Act 2011
- Land Reform (Scotland) Act 2003
- Water Environment and Water Services (Scotland) Act 2003
- Water Environment (Controlled Activities) (Scotland) Regulations 2011
- UK Woodland Assurance Standard 2008
- UK Forestry Standard 2004

#### Climate Change

- United Nations Framework Convention on Climate Change
- Kyoto Protocol
- EC Directive 2003/87/EC
- Climate Change (Scotland) Act 2009

#### Historic Environment

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- Ancient Monuments and Archaeological Areas Act 1979
- Treasure Trove Scotland
- UNESCO World Heritage Convention
- Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997
- European Convention on the Protection of the Archaeological Heritage Valetta 1992

### Forests & People

- Control of Substances Hazardous to Health Regulations 2002
- Equality Act 2012
- Gangmasters (Licensing) Act 2004
- Employers Liability (Compulsory Insurance) Act 1969
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Occupier's Liability (Scotland) Act 1960
- Provision and Use of Work Equipment Regulations 1998
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
- The Highways Act 1980

### Soils

- Control of Pesticides Regulations 1986
- Waste Management Licensing Regulations 1994
- European Soil Charter

## 4.0 Analysis and Concept

### 4.1 Analysis of constraints and opportunities

The following table sets out the site factors that are deemed significant in influencing the long-term management of the forest block.

<b>Factor</b>	<b>Opportunity</b>	<b>Constraint</b>	<b>Concept Development</b>
Timber	Provide planned sustainable timber supply	Creation / enhance conservation habitats Poor site types	Maintain conifer restock programme whilst increasing area of BL in subsequent rotations Remove flow peaks from timber production Increase area managed under LISS
Biodiversity	Retain / enhance Red Squirrel habitat	Potential Grey squirrel incursion from neighbouring riparian BL Use of large seeded BL species Lack of mature crop	Increase crop area under NS & SP and small seeded BL to benefit food source for species and for additional block diversity Extend rotation ages and increase plantation area managed under LISS Identify retention areas of mature SP or NS
Biodiversity	Enhance connectivity of aquatic areas to other habitat networks	Limited aquatic areas Extended restructure period	Identify connecting corridors linking aquatic / riparian areas to woodland fringe, open internal areas and open hill top ground
Environmental Quality	Enhance water quality within R Dee and R Cree water catchments	Conifer monocultures planted close to watercourses Moderate to low levels of existing species diversity Extended period of landscape change	Increase plantation area managed under LISS Enhance riparian corridors through creation of additional open space and increase in species diversity through use of minor conifer (SP & NS) and BL
Environmental Quality	Increase area managed under Low Impact	Site type constraints Lack of appropriate mature conifer crop	Increase area managed under alternative to clearfell systems and

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	Silvicultural Systems(LISS)		extend rotation lengths
Environmental Quality	Enhance views of block from A712	Moderate to low levels of existing species diversity Harsh non-welcoming plantation edges	Increase species diversity through use of minor conifer (SP & NS) and BL Increase area managed under LISS and extend rotation lengths Enhance / soften plantation boundaries to create more natural and welcoming woodland edges
Access and Health	Enhance access to block	Very low (nil) levels of current formal recreation in block	Provision of additional bespoke treatments within Recreation Visitor zones including increased open space and species diversity



## 4.2 Concept development

The concept forms the broad framework for the detailed design and is presented graphically in map 4: Analysis and Concept. A variety of themes, often overlapping, are outlined as follows:

### Commercial conifer zone / Core timber production

Significant areas of upland spruce and mixed conifer plantation will continue to be managed as commercial crop to meet the district programme commitments (albeit temporarily compromised by the small premature P ramorum felling of Larch). There is limited potential on the better site types to extend rotation lengths in some conifer crops (through additional LISS areas) and to increase species diversity.

### Highly visible recreation / A712 roadside corridor

The block is highly visible and currently presents a series of fairly attractive views from along the A712. Long term aims are to maintain and further improve the views through increased species diversity, both BL and minor conifer, and better sight lines.

Area specific Visitor zone treatments will be developed for the A712 corridor involving bespoke thinning regimes, mature tree retentions where possible and the creation of additional open space and species diversity.

### Open hilltops zone

The summit of Round Fell is a prominent internal feature that already provides a significant amount of permanent open space. Large scale coupes may be utilised on the hill side to address landscape issues.

The creation of additional permanent open space or woodland fringe that will connect Round Fell down through the forest matrix to the low lying areas of Loch Grannoch as well as to other open upland features such as Cairnsmore of Fleet to the south west and Brockloch Fell to the north is a plan objective.

### Designated sites

Cairnsmore of Fleet SSSI slightly encroaches the plan area to the south west. The creation of additional open space and Woodland Fringe buffers on the margins of this designated site will contribute towards the maintenance of its favourable status.

### Loch Grannoch aquatic zone / riparian zones

Loch Grannoch is a substantial water body on the eastern boundary of the plan area. Water quality issues within the Loch Grannoch aquatic zone and the R Cree and R Dee catchments coupled with the creation of significant habitat network / riparian corridors are critical success factors in the plan. Our intention is to fully open up the riparian corridors going beyond the basic proposals of the legal drivers and voluntary codes i.e. the UK Forestry Standard (UKFS) the Forest and Water Guidelines (FWG) and the UK Woodland Assurance Standard (UKWAS).

### Red Squirrel Stronghold site

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Red Squirrel (UKBAP priority species) is present throughout the block at low densities and Round Fell, along with the Bennan and Fleet Basin LMPs, comprises the Fleet Basin Red Squirrel Stronghold site.

Extended rotation lengths in second rotation conifer crops, additional LISS areas and an increase in species diversity will provide habitat that is beneficial for the species.

### Red Deer range open ground / Black Grouse site

The Red Deer range to the north of the plan area an important for Black Grouse lekking. The creation of BL woodland adjacent to the site will provide habitat that is beneficial for the species.

## 5.0 Management Proposals

### 5.1 Forest stand management

The Round Fell plan has been designed in accordance with sound silvicultural and environmental principles within the framework outlined by the UK Forestry Standard, the UK Woodland Assurance Standard and the Galloway FD Strategic Plan.

The accompanying Management map provides details of our coupe management proposals and the following table summarises the average annual felling and thinning volumes (m3ob) expected for the next 10years (plan period) and beyond:

<b>Fell period</b>	<b>Thinning / LISS</b>	<b>Clearfell</b>	<b>Total</b>
2017-2021	759	9484	10243
2022-2026	420	8343	8763
2027-2031	61	16568	16629
2032-2036	57	12073	12130

The programme has to an extent been smoothed to provide a regular and sustainable supply of timber.

#### 5.1.1 Clear felling

Most of the plan area will be managed under a clearfell management type using conventional harvester and forwarder working; there is however limited scope for a targeted expansion of the area managed under Low Impact Silvicultural Systems (LISS) particularly in second rotation crops.

Only 6 coupes are scheduled for clearfell during the 10yr period of the plan (145.6ha and around 10.6% by area) and they modestly contribute to the district programme (see Appendix IV).

The following table confirms that, as per paragraph 3.4.2 in the UK Woodland Assurance Standard (second edition), no more than 25% of the plan area is due to be felled in any five year period within this plan approval period. Because of the significant area of open hill area associated with the plan, we have used plantation area (1271.0ha) and the percentage is still not exceeded.

<b>5yr Fell period</b>	<b>Area felled (ha)</b>	<b>Area felled as % of total plantation area</b>
2018-2022	<b>99.4</b>	<b>7.8</b>
2019-2023	<b>78.5</b>	<b>6.2</b>
2020-2024	<b>174.8</b>	<b>13.8</b>

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2021-2025	<b>174.8</b>	<b>13.8</b>
2022-2026	<b>96.3</b>	<b>7.6</b>
2023-2027	<b>145.6</b>	<b>11.4</b>
2024-2028	<b>192.3</b>	<b>15.1</b>
2025-2029	<b>165.4</b>	<b>13.0</b>
2026-2030	<b>165.4</b>	<b>13.0</b>
2027-2031	<b>165.4</b>	<b>13.0</b>

It is of course important to manage forestry activities in acid sensitive water catchments, the catchment covering the eastern part of this Land Management Plan area has been identified as being either "at risk" or "failing".

Subject to favourable water chemistry status, there is a district commitment towards our proposed felling and restocking for these catchments. Calculations have been prepared and are included at Appendix VI.

The single identified "failing" catchment satisfies both the felled area threshold and that of closed canopy forest >15yrs needing to be less than 30% of the catchment in 15 years' time.

In extensively (>50%) forested catchments like those present in and around the Round Fell plan area, additional measures to reduce the impact of forestry such as the conversion of conifer stands to broadleaf will be more closely considered.

For conservation and biodiversity considerations efforts have been made

- to extend the felling period between coupes to over 7yrs
- to marry coupe shape better to landform and
- where possible to reduce the overall size of the remaining clearfell coupes

All proposed operations sites will be surveyed prior to work taking place to identify the presence of species such as Red Squirrel, Otter or Badger that may require specific management treatments i.e. locating dreys or avoiding breeding seasons.

### 5.1.2 Thinning

Little thinning has previously taken place in this management unit and with much of the plantation now either at pole stage or maturing high forest we have missed the thinning window of opportunity for this rotation.

Second rotation crops in the lower lying, more sheltered areas nearer to the road corridor offer potential to expand the thinnable area of the unit and potentially provide an increase in woodland area that can be managed under less intensive management systems than clearfell.

Carried out on a 7-10yr cycle in accordance with our local policy, crops will generally be thinned to realise the benefits of improved timber quality but to also meet amenity, biodiversity and landscape objectives.

### 5.1.3 LISS, Long-term Retention and Natural Reserve

Only a small part of the plan area, around 74.5ha (just over 5%), is currently planned for managed under Low Impact Silvicultural Systems (LISS). As LISS

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can contribute to the protection and improvement of soil quality, water quality and biodiversity through reducing soil erosion and the creation of suspended solids in water, additional areas where site types are better, will be targeted for LISS development.

Group Shelterwood systems will be the preferred system and should, through regular crown thinning and occasional small-scale clearfells of <2ha (perhaps centred on windthrow), provide areas for either natural regeneration or targeted restock of small seeded native tree and shrub species and contribute towards greater spatial diversity.

Group Shelterwood generally encompasses:

- progressive thinning
- clearance of windthrow patches
- small-scale felling patches of 0.5ha up to 2.0ha to stimulate restructuring and promote regeneration of target tree species

If there is a management requirement for any coupe greater than 2.0ha to be felled then that prescription will be initially agreed with the FCS as per the Tolerance Table in Appendix II.

A further 8% of the plan area has been identified as Natural Reserve, Minimum Intervention or LongTerm Retention.

Natural Reserves are predominantly wooded, permanently identified locations of high wildlife interest or potential that is solely managed for high conservation or biodiversity value.

Minimum intervention has management with no systematic felling or restocking although operations such as fencing, control of exotics and pests, safety work and trail maintenance are permitted. As there are sufficient selected Natural Reserves of higher biodiversity value throughout the district, in this block broadleaf areas and isolated conifer blocks, mainly along the A712 corridor but also at elevation where the possible colonisation of woodland and scrub through natural processes would be acceptable if it occurred, provide a focus for Minimum Intervention management.

Under Long-term Retention trees are retained for environmental benefit significantly beyond the age or size generally adopted.

### 5.2 Future habitats and species

The accompanying Future Habitats and Species map provides detail of our proposed restock species and habitats for Bennan FDP (see Habitats and Species map).

#### 5.2.1 Open hilltop / Woodland fringe

A feature of the design plan is to maintain and expand the area of open hilltop within the plan area (Round Fell & Sheil Hill) to create more enhanced links between those tops, neighbouring open land (Craignelder, Craignarget and other open hill land associated with Cairnsmore of Fleet SSSI) and the lower elevation farmland and river valley ground. Modification of the upper planting margins and

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highlighting crag areas through broadleaf planting and increased open space to better complement landform will take place.

Mapped areas	Objectives	Implementation
Round Fell landscape feature	<ul style="list-style-type: none"> <li>• Expose slopes and associated crags of Round Fell and Sheil Hill for landscape</li> <li>• Contribute towards reducing effect of surface water acidification on Loch Grannoch</li> </ul>	<ul style="list-style-type: none"> <li>• Remove plantation at elevation over extended period (commenced 2005 and ongoing)</li> <li>• Retain P Mugo and other minor conifer species where appropriate</li> <li>• Accept conifer regeneration up to 20% of open area</li> <li>• Area may be subject to deer / goat grazing (subject to local agreed management plans)</li> </ul>
Woodland fringe	<ul style="list-style-type: none"> <li>• Creation of low density woodland / open space corridor targeted as improving / developing habitat for priority species such as Black Grouse, headline raptors and their prey species</li> </ul>	<ul style="list-style-type: none"> <li>• Coupes to west of plan area removed over extended timescale</li> <li>• Integrity of corridor should be maintained however small scale conifer and broadleaf regeneration will be accepted</li> <li>• Identify areas for open space / low density broadleaf woodland creation as transition between higher elevation open ground and plantation</li> <li>• Consider low density restock of SP to south where plantation meets SSSI edge</li> <li>• Low impact establishment techniques to minimise drainage impact on adjacent SSSI hydrology</li> </ul>

Targeted areas of Native woodland fringe, a transitional zone between the plantation and open hilltop will be encouraged. Native woodland fringe is defined as 20-50% tree cover in a matrix of short vegetation. Always more than 50% (ideally 100%) of the tree species will be native. Woodland fringe has the potential to provide additional habitat for Black Grouse, a habitat that could potentially be further improved through cattle grazing of sections of the open hill. Coupe 57008 notionally forms part of our woodland fringe for Round Fell and is currently in our regeneration monitoring programme; data for that specific coupe should be available within the next 3 months. Similar survey work has been and is being carried out across the district to inform future treatments of a variety of sites that have been identified as potential woodland fringe sites. Coupe 57008 certainly appears to have conifer regeneration in excess of 20% and as such remedial work will be required. Once the data for all of the monitored sites has been processed, a prioritised programme of work will be drawn up and pursued.

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In the case of coupe 57008, the density of conifer is such that removal might not take place until around time of first thin when the trees are merchantable and prior to them starting to cone. This is not however a definitive prescription given that not only does the openness of the crop and the developing heather cover provide very good current habitat for Black Grouse but also that the LMP currently is part of the district Red Squirrel Stronghold site that would obviously benefit from any and all coning conifer crops.

Conifer regeneration will be closely monitored in our aspirational woodland fringe areas and assessed as to its suitability. If the density of woodland cover is unacceptably low then restocking would take place or if too dense the conifer regeneration will be treated as resources allow.

### 5.2.2 Riparian zones & aquatic zones

On the eastern boundary, Loch Grannoch is the principal still water body that impacts on the plan area and it is an important habitat oasis for fish and wild fowl species. The plan identifies the creation of a significant buffer zone to the western boundary of the loch edge achieved through the removal of excessive shading conifer crop and the creation of additional open space or broadleaf areas. Linking this buffer to other watercourses >0.5m wide, also subject to riparian zone improvements, and other external and internal open space within the block will create larger habitat networks.

Comprising native BL planting and open space to assist in improving water quality, protecting soils, maintain fish stocks and benefitting species that use the habitat, riparian buffer zones will be extended to more than satisfy the demands of UKFS. To complement this planned riparian zone management and to aid water quality improvement, the continued monitoring and management control of conifer natural regeneration in the riparian zone is critical.

Wet woodland is a high focus habitat of the Biosphere and within the R Dee valley system there are many areas of marsh /mire habitats and other localised wetland areas prone to flooding. Some small areas in this plan are identified as areas of permanent open space and others will be identified by future operations during the plan period. These sites will as far as possible remain unstocked as a benefit to invertebrates and bird life although, if water quality is not diminished, some natural regeneration of native species will be accepted. The plan looks to reinforce this concept through the creation of additional areas of broadleaf and open ground within the river valley system.

At a more detailed level where we are looking to better promote other natural features such as rock crags and wet hollows areas, increased open space and species diversity will persist.

### 5.2.3 Quarries (open space)

As previously stated there are no active quarries in the plan area.

It is conceivable that future quarrying may be required, any quarry development proposals outwith agreed tolerances will be submitted to FCS for approval prior to work taking place (see Tolerance table Appendix II).

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## 5.2.4 Deadwood / Veteran trees

There are no veteran trees in the block and with little established broadleaf and only a few isolated areas of windthrow, standing deadwood is at a premium. All broadleaf areas and their associated woodland ground flora will be retained at time of conifer clearfell to provide focal points for future BL expansion (see local District BL policy document) and over time may ultimately provide a long term source of deadwood.

Dedicated areas for deadwood creation will also rely on identifying around 1% of the conifer plantation as Natural Reserve (from which no timber will be removed) as per our current District Deadwood Management policy. In the Round Fell LMP area small groups of Pinus Mugo at elevation may in time satisfy these criteria.

## 5.2.5 Plantation woodland (and Red Squirrel Stronghold proposals)

Sitka spruce will continue to be the main timber species in the commercial conifer dominant areas, both as a pure crop and in mixture with LP, however where site conditions are favourable or where landscape considerations prevail then other conifer species including NS and SP will over time be preferred for diversity of squirrel food supply. Our current policy not to restock Larch (driven by our existing and potential future Phytophthora infections) will in all probability result in a relatively Larch free forest. This potential loss of habitat benefit to important species such as Black Grouse and Red Squirrel will be offset through the additional planned restocking of other conifer species including SP, NS and BL species.

The following table presents the details of our proposed species restock:

Species	Area (ha) in 2027	Total Area %	Plant. Area %	Area (ha) in 2047	Total Area %	Plant. Area %
Sitka spruce	638.5	46.6	<b>79.8</b>	483.0	35.3	<b>64.3</b>
Norway spruce	18.2	1.3	<b>2.3</b>	19.2	1.4	<b>2.6</b>
Larch spp.	26.9	2.0	<b>3.4</b>	21.7	1.6	<b>2.9</b>
LP (other pine)	70.1	5.1	<b>8.8</b>	108.3	7.9	<b>14.4</b>
Scots Pine	7.5	0.5	<b>0.9</b>	66.6	4.9	<b>8.9</b>
Douglas Fir	0.0	0.0	<b>0.0</b>	0.0	0.0	<b>0.0</b>
Other Conifers	1.2	0.1	<b>0.2</b>	1.2	0.1	<b>0.2</b>
Broadleaf	37.4	2.0	<b>4.6</b>	51.1	3.7	<b>6.7</b>
Open Space	569.2	41.6	-	617.9	45.1	-
<b>Total</b>	<b>1369.0</b>	<b>100.0</b>	<b>100.0</b>	<b>1369.0</b>	<b>100.0</b>	<b>100.0</b>

Increasing species diversity and an improved age class range will provide a dependable food supply for Red Squirrel populations.

The table initially reflects a modest reduction in the area of Sitka spruce crops during the approval period of the plan compensated for by an equivalent expansion in areas restocked with Scots Pine and additional broadleaf woodland for species diversity. There are a few small areas of scrub BL and associated



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woodland ground flora within the block that should, as far as possible, be retained at time of conifer clearfell to provide focal points for future BL expansion (see local District BL policy document). Of particular interest are wet flat areas where opportunities to create Wet Woodland with open space, Willow and Alder arise. Whilst BL natural regeneration of these areas is not generally expected, it will be encouraged where present.

The trend for increased diversity woodland accelerates projecting out to 2047 with a marked expansion of SP and native, small seeded broadleaf cover. This Native Broadleaf cover planned to increase from around 2.5% in 2017 to 4.6% by the end of the plan period will both enhance the landscape and provide improved woodland habitat to protect soils and improve water quality.

Target stocking density for the non commercial broadleaf will be around 1600 stems per hectare (2.5m spacing) with restocking taking place should the figure not be reached.

The area of open space, that will include transient areas of felled ground, increases over time. Open space is focussed on low level deforestation of plantation at elevation for a positive effect on water quality and in riparian zones and their linkages out onto the adjacent designated hilltop areas some of which may eventually develop into the possible colonisation of woodland and scrub through natural processes.

Post clearfelling, there will be no conifer restocking within 20m (and on occasion up to 50m such as the main feeder streams to Loch Grannoch) within the main watercourse riparian zones. It is expected that some of the riparian zones, designed open ground and broadleaf areas will fill in with natural regeneration of both conifers and broadleaves. Monitoring levels of natural regeneration will be undertaken by stand-alone FES natural regeneration surveys and the FES sub-compartment database will be updated according to FES protocols.

At the 5 year mid plan review and at the submission of a new Land Management Plan at year 10, an assessment will be made of the extent of this natural regeneration and noted in the associated commentary. If natural regeneration of conifers has created a canopy cover of greater than 50% of the riparian buffer area and has a negative impact on the watercourse, designed open ground or areas of broadleaves, the Land Management Plan submission will specifically address this and identify any approaches to be taken. Any such approaches will be proposed after consultation with SEPA, the Galloway Fisheries Trust and agreed with FCS and based on supporting evidence which considers the potential impacts on acidification and the increased levels of shade and shelter on the watercourses or habitat and the technical feasibility of natural regeneration clearance.

Where species selection differs markedly from the design plan proposals, detailed restock plans will be submitted to FCS for approval prior to work taking place (see Appendix II Tolerance table).

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### 5.3 Restructuring

Block restructuring remains a significant objective. The planned, gradual changes in the spatial appearance and structure of the block carried out under previous plans have thus far resulted in enhancements to the roadside corridor. This revised felling plan with planned increases in rotation length of mature conifer species and additional areas of broadleaf should provide not only a greater diversity of habitat for conservation but also provide additional structural and landscape benefits for the block.

### 5.4 Deer Management

Estimated Deer Population survey work carried out suggests an overall woodland density of 10.2 deer per 100.0ha across the Forest District. Figures fluctuate across Land Management Plan areas but do give a strong indication of culling requirements in order to deliver Forest Enterprise Scotland's National Deer Management Strategic objectives that include <10% impact on all commercial crops. With significant numbers of Roe deer and some Red deer present in the Round Fell plan area significant resources will be deployed in an effort to reduce the overall background population over the period of the plan to deliver our restocking targets.

With a presumption against fencing, current deer management in the Round Fell block is carried out by FES Wildlife Rangers with assistance from contract rangers. Cull requirements and available resource will be reviewed on an annual basis in order to remain proactive towards protecting vulnerable areas of the Land Management plan area.

Several new ATV tracks will be implemented along restocked coupes adjacent to open hill areas or along the larger riparian zones. These tracks are extremely important from both a Health and Safety and operational perspective. ATV tracks provide a safe walking platform for deer management staff during stalking operations which may be during daytime or dusk/darkness. The tracks also allow more straight forward and safer carcass extraction via ATV when required. ATV tracks must be given careful consideration regarding their absolute need and location.

When required, they will be constructed to one of two designated standards.

- Tracks along riparian zones will involve minimal ground disturbance work.
- Those not following riparian zones will involve removing topsoil and levelling the surface with a drain on the top side and will be a maximum of 2m wide.

No trees will be planted within 5m of the track centre.

Temporary quad bike tracks will also be formed with minimum ground disturbance. They will generally follow old unplanted rides, with levelling to negotiate side slopes and be spaced at approximately 400m intervals. There will be no unplanted margin around these temporary tracks and they will

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subsequently be subsumed into the plantation as tree canopy closes. Forests and Water guidelines (5th edition) will be adhered to during their construction and crossing points will be piped.

Deer glades, typically up to 1.0ha in size, are not shown on the suite of design plan maps. Precise locations will be identified and inserted at time of restocking when Ranger staff has had the opportunity to fully assess site conditions post clear fell taking into account the location and protection of vulnerable tree species.

### 5.5 Pathogens, Diseases and Invasive Non native species

Invasive non-native species (INNS) can impact directly on the geology of an area and are recognised as a significant risk to water environments potentially causing problems for communities who rely on rivers and lochs for their livelihoods.

There are no records of *Rhododendron ponticum*, Japanese Knotweed, Giant Hogweed and Himalayan Balsam in the block. American Signal Crayfish are however well established in Loch Ken and with unconfirmed reports of their presence in small water courses west of New Galloway, the potential for their colonisation of the Black Water of Dee catchment is a concern. Signal Crayfish prey on young fish and their eggs, compete for food and habitat which can impact on the populations of native fish and their extensive burrows can destabilise banks causing erosion and collapse. No practical long term solution has yet been found to eradicate the species and until one is found monitoring for their presence and good bio security practice is the order of the day.

The block is actively monitored and trapped for Grey squirrel incursion.

*Dothistroma* Needle Blight (DNB) has been identified on Corsican and Scots Pine crops in the district, although at present is only causing mortality in CP.

Although there is little evidence of DNB within the Roundfell land management plan area the pathogen has been identified in adjacent forest design blocks and its wider presence in the block cannot be ruled out. Given the impact on structural and species diversity of the block by the recent *Phytophthora* infection Scots Pine will play an important element in planned restock so future DNB surveys may increase in intensity.

*Hylobius*, the Pine weevil, can cause extensive damage to young conifer crop and is found both in this plan area and throughout the district. As part of the districts chemical minimisation strategy, the *Hylobius* Management Support System (HMSS) is used to measure *Hylobius* numbers on clearfell sites. Using billet traps virtually all of the districts conifer restock areas are assessed. Weevil numbers are recorded and used along with other site data to determine the optimum time for site restocking. This more flexible fallow period between felling and re-stocking may result in restocking not taking place within two years of felling. (Appendix II Tolerance Table).

*Phytophthora ramorum* infection has been confirmed on Larch throughout the district. Infected areas were initially felled to comply with the requirements of a Statutory Plant Health Notice (SPHN) but are now treated under a "management

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zone" agreement. Although not a major component of the plan area growing stock, some of the larch in the Round Fell block has been infected. Planned restocking in the block will, in the foreseeable future, avoid the use of larch with other minor conifer (not Sitka spruce) and broadleaf woodland contributing more towards the species diversity of the block.

*Heterobasidion annosum* is not endemic in the block. Stump treatment with urea after felling will however be required in the areas of poorer site types.

There is no record of Ash dieback *Chalara fraxinea* present in the LMP area. FCS published a Chalara Action Plan for Scotland in 2013 that will be followed should an outbreak be discovered.

### 5.6 Waste on site (including felling to recycle)

Generally there are no plans to carry out chipping, mulching or spreading of forest waste over the plan area for ecological site improvement however in response to the potential infection of *P ramorum* in immature larch crops, some small scale felling to recycle and chipping trials with the product removed from site for wood fuel may take place.

Detailed plans will be submitted to FCS for approval prior to any work taking place.

### 5.7 Habitats Regulations Appraisal sites

Cairnsmore of Fleet Special Site of Scientific Interest (SSSI) borders the plan area to the south and west but there are no SAC sites impacted on by the plan area.

A Habitats Regulations Appraisal is not required.

### 5.8 Tolerances

Tolerance thresholds for design plan amendments are as per our Tolerance Table (based on CSM6 Appendix 3 and subsequent to local agreement with FCS South Scotland staff) and the *P ramorum* working tolerance table for Larch found in Appendix II

### 5.9 Critical Success Factors

- Persistence of a viable Red Squirrel population
- Improved water quality within the catchments
- Construction of proposed new roads

### 5.10 Amendments

To be logged on amendment form

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### Appendix I: Land Management Plan Consultation Record

Statutory Consultee	Date contacted	Date response received	Issue raised	Forest District Response
			•	•
<i>SNH Newton Stewart office: Thomas Newton</i>	<i>30 May 2017</i>	<i>Email reply 21.06.17</i>	<ul style="list-style-type: none"> <li>• Potential impact of site drainage near to designated site Cairnsmore of Fleet SSSI</li> <li>• Woodland fringe proposals</li> <li>• Development of LMP site within core management area for Black Grouse</li> <li>• Fence line issues</li> </ul>	<ul style="list-style-type: none"> <li>• Noted sections 3.2, 3.2.1, 5.2.1 &amp; 5.4</li> </ul>
SEPA: John Gorman; Newton Stewart office	30 May 2017	Email reply 19.06.17	<ul style="list-style-type: none"> <li>• Demonstrate full compliance with Forest &amp; Water guidelines 5<sup>th</sup> edition</li> <li>• Protect watercourses through drainage management and minimising pollution risk</li> <li>• Enhance water quality within R Dee catchment</li> <li>• Focus on scope for reintroduction of Actic Charr</li> </ul>	<ul style="list-style-type: none"> <li>• Noted sections 3.2.1 &amp; 5.2.2</li> </ul>
RSPB Crossmichael: Julia Gallagher	30 May 2017	Email reply 19.06.17	<ul style="list-style-type: none"> <li>• Comments on strategic location of LMP area &amp; creation of woodland fringe for Black Grouse</li> <li>• Need for increased open space and low density BL</li> </ul>	<ul style="list-style-type: none"> <li>• Noted sections 3.2.1 &amp; 5.2.2</li> </ul>

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			planting buffer to Loch Grannoch edge	
Historic Scotland: Deirdre Cameron	30 May 2017	Email reply 08.06.17	<ul style="list-style-type: none"> <li>• No designated sites within plan area</li> <li>• Contact local authority archaeology service for minor sites in D&amp;G Historic Environment Record</li> </ul>	<ul style="list-style-type: none"> <li>• Noted section 3.5.3</li> <li>• Local authority consulted as part of design plan consultation process</li> </ul>
Rosemary Green; IUCN Otter Specialist Group	30 May 2017	Email reply 06.06.17	<ul style="list-style-type: none"> <li>• Otter data provided</li> </ul>	<ul style="list-style-type: none"> <li>• Noted section 3.2.2</li> </ul>
FCS South Scotland Conservancy: Dumfries office	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Royal Burgh of New Galloway Community Council : Margaret Watson	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Dumfries & Galloway Regional Council: Simon Fieldhouse	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Galloway Fisheries Trust: Jamie Ribbens	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Saving Scotland's Red Squirrels: Heinz Traut	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Visit Scotland: Paula McDonald	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Galloway & Southern Ayrshire Biosphere: Ed Forrest	30 May 2017	No comment received	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

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CONFOR: Jamie Farquhar	30 May 2017	No comment received	•	•
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## Appendix II: Tolerance Tables

	Adjustment to felling period	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Change to roadlines	Designed open space
FC Approval not normally required	Fell date can be moved within 5yr period where separation or other constraints are met.	1.0ha or 10% of coupe area - whichever is less.	At year 3 after felling. Restocking within 2yrs +/- of year 3.	Change within species group e.g. evergreen conifers; broadleaf.		Location of temporary open space e.g. Deer glades if still within overall Open space design.  Increase by 0.5ha or 5% of area - whichever is less
Approval by exchange of letters and map		1.0ha to 5ha or 10% of coupe area - whichever is less			Additional felling of trees not agreed in plan. Departures of >60m in either direction from centre line of road.	Increase of 0.5 to 2ha or 10% - whichever is less.  Any reduction in open space.
Approval by formal plan amendment may be required	Felling delayed into second or later 5yr period. Advance felling into current or 2 <sup>nd</sup> 5yr period.	>5ha or 10% of coupe area	If timing of restocking is outwith the period above.	Change from specified native species. Change between species groups.	As above depending on sensitivity.	More than 2ha or 10%.  Any reduction in open space in sensitive areas.  Colonisation of open



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						space agreed as critical.
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### Notes

- Felling sequence must not compromise UKFS e.g. Adjacency. At mid term review detail of felling progress and impact will be reviewed against UKFS.
- Where windblow occurs, FCS should be informed of extent prior to clearance and consulted on clearance of standing trees.
- Tolerances subject to an overriding maximum of 20% open ground.
- Within the text of the Forest Design Plan it must clearly state how the plan will address the issue of adjacency with a statement to the effect that:
  - **EITHER Any adjacency issues will be dealt with through delay restocking, ie a coupe will not be restocked until all surrounding crops are at least 2m tall**
  - **OR Any adjacency issues will be dealt with through delay felling, ie a coupe will not be felled until all surrounding crops are at least 2m tall.**

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**TABLE OF WORKING TOLERANCES SPECIFIC TO LARCH WITH THE INFECTED ZONE**

	<b>Adjustment to felling period *</b>	<b>Adjustment to felling coupe boundaries</b>	<b>Timing of restocking</b>	<b>Changes to Species</b>	<b>Changes to road lines</b>
<b>FC Approval normally not required</b>	Fell date for all larch can be moved and also directly associated other species	Larch areas can be treated as approved coupes. Other conifers directly associated with larch being felled, may also be removed up to an equivalent of 20% of the area occupied by the larch or 5 ha, whichever is greater	To be undertaken within the overall plan approval period	Replacement as per the agreed restock plan, but where this is not specified or is larch this may be replaced with either another diverse conifer (not SS) or Broadleaves.	
<b>Approval normally by exchange of letters and map.</b>  <b>In some circumstances Approval by formal plan amendment may be required</b>		Removal of areas of other species in excess of the limits identified above.	Restocking proposals outwith the plan approval period	Restocking proposals for other species which do not meet the tolerances identified above.	New roadlines or tracks directly necessary to allow the extraction of Larch material

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Appendix III: Ground Truthed Heritage sites

SITE	PHOTO	GRID	COMMENT
Round Fell farmstead	Yes	NX516725	Farmstead building ruins and field enclosure stone dykes in fair condition in permanent open space. <b>Maintain in area of open space.</b>
Enclosure ruins	Yes	NX 522730	Circular enclosure remains currently in area of open space adjacent to plantation and visible from county road <b>Maintain in area of open space.</b>
Small sheep pen	Yes	NX522729	Small sheep pen in fair condition (walls <1.0m) in permanent open space. <b>Maintain in area of open space.</b>
Corwar still	Yes	NX512696	Small circle of stones (<1.0m high) in fair condition outwith plantation area in permanent open space. <b>Maintain in area of open space.</b>
Sheep pen	No	NX526700	Sheep pen in permanent open space. <b>Maintain in area of open space.</b>
Covenanter grave	Yes No	NX526707	Engraved stone(s) in permanent open space. <b>Maintain in area of open space.</b>

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Appendix IV: Coupe details for clearfell and establishment

Clearfell

Coupe	SS	NS	Larch	SP	LP	Other con.	BL	Open space	Total
57004	58.7	-	-	-	-	-	-	2.8	61.5
57009	61.6	-	0.4	-	18.6	-	-	7.0	87.6
57013	33.6	-	0.2	-	18.0	-	-	1.5	53.3
57014	34.3	2.3	0.5	-	5.2	-	-	1.5	43.8
57028	15.5	-	2.0	-	3.0	-	-	0.6	21.1
total	<b>203.7</b>	<b>2.3</b>	<b>3.1</b>	<b>0.0</b>	<b>44.8</b>	<b>0.0</b>	<b>0.0</b>	<b>13.4</b>	<b>267.3</b>

Restock

Coupe	SS	NS	Larch	SP	LP	Other con.	BL	Open space	Total
57004	28.4	-	-	-	28.4	-	1.2	3.5	61.5
57009	55.7	-	-	-	-	-	12.2	19.7	87.6
57013	13.8	-	-	-	13.8	-	-	25.7	53.3
57014	16.7	3.9	-	-	16.7	-	3.9	2.6	43.8
57028	17.6	-	-	-	1.3	-	1.2	1.0	21.1
total	<b>132.2</b>	<b>3.9</b>	<b>0.0</b>	<b>0.0</b>	<b>60.2</b>	<b>0.0</b>	<b>18.5</b>	<b>52.5</b>	<b>267.3</b>

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### Notes on coupe work schedule

57004	Coupe covers Low Craigeazle hilltop; SS/LP matrix with BL and open space for visual and species diversity along Cuttie Shallow Burn.
57008	Coupe initially identified as woodland fringe however significant conifer regeneration has resulted (see section 5.2.1 for proposed action).
57009	Large coupe lies to west side of Round Fell hill; SS/LP matrix pulled down hill below 300m with significant area open ground identified for water quality and landscaping of Round Fell hill top. Additional BL and open space targeted to Palfern Burn riparian zone.
57013	Coupe lies at elevation to east side of Round Fell hill; SS/LP matrix pulled down hill below 300m with significant area open ground identified for water quality and landscaping of Round Fell hill top.
57014	Coupe lies to west of Pullaugh Burn; SS/LP matrix with additional NS, BL and open space for visual and species diversity along Pullaugh Burn.
57028	Coupe adjacent to Queens Way; SS and SS/LP matrix with open space and BL targeted to road corridor for visual diversity.

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### Appendix V. Roundfell Land Management Plan Brief

The main management objectives in this medium scale plan unit focus on core Water quality, Timber production and medium scale Landscape views (open hilltop and species diversity).

The block lies around 12.0km west of Newton Stewart, Dumfries and Galloway

Key Strategic Directions from Role of Scotland's National Estate	Local District Strategic Plan Priorities	Actions / Prescriptions
<b>Healthy:</b> good environmental and silvicultural condition in a changing climate	<ul style="list-style-type: none"> <li>• Commitment to high quality silviculture and increased use of alternatives to clearfell</li> <li>• Adapt to climate change and make woodlands more resilient to pressure</li> <li>• Deal with invasive species that threaten habitats and biodiversity</li> <li>• Stewardship of carbon resources in estate's trees and soils</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Increase</i> area of woodland managed under LISS particularly highly visible areas around along Queens Way A712 Newton Stewart to New Galloway road</li> <li>• <i>Improve</i> resilience through use of Alternatives to clearfell and smaller coupe size</li> <li>• <i>Increase</i> area of broadleaf woodland and <i>establish</i> a wider range of conifer and broadleaf species diversity</li> <li>• <i>Control</i> invasive species as per FES guidelines (specifically <i>R. ponticum</i>)</li> <li>• <i>Manage</i> watercourses within DP unit in keeping with UKWAS standards and Forest and Water guidelines to maintain and improve water quality within R Cree &amp; R Dee catchment (Loch Grannoch)</li> <li>•</li> </ul>
<b>Productive:</b> provide sustainable economic benefits from the land	<ul style="list-style-type: none"> <li>• Contribute to local economy</li> <li>• Expand area of productive broadleaf</li> <li>• Provide work in rural areas</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Meet</i> production forecast commitment through revised felling /thinning plan</li> <li>• <i>Implement</i> road maintenance programme required to service harvesting operations</li> <li>• <i>Increase</i> area of productive broadleaf</li> </ul>
<b>Treasured:</b> a multi-purpose resource that sustains livelihoods, improves quality of life and offers involvement and enjoyment	<ul style="list-style-type: none"> <li>• Involve and engage with local people / encourage partnership working</li> <li>• Place for research and development</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to <i>engage</i> with local community (drop-in meetings and other) within LMP process</li> <li>• In consultation with SNH <i>manage</i> adjacent Cairnsmore of Fleet SSSI according to agreed SSSI management plans to maintain / achieve favourable status</li> </ul>
<b>Accessible:</b>	<ul style="list-style-type: none"> <li>• Improve access</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to <i>work</i> with local communities</li> </ul>

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<p>woodland that welcome and are open for all</p>	<p>and enhance existing or invest in new facilities</p> <ul style="list-style-type: none"> <li>• Use for health benefits and outdoor learning</li> </ul>	<p>to ensure access and facilities are fit for purpose</p> <ul style="list-style-type: none"> <li>• <i>Retain and improve</i> access and views to existing nearby walking and cycle trail networks (Benniguinea viewpoint trail &amp; SUSTRANS), core recreation facilities (Raiders Road, Otter Pool, Clatteringshaws VC, artworks) and <i>provide</i> a varied and enjoyable “must see” aspect of woodland experience and destination for visitors and local communities</li> </ul>
<p><b>Cared for:</b> working with landscape and the natural and cultural heritage</p>	<ul style="list-style-type: none"> <li>• Expand / enhance area of Native woodland</li> <li>• Increase area of broadleaf cover</li> <li>• Landscape</li> <li>• Maintain open habitats in good ecological condition</li> <li>• Priority species conservation (Red Squirrel &amp; Black Grouse)</li> <li>• Safeguard heritage features</li> </ul>	<ul style="list-style-type: none"> <li>• No Native Woodland remnants present; <i>increase</i> area of Native Woodland planting within LMP area</li> <li>• Block is visually prominent from the A712 Queens Way; <i>maintain and enhance</i> medium scale landscape through additional species diversity, open space integrated management, revised coupe shapes to better suit landform and greater use of LISS</li> <li>• Core site (part of Fleet Basin Red Squirrel Stronghold site); <i>maintain and enhance</i> area for Red Squirrel (priority species)</li> <li>• <i>Enhance</i> habitats through creation of woodland fringe / open habitats adjacent to nearby lek and nesting areas for Black Grouse</li> <li>• <i>Manage</i> minor heritage features as per FES guidelines</li> </ul>
<p><b>Good value</b></p>	<ul style="list-style-type: none"> <li>• Seek diverse range of income streams</li> <li>• Reduce carbon emissions from business activities</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Limited</i> opportunities available</li> </ul>

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### ACHIEVED BY PLAN

#### HEALTHY

**Y** Committed to high quality silviculture and increasingly using alternatives to clearfell (LISS): [future LISS areas identified to northern end of plan](#)

**Y** Committed to dealing with invasive plants that threaten habitats and biodiversity: [active Grey Squirrel control and monitoring of American Signal crayfish is ongoing across the plan area](#)

**Y** Help the estate to adapt to climate change and become more resilient to pressure: [proactive control of DNB within block and operational Deer management plan in place](#)

#### PRODUCTIVE

**Y** Supply three million cubic metre of sustainable softwood: [LMP contributes modestly to the overall programme for the district](#)

**Y/N** Work with partners to find new ways to harness our natural and cultural heritage and develop the estate's potential for tourism: [not a core area for Recreational development](#)

**Y/N** Manage at least one quarter of our expanding broadleaf woodlands to produce quality hardwood and fuelwood: [increased BL restock is unlikely to be of a productive nature](#)

**Y/N** Support Scottish Governments woodland expansion programme: [block presents limited opportunities for woodland expansion](#)

**Y/N** Plan to increase the agricultural use of the estate where this is consistent with environmental objectives: [block presents limited opportunities for agricultural land use expansion](#)

#### TREASURED

**Y/N** Committed to more unique special places across the estate and delivering benefits to a more diverse range of Scotland's people: [the adjacent Loch Grannoch and Cairnmore of Fleet areas are of national interest, the LMP management will contribute towards their continued favourable condition](#)

**Y/N** Recognise the value of the Estate as a place for research and development of best practice: [opportunities potentially exist for further research regarding Artic Charr reintroduction into Loch Grannoch](#)

**Y/N** Continue to use the Estate as a place for volunteering and gaining employment skills: [limited opportunities within the block](#)

#### ACCESSIBLE

**Y/N** Invest available resources into high quality facilities that encourage and help visitors experience and enjoy the outdoor experience: [block presents limited opportunities for facility development](#)

**Y** Use estate for health benefits and outdoor learning: [block is infrequently used by local hillwalkers](#)

#### CARED FOR



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**Y/N** Restore 85% of areas on ASNW to native species: **block presents limited opportunities for development**

**Y** Increase BL tree cover from 8% woodland cover to 20%: **block will contribute modestly towards district's BL woodland cover expansion targets**

**Y** Committed to maintaining best open habitats in good ecological condition: **adjacent SSSI complex is a nationally rare open habitat, FES management of our section will ensure favourable condition is maintained**

**Y** Identify particularly vulnerable species for which the NFE is important and take specific conservation action (Black Grouse / Red Squirrel): **a Red Squirrel Stronghold site priority area, the block will be actively managed to promote the resident species population**

**Y** Safeguard archaeological sites through planning and management and recognise special places and features with local cultural meaning: **local heritage features will be managed accordingly**

### GOOD VALUE

**Y/N** Seek a range of income sources to underpin the cost of managing the Estate and look for ways to achieve best value in delivery of public benefits: **block presents limited opportunities for income from sources other than timber**

## Appendix VI: Assessment of felling and restock proposals within catchments at risk and failing

### RoundFell 571 catchment at risk / failing catchment

See below for base catchment area detail as at 26 January 2017. The total area for this catchment that includes Loch Grannoch and the Pullaugh and Cuttiemore Burns is 1992.5ha. The failing catchment straddles parts of several FES LMP areas including 843.9ha of the Round Fell LMP\*.

Open ground area (including open water)	235.2ha
Plantation area	608.7ha
Total catchment area (within Round Fell LMP)	843.9ha*
20% of catchment	168.8ha
30% of catchment	253.2ha

The felled area within the catchment in any 3 year period needs to be less than 20% of the catchment. The table below based on the planned coupe felling programme confirms that this is comfortably the case apart from period 2024-2026 when the figure although compliant is a fairly high 19.6%.

3yr Fell period	Currently proposed felled areas (ha)	Proposed fell area as % of catchment area
2018-20	<b>20.9</b>	2.5%
2019-21	<b>78.5</b>	9.3%
2020-22	<b>78.5</b>	9.3%
2021-23	<b>78.5</b>	9.3%
2022-24	<b>96.3</b>	11.4%
2023-25	<b>96.3</b>	11.4%

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2024-26	<b>96.3</b>	11.4%
2025-27	<b>49.4</b>	5.8%
2026-28	<b>96.0</b>	11.4%
2027-29	<b>165.4</b>	19.6%

The area of closed canopy conifer forest (age > 15years) needs to be less than 30% of catchment in 15 years' time i.e. 253.2ha. The table below confirms that under the current LMP proposals this is the case with the figure only around 25.8%.

In the table the proposed fell area for the next 15yrs within the catchment is subtracted from the current plantation area in the catchment to give a notional area of 217.3ha of plantation within the catchment over 15yrs age (assumes that felled areas will be restocked within 3yrs of felling subject to planned restock and Hylobius Management Support System).

Current plantation area within catchment	608.7ha
Proposed felled area between 2018 -2032 (15yrs)	391.4ha
Notional plantation area in 15yrs time > 15yrs age	<b>217.3ha</b>

## Appendix VII: The UK Forestry Standard, Forestry Commission Guidelines and the UK Woodland Assurance Scheme (UKWAS)

All of the operations in Round Fell plantation will be carried out in accordance with the UK Forestry Standard and its supporting publications. In particular the following documents are relevant:

- Forests and Water Guidelines (5<sup>th</sup> edition pending)
- Forest and Nature Conservation Guidelines
- Forest and Archaeology Guidelines
- Forest and Soil Guidelines
- Forest Practice Guide - Forest Design Planning
- Galloway FD Deadwood Management Policy
- Galloway FD Deer Management Strategy Plan

In line with Forest Enterprise policy, Galloway FD has undergone a management audit that is part of the process leading to certification under UKWAS. Membership of the scheme indicates that the District's forests and management practices have been found to be sustainable both in terms of silviculture and environmental impact. Membership of the scheme is conditional on periodic audit and consistent attainment of audit standards.

The Round Fell Land Management Plan will be included in this audit process.