# Inverness Ross and Skye Forest District Kinloch Hills and Broadford

Land Management Plan



Plan Reference No: 030/517/423

Plan Approval Date: 23/07/2019

Plan Expiry Date: 21/07/2029

Applicant Name: Ben Griffin

Address: Forestry Commission

Tower Road, Smithton, Inverness

IV2 7NL

Phone: 03000676017/ 07774926051

# **Contents**

Inv	verness Ross and Skye Forest District	1
	ch Hills and Broadford	
	nd Management Plan	
	ia ranagement ran	
	S	
	nary and Proposals	
	h Hills and Broadford Land Management Plan Aims	
1.0	Introduction	
1.1		
2.0	Background Information	7
2.1	The Forest	7
		g
2.2	Open Habitat	g
2.3	Geology, Soils, Climate and Slope Stability	9
2.4	Landscape	10
2.5	Surrounding land use	10
2.6	Community	10
2.7	Renewable Energy	10
2.8	Skye Electricity Transmission Upgrade	11
3.0	Key Features	11

3.1	Water	11
3.2	Priority Species	11
3.3	Priority Habitat	15
3.4	Designations	16
3.5	Heritage features	19
3.6	Access and Recreation – see Map 16 showing facilities	19
.0	Analysis and Concept	20
.0 Ma	anagement Proposals	20
5.1	Clearfelling and Restructuring	20
5.2	Thinning and Continuous Cover Systems	23
5.3	Native Woodland Management	23
5.4	Fell to recycle/ mulching	23
5.5	Future Habitat and Species	23
5.6	Open Habitat Management	24
5.7	Deadwood	25
5.8	Deer Management	25
5.10	O Recreation	25
5.11	1 Community	26
5.12	2 Heritage Management	26
5.13	3 Infrastructure (roads, quarries and bridges)	27
E 1/	1 Natural Hazards	27

### **Visions**

Kinloch Hills and Broadford provides an unrivalled opportunity to restore a wide variety of wild habitats from coastal edges to sub-alpine heathland. The open habitat and native woodland will be managed to enhance the SAC qualifying features and peatland restoration will be undertaken to expand the open habitat areas. Native woodland expansion will continue to meet carbon storage targets through a combination of planting, natural regeneration and deer control. Broadford and Kinloch Farm areas will continue to be managed for productive timber with PAWS management in Broadford West. Recreation access and facilities will be improved at Kylerhea, Leitir Fura and Broadford for both local community and tourists. Kinloch Hills and Broadford forest will provide an improved landscape as the back drop for tourists crossing the Skye bridge and from the popular National Scenic Areas of the Cullins and Glenelg.

# Summary and Proposals

This Land Management Plan (LMP) is a full renewal of the Kinloch Hills and Broadford Forest Design Plans. The land holding is approximately 333ha in Broadford, of which 70% is forest and 30% open ground, Kinloch Hills is 7388ha of which 31% is Forest and 69% is Open. The plan period will be 2018 to 2028. (See **Map 1 Location** for the LMP Boundary).

In addition to this area this plan includes Glen Varagill, a block of 1190ha of leased croft land. There is no forestry in this area and no plans for planting or felling. Maps 24-26 show the location, the management coupes and the restock map for this area.

We are proposing to undertake some **489ha** of clear felling within the plan period, focused around removing remaining stands in the Kyle Farm area and Broadford and removing stands that are at risk of windblow. A gross area of **589ha** will be restocked using standard planting, there will also be **363ha** established through natural regeneration.

### What's important?

- Deep peat habitats that have been planted with non-native conifers
- Sea level to sub-alpine habitats
- Wide variety of open habitats of wet and dry heathland and native woodland designated as a Special Area of Conservation (SAC)

- Important native woodland habitat supporting rare communities of bryophytes and lichens
- Backdrop to the two main access points on to Skye and highly popular Cuillin and Glenelg National Scenic Areas
- Highly used for recreation at Kylerhea, Leitir Fura and Broadford by tourists and local communities

# Kinloch Hills and Broadford Land Management Plan Aims

- **Timber production**: maintain timber production in Broadford and West Kinloch area.
- **Biodiversity:** restore peatland in Kyle farm area, increase native broadleaf cover in Leitir Fura area and remove non-native trees.
- **Resilience**: diversify the range of productive tree species and restructure even aged blocks.
- People: manage recreation facilities and trails in Kylerhea and Broadford area.
- Landscape: Improve the visual impact of the forest, especially the highly visible areas around Kinloch Hills

**Appendix 3 – The LMP brief** details how this plan will contribute towards the commitments of the IRS Forest District Strategic Plan.

Proposals for the future management of the forests in this plan area are made in accordance with all current industry best practice guidelines and have been prepared following full consultation with the relevant agencies, community representatives and external stakeholders. Operations arising from the approval of this plan will also comply with all current FCS guidance and any subsequent revisions published during the plan approval period.

# 1.0 Introduction

### 1.1 Strategic Policy

Kinloch Hills and Broadford Land Management Plan has been prepared in line with the UK Forestry Standard (2011), UKWAS guidelines (2012), the Scottish Forestry Strategy (2006) and Forest Enterprise Scotland Corporate Plan 2017-19 states the overall strategic plan for the National Forest Estate. The IRS Forest District Strategic Plan has been used to give local context to The National Corporate Plan and inform the plan brief (Appendix 3). Forest Enterprise Scotland's long term planning is aligned to Scottish Government Scotland Performs objectives and the Scottish Government Land Use Strategy.

The management of Forestry Commission Scotland's national forest estate is guided by The National Strategic Directions, which identifies six aspirations that the National Forest estate is:

- Healthy: achieving good environmental and Silvicultural condition in a changing climate
- Productive, providing sustainable economic benefits from the land.
- Treasured, as a multi-purpose resource that sustains livelihoods, improves quality of life and offers involvement and enjoyment.
- Accessible, local woodlands and national treasures that are well promoted, welcoming and open for all.
- Cared for, working with nature, respecting landscapes, natural and cultural heritage.
- Good Value, exemplary, efficient and effective delivery of public benefits.

Drawing on these key themes Inverness, Ross and Skye Forest District (IRSFD) prepared a three year <u>District Strategic Plan</u>. This plan establishes links with the <u>Forest Enterprise Scotland Corporate Plan</u> document and sets out the district vision, priorities and objectives under which IRSFD Land Management Plans will be prepared. The IRSFD Strategic Plan ensures that land management activities complement and enhance the local economic, social and ecological individuality of each design plan area.

The national commitments and district specific actions were used to develop the basis of this LMP and further details of this linkage are provided in Appendix 3 – LMP Brief. Integral to the Kinloch Hills and Broadford LMP is the district aspiration to make the National Forest Estate;

- Healthy: Adapting the National Forest Estate to climate change and build resilience to extreme weather events by diversifying structure and species and creating more windfirm stands.
- Productive: Continue to produce a sustainable supply of timber whilst retaining windfirm stands to maintain production at a constant level in to the future..
- Treasured: Investigate opportunities for partnership working with communities.
- Access: Help visitors to experience and enjoy the outdoor environment, encourage use of the estate for health benefits and outdoor learning.
- Cared for: Manage designated land to bring qualifying features into, or maintain, favourable ecological condition.

Appendix 1 – The forest planning framework in Scotland gives context to the purpose and scope of this Land Management Plan. In compliance with UKFS this is a strategic and indicative plan intended to state the objectives of management and how sustainable forest management will be achieved by signposting the relevant guidance and best practice and by spatially identifying management aspirations. This plan also provides a means to communicate our proposals to the neighbouring communities and stakeholders and serves as an agreed statement of intent against which progress can be measured.

Appendix 1 also illustrates the levels of operational plans that sit below, and are informed by this LMP. In compliance with UKFS the operational plans detail specific implementation including:

- Potential hazards to workers and forest users
- Operational detail specific to machine use
- Safeguards and mitigation measures to protect the immediate site and, by association, the wider forest
- Detail of post operations planning including the treatment of any waste materials identified.
- Contingency planning

Appendix 2 – Key policies and guidance details the external policy drivers for the proposals in this plan. Current industry and FC guidance will be complied with during any operations associated with this plan, including any subsequent guidance revisions published during the plan's ten year approval period.

Aim	Objective	Monitoring
Timber production: Focus timber production to sites that have good access and are well suited to commercial	Implementation of the LMP felling & restocking proposals, designed in liaison with the FCS landscape architect.	Implementation of the felling and future habitat and species proposals will be reviewed annually through the delivery of the harvesting and restocking programme and formally at year five & ten.
conifers, peatland guidance to be followed. Coupe size and sequencing will be designed	Where required, undertake fertiliser application on second rotation crops with productive potential suffering nutritional deficiency.	This will be delivered by the operations team; all crops showing signs of nutrient deficiency will be hand fertilized, specifically for phosphate.
to maintain production at a constant and sustainable level.	Manage the deer population at a level that allows successful establishment of restock crops.	Deer counting and nearest neighbour surveys will be undertaken to determine population numbers, assess impact on establishing trees and open habitat; this information in turn will be used to inform cull targets.  Stocking density assessment will be used to monitor successful establishment and levels of deer damage.
	Identify mature coupes that are windfirm where felling could be delayed in order to maintain the production forecast at a constant level in to the future.	An assessment of GALES will identify which stands are windfirm. These will be monitored by operations teams to ensure windblow does not reach unacceptable levels.  Where windblow levels are unacceptable the stand will be felled.
<b>Biodiversity:</b> Peatland that has been planted in the past will be restored in accordance with FES Peatland Guidance.	In the Kyle Farm area DNB infected Lodgepole pine stands will be removed. Where peat is greater than 50cm deep and Sitka spruce would not achieve Yield Class 8 there will not be any restocking and measures will be taken to restore to peatland habitat. Where the peat is drier due to topography and shallow peat then peat edge woodland will be established which is a mix of birch, willow, alder and aspen. See guidance and practice note for full details.	Where peatland restoration is undertaken it will be monitored for any natural regeneration. Where native broadleaves are regenerating these will be retained.
	Create a Minimum Intervention area in the Leitir Fura area. This will return this whole area to native broadleaved woodland through a mixture of restocking and natural regeneration.	Restocked areas and natural regeneration areas will be monitored using the natural regeneration monitoring survey.
	The SAC will be maintained as open to continue to be in favourable condition.	SNH site condition monitoring will be undertaken by SNH to ensure there is no decrease in the condition of the qualifying features.

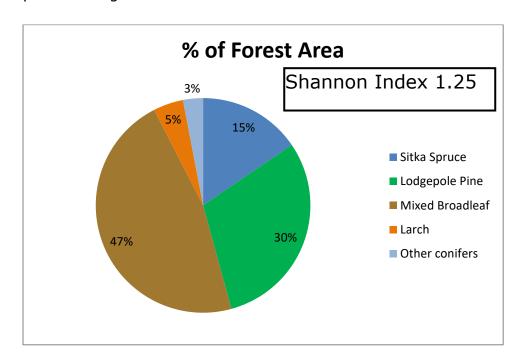
<b>Resilience</b> : diversify the range of productive tree species and restructure even aged blocks.	We will continue to remove the Lodgepole Pine from Kinloch hills to reduce the amount of DNB infected stands.  Lodgepole pine will only be used for restocking in mixture with spruce and only of Alaskan origin.	Lodgepole pine will continue to be monitored for DNB infection levels and this will be used to prioritise felling coupes
	Restocking species will be chosen to diversify the current species composition. Alternative conifers will be used where possible to reduce reliance on Sitka spruce whilst still maintaining high yielding timber stands, especially in the Broadford block. Natural regeneration of native broadleaves	The Shannon Index is a measure of diversity that can be applied to any collection of species. This will be calculated before and after the plan to monitor the species diversity.

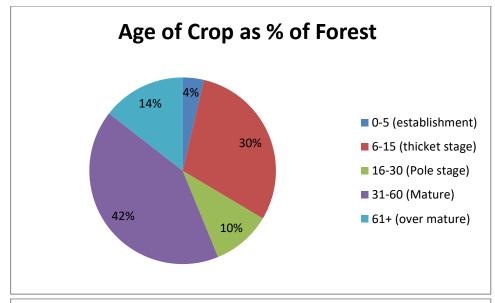
# 2.0 Background Information

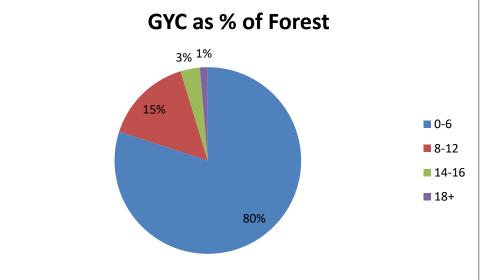
### 2.1 The Forest

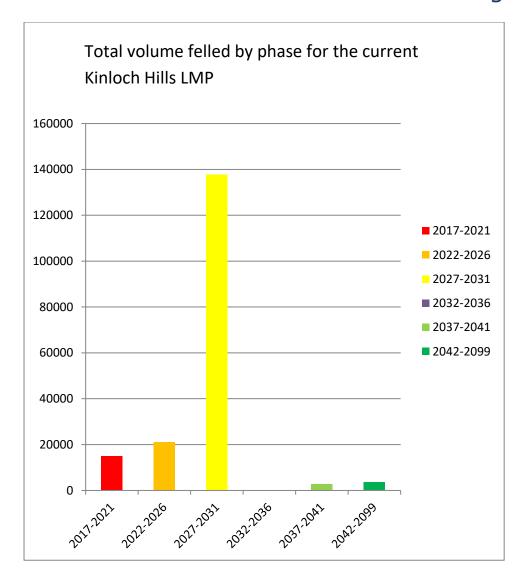
#### **Kinloch Hills**

The forest north of the Kylerhea road was purchased in 1960 from a single farm (Kyle Farm) the land holding south of the Kylerhea road was owned by Lord Macdonald until purchased by the Forestry Commission in 1960. This forest lies on the east coast of Skye. The total land holding is 7388ha of which 5060ha is open with only 1676ha of productive high forest and approximately 500ha of land that has been felled. The majority of productive conifers is in the north west of the block and are mostly Lodgepole pine (512ha) and Sitka spruce (261ha) planted in the 1970's. There are substantial areas (approx. 100ha) where trees have been planted on high elevation (over 330m) on poor ground and have subsequently failed. The Lodgepole pine has been heavily infected with Dothistroma Needle Blight and as such there has been substantial areas of felling in the north of the block. The majority of this area is on weakly flushed blanket bog and therefore according to FES Peatland Policy will not be re-planted and peatland restoration will be undertaken. Where the soil is drier on shallow peat there will be areas where peatland edge woodland will be established.







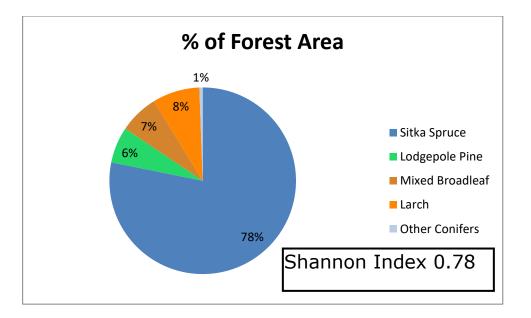


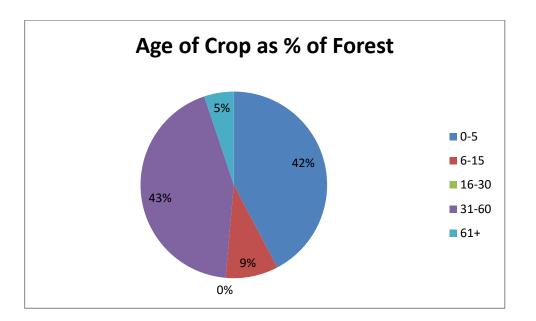
#### **Broadford**

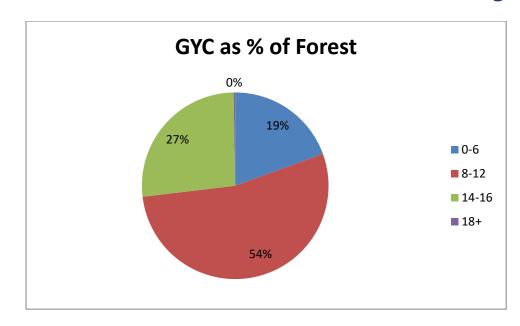
The forested area is 78% Sitka spruce with 6% Lodgepole pine mostly planted in pure stands. A large proportion of the west block is recently planted with open areas surrounding it. This was due to windblow being cleared from this block. The east block is mostly made up of Sitka spruce planted around 1970 and areas restocked in 2013 which are establishing well. An area of forest to the east of this was sold to the community in 2014. There is also an area of PAWS on the western edge of Broadford west which is an important native wet woodland.

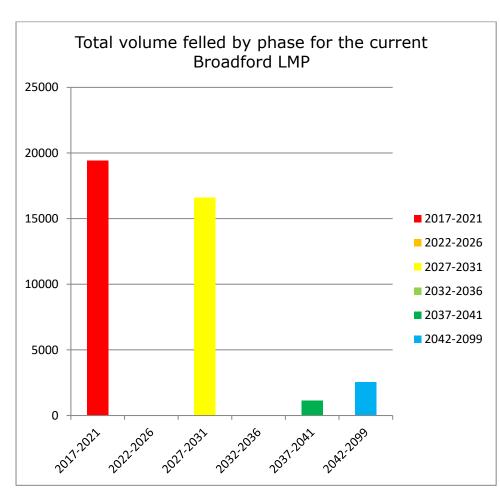
### Glen Varagill

This is a block of open croft land of 1190ha. This will remain open throughout the plan period.









### 2.2 Open Habitat

The central part of Kinloch Hills is a Special Area of Conservation (SAC) for the open habitats, native woodlands and associated lower plants and the population of Otter that are present, the extent of this is shown in **Map 2- Key Features**. The qualifying features are:

- Alpine and subalpine heaths
- Blanket Bog (Priority Habitat)
- Dry Heaths
- Mixed Woodland on base rich soils associated with rocky slopes- Lime and Acer forests on screes and ravines (Priority Habitat)
- Western Acidic Oak Woodland- Mature sessile oak woods with Holly and Hard Fern
- Wet heathland with cross-leaved heath
- Otter

All the above features are in a favourable condition apart from the western acidic oak woodland which is unfavourable and the wet heathland which is recovering. The Western Acidic Oak Woodland is threatened by invasive non-native species and by over grazing, the wet heathland is also threatened by over grazing by deer.

There is a single SSSI which is the Kinloch and Kyleakin Hills which includes 2 geological sites. These are Bealach Udal (NG75402089) and Loch na Dal (NG70491563) together they form the Torridonian sandstone feature for the site. The LMP does not propose any operations that could threaten the geological features of the SSSI.

Glen Varagill is 1190ha of open hill ground without any designations on it.

# 2.3 Geology, Soils, Climate and Slope Stability

#### **Kinloch Hills**

The underlying bedrock of the block is mostly sandstone and mudstone with conglomerate in the Leitir Fura area. The sedimentary rock has many small basalt and micro gabbro dykes intersecting on north west, south east alignment. They are less resistant to weathering than the sandstone and have therefore created the network of burns that drains from the central hills.

The climate roughly varies from warm, moist and sheltered on the coast line with cool and wet for the rest of the land but varying in exposure. The exposure varies from moderate on the hill slopes to severely exposed at an altitude of 520m with sub alpine climate towards the summits of the hills.

The soils are roughly upland brown earths close to the coastal areas and peaty surface water gleys on the hill slope with podzols on the higher hill ground over 500m. In the mid slope, flatter areas on the north and west areas of the block the soil is made up of weakly flushed blanket bog dominated by deer grass, cotton grass, and purple moor grass with unflushed blanket bog at higher elevations with a greater abundance of heather.

There are two areas of slope stability risk. It is of moderate to high risk on the north side of Kylerhea Glen above the public road which is the only land route to Kylerhea. The report commissioned by FES indicates this slope has had landslides in the past, up to 200m long as per the photo below. It was planted with broadleaves in 2006 but this has failed and is currently a bare hill side dominated by heather (Calluna spp), bracken and Molinia. Landslides from here have covered the road in the past. The report recommends establishing woodland cover to reduce the risk of landslides. In addition to this it is known that there have been 2 landslides in the Mudalach area.



Evidence of previous Landslides in Kylerhea Glen

#### **Broadford**

The soil in the east block is mostly podzolic with brown earths near the coast and some patches of gley. The west block is made up of brown earth in the south and unflushed blanket bog in the north. The climate is mostly warm and moist with increasing exposure with altitude. The east block is mostly sandstone and mudstone with 3 basalt, andesite and rhyolite extrusions. There is one area of slope instability in the south east of the block, this is however of low risk and as such the report indicate that no special recommendations are necessary. Half of this area is in a red coupe due to be felled in 2019 so it will be important to ensure culverts and drains are well managed during felling and restock operations. The west block is mostly a gabbro intrusion however in the north of this block there is dolomite (limestone with high magnesium content) which is visible as small crags and as such provides a rare type of limestone pavement.

### 2.4 Landscape

See Map 21- Landscape Character showing the different types of landscape in the plan area.

#### **Kinloch Hills**

There are 3 main hills in the block that run down to Loch Alsh and the Sound of Sleat. Because of this these slopes are highly visible from Kyle of Lochalsh, Balmacara and the Glenelg Peninsula. These are all highly popular tourist areas and Glenelg is also National Scenic Area (NSA). The panoramic photos (Appendix 16) show the view points from around the block. Map 18 shows the viewpoint locations.

#### **Broadford**

This block is 333ha and is split by the A87 road adjacent to Broadford village. The east side is on a small hill, the west side is on a gentle slope with an easterly aspect. It can be viewed from Broadford village and along the A87, is not highly visible but is within a highly used tourist area and can be viewed from the Cuillins National Scenic Area (NSA).

### 2.5 Surrounding land use

The surrounding land is mostly rough grazing for sheep and cattle; much of this ground is made up of peat and open water. Most of Kinloch Hills run down to the sea which is mostly rocky coastline with some shingle beaches. There is forest to the south of Kinloch Hills that is privately owned. This contains larch that had a positive infection identified of Phytophthora ramorum and is in close proximity to larch on the NFE. Across the main road from Broadford block is a forest called Old Corry which is managed by Scottish Woodlands, this is mainly Sitka spruce and Lodgepole pine and managed as a productive forest.

### 2.6 Community

The main communities that use the forest are Broadford village, Kyleakin, Kylerhea and the Sleat peninsula. Broadford community has a specific interest due to the land they purchased from FES in 2014 (check this date). The community company are managing this land as a campsite that will open in Spring 2018. As such they are keen to maintain a forest back drop to the campsite and retain the footpath that currently runs through Broadford block. The Sleat community also run a firewood business and in the past have been keen to purchase firewood from the Kinloch Hills block. The Kyleakin community use the local paths that are present in the Kyle Farm area. Kylerhea communities use the forest locally for recreation and for viewing wildlife from the hide.

In order to gain the opinions of the communities, 3 local meetings were held to discuss their thoughts- see the **Appendix 5 - Consultation Record** for details.

## 2.7 Renewable Energy

FCS run a residual renewable energy offer which closed in March 2014; this was to allow communities and the industry the opportunity to identify and develop planning proposals for potential small scale renewable energy schemes on the National Forest Estate.

The result of grid connection availability and on site surveys has resulted in only one proposed Run of River renewable energy scheme within the plan area being considered economically worthy of further development work.

This is on the Allt na Ghleannain water course in the Kinloch Hills (Kyle Farm) Forest block and is in early stages of environmental and economic assessment.

The proposed and ongoing upgrades to the National Grid on the west coast is likely to result in improved grid connection capacity on Skye bringing previously uneconomic proposals back into consideration at some point over the next 5-10 years.

Potential implications on forest design and management, as a result of renewable energy developments, will be addressed through the respective developers planning application and where required amendments to the Land Management plan.

Further information on the development of renewable energy schemes is provided via the link below;

http://scotland.forestry.gov.uk/managing/work-on-scotlands-national-forest-estate/renewable-energy

### 2.8 Skye Electricity Transmission Upgrade

Scottish and Southern Energy (SSE) will be upgrading the powerline that crosses the Kylerhea narrows and then continues along the coast at Mudalach. This is the main supply of electricity to Skye and the Western Isles and so is a crucially important supply to many homes, businesses, schools and hospitals. The proposed route for the new powerline goes along the current route to Mudalach at which point it will then skirt the coastline in the same orientation as the current line but will be located above the current tree line. SSE will require new access tracks through the Kylerhea Forest which may improve the access within this block.

# 3.0 Key Features

### 3.1 Water

The main rivers that have their catchment in the forest are given below. They are all in good condition. See **Map 9** of the river locations. There are no identified pressures to these waterbodies.

River Name	River Number	Overall Condition in 2016
Broadford	20709	Good
Abhainn Lusa	20710	Good
Abhainn Ceann Loch Eishort	20714	Good

Allt na Criopag	20711	Good
		1

There are two fresh water lochs in the Kyle farm area of the forest. These are known to provide good habitat for sand martin, greenshank and it is a known spawning area for toads and frogs.

**Map 7- Flood Risk** shows the flood risk areas. The potential areas of interest are listed below, section 5.14 provides details on the flood risk, infrastructure threatened and any possible measures that could be taken:

- 1. Glean na beiste
- 2. Allt Anavig
- 3. Broadford River
- 4. Kylerhea Glen
- 5. Abhainn Ceann Loch Eishort

### 3.2 Priority Species

There are many notable bird species in the area, many of which breed in the hills including ptarmigan, red throated diver, merlin, green shank, twite and hen harrier. The only population of black grouse on Skye was recorded at Kinloch until 2004. Native woodland restoration and appropriate management may improve the available habitat for this bird making re-colonisation possible. Currently expanding its range is the sea eagles and Kinloch supports golden eagles and sea eagles.



Map Lichen-Rhizocarpon geographicum found in Kyle Farm area

Red, roe and sika deer are present, as are small numbers of mountain hare and rabbit. An otter survey in 2002 confirmed a healthy population using 330 recorded sites. Perhaps the most remarkable species in Kinloch Hills is the wood ant (Formica aquilonia). This occurs at Mudalach and forms the only UK island population. Common lizard, slow worm and adders too are present, as are several species of dragonfly and 12 species of butterfly, including the now rare pearl bordered fritillary (Boloria Euphrosyne)- regularly recorded since 1980. The native woodlands support internationally important oceanic communities of bryophytes (especially at Mudalach) and lichens (especially at Leitir Fura). The importance of vascular plants, particularly associated with open ground, is also high with many plants of Kinloch Hills restricted to north-west Europe. At present, no formal monitoring of these species is carried out.

FCS Scottish Forestry Strategy - Special Focus Species and/or SNH – Species Action Framework relevant to this LMP area	Objective	Actions supported by LMP
White-tailed-eagle (also Annex I species)	Species present in LMP. Survey, monitor, protect.	As a result of White-tailed- eagle survey, record and protect breeding/roost sites. Continue monitoring program. Integrate White-tailed eagle nest Protection Management Plan as part of the future felling within this LMP to retain nest and trees around nest. Encourage roosting/breeding through the retention of suitable trees at appropriate location in consultation with neighboring land owners.
Hen Harrier (Also Annex I species)	Species present in LMP. Survey, monitor, protect.	As a result of coupe check surveys or other recordings during site visits, record of possible presence. If present, integrate protection of the species during forestry operations if necessary.
Black grouse	Past records within this LMP. Survey.	As a result of coupe check surveys or other recordings during site visits, record of possible presence.
Water Vole (also UKBAP Priority Species)	Species present in LMP. Survey and protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of the species during forestry operations if necessary. Areas where water voles is present will not be planted. Manage and enhance riparian margins to ensure the availability of wetland vegetation as sheltered habitats for the species.
UKBAP Priority species (The list is not exhaustive) relevant to this LMP area.	Objective	Actions supported by LMP
Pine Marten	Species present in the LMP. Record, protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of the species during forestry operations if necessary by protection of den and trees/stumps in which they breed. Retain ancient trees with holes.
Otter (also EPS)	Survey, Monitor for species. Protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of holts and of the species during woodland management where necessary. Manage riparian margins to provide wetland vegetation as sheltered habitats.
Bats (also EPS)(Soprano pipistrelle & Brown long-eared bat)	Survey, Monitor for species. Protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of breeding/roost sites and of the species during woodland management where necessary. Generally protect ancient trees which are potential for bat roosts.
Other UKBAP species relevant to this LMP area (the list is not exhaustive)	Objective	Actions supported by LMP
Other Bats (also EPS)	Survey, Monitor for species. Protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of breeding/roost sites and of the species by retaining deadwood zones during woodland management where necessary. Generally protect ancient trees which are potential for bat roosts.
Other protected Species	Objective	Actions supported by LMP
Sparrow hawk	Present in this LMP. Record, protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection of breeding sites as part of forest operations.
Adder	Present in this LMP. Record, protect.	As a result of coupe check surveys or other recordings during site visits, integrate protection as part of forest operations.
Wood kintsloch Hills and Broad	forræstenn Pin Belis LIMPfin Reloard; h 2019 protect.	Undertake surveys. As a result of coupe check surveys or other recordings during site visits, integrate protection as part of forest operations.

Table 4: Annex I, UKBAP Priority Habitats Supported by this LMP						
Habitat Priorities (EU Annex I and/or UKBAP Priority Habitats) relevant to this LMP area	Objective	Actions supported by LMP				
*Blanket bog	Survey and record to identify location and protect/restore.	Do not plant trees on deep peat, on active peat bogs or on areas of peat bog which can be restored as active. Undertake peat bog restoration where appropriate through removal of non-native trees, drain blocking to retain water within the site.				
Upland Wet & dry heath, alpine and subalpine heaths	Survey and record to identify location/extent and protect	Remove non-native trees from key representative wet and dry heath. Do not plant on those key areas representative of wet and dry heath. Deer control will reduce browsing pressure to improve the ground vegetation layer.				
*Mixed woodland on base rich soils,  Western acidic oak woodland.	Habitat protection and enhancement	Remove non-native trees. Retain native trees. Expand this habitat through encouraging natural regeneration within appropriate locations where seed sources are present. Deer control will reduce browsing pressure on natural regeneration.				
*Limestone pavement	Protect	Maintain opened a small area of Limestone pavement within Broadford forest. Remove encroaching vegetation within that area of the forest.				
Geology: Torridonian	Protect and keep geological exposures visible.	Remove encroaching vegetation from rock exposures.				
Coastal calcareous grassland and intertidal habitat.	Protect and enhance	Retain as open habitat and remove tree regeneration as necessary.				
Marshy grassland	Protect and enhance	Monitor. Retain as open habitat and remove tree regeneration as necessary.				
UK BAP Habitat (The list is not exhaustive)	Objective	Actions supported by LMP				
Semi-natural wet woodland/riparian native woodland	Habitat protection and enhancement	Remove non-native trees within wet woodland areas and along riparian water corridor. Retain native trees. Expand this habitat through encouraging natural regeneration and /or planting relevant native tree species within appropriate locations.				
PAWS	PAWS restoration.	Maintain a monitoring program. Complete the removal of non-native conifers from the PAWs areas.				
Other native woodland.	Protect, restore and enhance.	Remove non-native trees within native woodland. Monitor Ancient semi-natural woodland and natural regeneration of native trees on open/woodland areas. Encourage natural regeneration of native trees through deer management and where appropriate through the planting of native trees relevant to the qualified native woodland habitats. i.e BP project at Kinloch.				

### 3.3 Priority Habitat

Large parts of the sub-montane and montane "open hill" zone support good examples of oceanic heath and mire. They have altitudinal sequences of vegetation from coastline to summit that are in relatively natural condition, which gives them high conservation

significance. This is recognised through designation of all open ground as an SAC for blanket bog, wet, dry and boreal heath.

**Appendix 18** provides a designated sites plan indicating how we plan to manage the designated sites within the Kinloch hills area from 2018-2028.

# 3.4 Designations

Table 1: Designations, Conservation Objectives & Measures of Success					
Designations	SNH Site Code, name & Location	Qualifying Interest (s), Natural Feature (s), Special Qualities	Condition of feature & date monitored	Objective	Measure of Success
Special Area of Conservation (SAC)	8173 Kinloch & Kyleakin Hills, Highland	Alpine Heath	Unfavourable recovering 18	To avoid deterioration of the qualifying habitats thus ensuring that the integrity of the site is maintained in the	Maintain favourable condition status as identified in SNH Site Condition Monitoring.
		Blanket Bog	Favourable maintained 18	long term and the site makes an appropriate contribution	
		Bryophyte assemblage	Favourable declining 18	to achieving favourable conservation status for each	
		Lichen Assemblage	Unfavourable declining 18	of the qualifying features; in particular to ensure that the following are maintained in the long term: extent,	Monitor & measure the movement or native woodland regeneration on/off open land habitats of part of the SAC
		Otter	Favourable maintained 04	distribution, extent, structure and function of the habitat, processes supporting the habitat and species, distribution and viability of the population typical species in the long term as components of the habitat and no significant disturbance to the qualifying species.	Following monitoring results, conside to undertake protection work as appropriate such as the removal of the natural regeneration of non-native trees and/or non-native trees within the SAC.
		Subalpine dry heath	Favourable maintained 04		Species:
		Subalpine wet heath	Unfavourable recovering 04		Monitor otter population through informal monitoring by recording sightings and any breeding evidence collected during site checks. Underta species protection work as appropria and if necessary.
		Upland Oak Woodland	Partially recovering (2013)		
Site of Special Scientific Interest (SSSI)	8173 Kinloch & Kyleakin Hills, Highland	Torridonian geology	Favourable maintained (2001)	To keep the geological exposures at Bealach Udal and Kinloch clearly visible and accessible for the purposes of education and research.	To ensure that the geological exposures at Kinloch are clearly visible and accessible.
Special Area of Conservation (SAC)	8282 Kinloch & Kyleakin Hills (Monadh Chaol Acainn), Highland	Alpine and Subalpine heaths	Unfavourable recovering 18	To protect the site, maintain and where necessary enhance its feature	Maintain favourable condition status from SNH Site Condition Monitoring (SCM) by:
	,, 0	Blanket Bog	Favourable maintained 18		
		Dry Heaths	Favourable maintained 18		Maintain the extent and improve the condition of broad-leaved woodland and bryophyte and lichen assemblage through:
		Mixed woodland on base rich soils associated with rocky slopes	Unfavourable recovering 08		

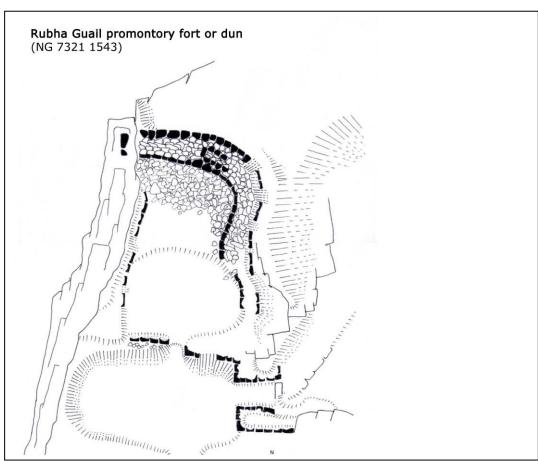
		Otter	Favourable maintained 04		Continuation of the native woodland restoration work through the monitoring and removal of the natural regeneration of non-native trees and/or non-native trees within the designated site. Monitor and removal of INNS all over the site.
		Western acidic oak woodland	Partially recovering 13		
		Wet heathland with cross leaved heath	Unfavourable recovering 14		Monitor grazing impacts and natural regeneration of native trees and implement deer management as necessary.
					Monitor and encourage dead wood within the designated site.
Special Area of Conservation (SAC)	8309.Loch Duich, Long and Alsh Reefs	Reefs	Unfavourable declining (2004)	To avoid deterioration of the qualifying habitat, thus that the integrity of the site is maintained in the long term and contributes to achieve favourable conservation status for the qualifying features.	Measures implemented during any of our forestry operations to ensure that no direct or indirect pollution result from our forestry operations and reach the SAC.
				To ensure that for the qualifying habitat the extent, distribution structure, function and processes are maintained.	
				To ensure that the distribution, viability of typical species as components of the habitat is maintained in the long term and that there is no significant disturbance of these species.	
Nature Conservation Marine Protected Area (MPA)	10416. Lochs Duich, Long and Alsh	Burrowed mud	N/A	N/A	Measures implemented during any of our forestry operations to ensure that no direct or indirect pollution result from our forestry operations and reach the SAC.
Candidate Special Conservation Area (SAC)	10508. Inner Hebrides and the Minches	Flame shell beds	N/A	Submitted to European Commission as cSAC: 15/09/2016.	Measures implemented during any of our forestry operations to ensure that no direct or indirect pollution result from our forestry operations and reach the SAC.
		Burrowed mud Harbour porpoise			

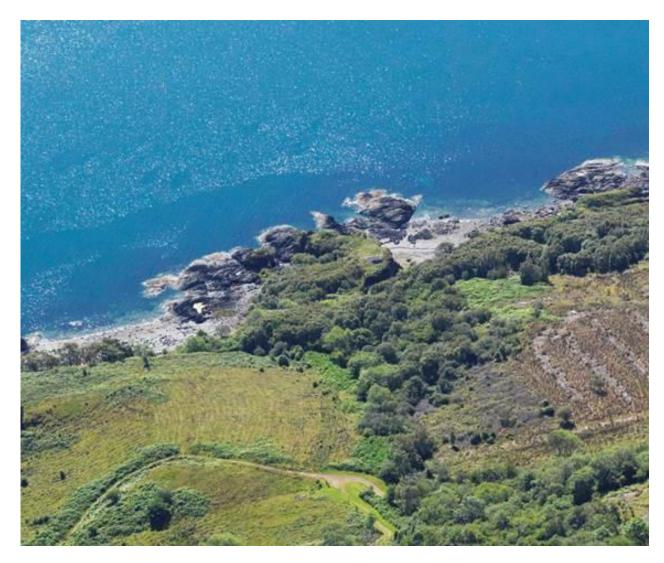
Special Protection Area (SPA)	8610 Cuillins, Highland	(Phocoena phocoena) Breeding population of the Annex I species golden eagle*. At time of designation (2002), all of the SPA supported 1.9% of the GB population. This population has a high breeding productivity for the west coast of Scotland and is one of the highest density populations in Britain.	Favourable maintained August 2006	To avoid deterioration or significant disturbance to the qualifying species thus ensuring that the integrity of the site is maintained and that the population of the species is maintained as a viable component of the site. To ensure that the distribution, the extent, the structure, function and processes of habitat supporting the species are maintained in the long term.	Species: Monitor golden eagle population through informal monitoring by recording sightings and any breeding evidence collected during site checks. Undertake species protection work as appropriate and if necessary.
Site of Special Scientific Interest (SSSI)	1389 Rubh' an Eireannaich		Favourable, 2008	To maintain the favourable Condition of the Tertiary Igneous feature.	Avoid any indirect impact which could cause deterioration to the existing rock exposures.
National Scenic Area (NSA)	9153 The Cuillin Hills	Magnificent mountain scenery & most challenging mountains in Scotland, contrast & complement between Black & red Cuillin, wild landscape, crofting townships & dramatic backdrops, Land mark: Cuillin ridge, a place of inspiration.  Geological: Tertiary Igneous	N/A	The protection of the landscape character and of the visual from inappropriate land use or development.	The LMP conforms to good landscape design principles.

### 3.5 Heritage features

The area contains two very well preserved examples of deserted townships, the footings of buildings abandoned in the 18th and / or 19th centuries: Runicaleach (NG 790229) and Leitir Fura (NG 731 158). An old drove road connects Leitir Fura to Kylerhea. Both townships have been the subject of recent archaeological measured surveys, recording the built historic environment and informing conservation management. A promontory fort or dun is situated on a rocky knoll at Rubha Guail (NG 732 154); this was recorded by archaeological measured survey in 2010 and may prove to be a site of real significance. The thick drystone walls suggest construction in the Iron Age, although the style of the entrance and the internal courtyards may indicate that the site was refortified in the medieval period. The photo below shows Rubha Guail with the rock wall visible.

FES Strategic Directions lay out our priorities in terms of integrated land management. The key priorities for archaeology and the historic environment are to undertake conservation management, condition monitoring and archaeological recording at significant historic assets; to work with stakeholders to develop, share and promote bestpractice historic environment conservation management; and to use the Estate as a place for research and the development of best practice.





### 3.6 Access and Recreation – see Map 16 showing facilities

Broadford East forest is well used by the local community for walking and cycling. The loop path that leads through the forest is very popular with locals and visitors as is the car park at the north end and the access to the beach. This area will become more popular once the campsite has been established at Broadford. Broadford West block is not used for recreation as there is no parking and no paths within it. Leitir Fura area is well used by locals and visitors; there are interpretation panels at the car park and the Leitir Fura site. There is a path that starts near the car park and continues along the coast to Kylerhea Glen. This is known as the Drove road. It is a rough path along most of its length however it is very hard to follow and some sections have become overgrown with natural regeneration. The Kylerhea car park has recently been increased in size to allow 25 vehicles to park here. It is very popular with visitors as it is close to the Glenelg Ferry and has attractive views over the Kylerhea narrows. There is an RSPB hide at the car park and 800m along the forest road there are toilets and a wildlife viewing hide owned by FES. These are well used by visitors for viewing otters, seals and sea eagles. The Kyle Farm

area has waymarked loop paths from Kyleakin. The paths are well used by local people as they give good views north and northwest. These paths were initially set up as mountain bike trails, however all mountain bike features have since been removed and they are now simply marked as walking paths.

The maximum volume of felling in exceptional circumstances covered by this approval is 40 cubic metres per Land Management Plan per calendar year.

A record of the volume felled in this way will be maintained and will be considered during the five year Land Management Plan review.

# 4.0 Analysis and Concept

The analysis and concept map is a culmination of the analysis of the key features within the plan area, identified on the Key Features map (Map 2) and displayed spatially on the Analysis and Concept map (Map 3). The analysis has been considered with a focus on delivering IRS Forest District commitments towards the six key themes of Scotland's National Forest Estate and strategic directions 2013 – 2016 and fulfilling the Plan Brief.

# 5.0 Management Proposals

All of the operational management proposals are illustrated on **Map 5: Management**. The felling and restock approval maps Map 22 & 23 provide a simplified spatial reference to all felling and establishment within the ten year period and reference **Appendix 7**: Summary of activities. See Appendix 14 for visualisations showing future felling and restocking from selected viewpoints.

### **Felling of Trees in Exceptional Circumstances**

FLS will normally seek to map and identify all planned tree felling in advance through the LMP process.

However, there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for a separate felling permission due to the risks or impacts of delaying the felling.

Felling permission is therefore sought for the LMP approval period to cover the following circumstances:

Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below\*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.

\*Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.

### 5.1 Clearfelling and Restructuring

#### **Broadford**

As the forest has been restructured it has created brown edges in the forest and therefore windblow has started. The felling coupes indicated in Map 5- Management prioritise the coupes that show more windblow in order to harvest the stand before further wind damage occurs.

#### **Kinloch Hills:**

**Kyle Farm** Over 300ha of Kyle Farm have been felled due to DNB infection. The remaining stands to be harvested have variable stocking and yield and therefore some areas do not provide enough brash and material for machines to maintain floatation when harvesting these stands, as such the trees at the highest elevation will require to be felled to recycle (FTR) or mulched. Mulching would be preferable to create an ideal seed bed for trees to regenerate. However it should be noted that in areas that FTR has been undertaken near Mudalach the brash left on site has created good protection from deer browsing and allowed trees to grow above deer damage heights as shown in the photo below. The areas in Kyle Farm that have harvestable volume have been phased for felling as shown in Map 5- Management.

**Kylerhea** There is no access on the Kylerhea glen road for timber wagons, because of this all timber harvested in this area would need to be extracted by barge, mulched or left on site. The only place where barges can moor up is on the north point of Kylerhea and at the moment there is no forest road to this point. The north part of Kylerhea was felled to recycle because access was not possible to extract the timber. Scottish and Southern Electricity (SSE) are planning to upgrade the powerline that crosses the Kylerhea narrows and then above the coast at Mudalach. If SSE require access here it is planned that a forest road could be built that extends the current. This area has been phased as a single coupe in the orange phase (2022/23) area to take advantage of a single operation that requires barge access and by this time SSE should have completed all works in this area.

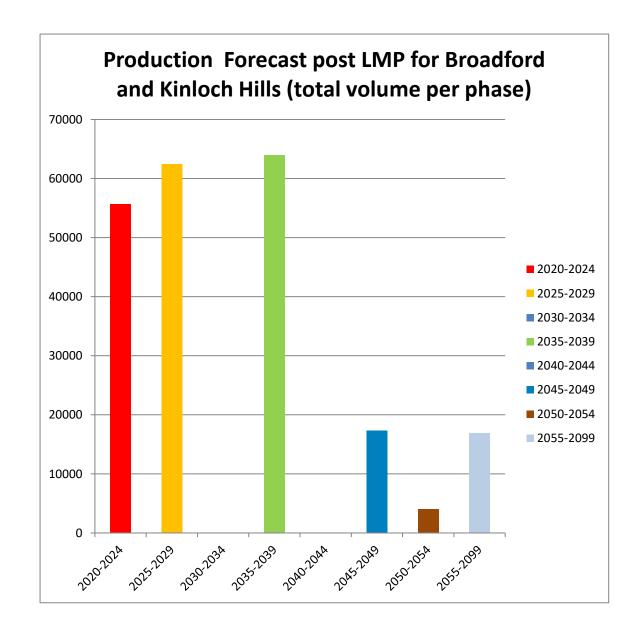


Kinloch Farm/ Leitir Fura The Leitir Fura face has been successively felled and the final coupe was felled in 2016/17 (as shown in the photos below). There has been a known infection of Phytophthora ramorum on private ground less than 2Km away and as such it is high priority to remove larch in the Kinloch Farm area and extract it. This area is dissected by steep gorges that have created windfirm coupe boundaries. The coupes shown on **Map 5- Management** indicate the sequence of felling in order to remove larch in the next 3 phases of felling.



Pouring Foundations for the wildlife hide in Kylerhea in 1983 before the hillside was planted. The pylons can be seen in the background.





# 5.2 Thinning and Continuous Cover Systems

**Map 14- Wind Risk** shows the risk of windthrow in Kinloch Hills and Broadford. The majority of the forested areas have a DAMS score greater than 16; this is the threshold above which it is generally too risky to thin a stand. As such there is no thinning or continuous cover systems planned for Kinloch Hills and Broadford. Broadford has the lowest DAMS and as such may present an opportunity for some thinning in the future, however the unthinned stands are already showing signs of windthrow and as such it would be too late in the rotation to consider thinning these stands within the current plan period.

### 5.3 Native Woodland Management

As can be seen from **Map 6a and b - Future Habitat and Species** the majority of Kinloch Hills will be returned to native broadleaves. This is for the following reasons:

- On peatland sites that will not allow Sitka spruce to grow at yield class 8 or above it is FES policy to restore the peatland habitat. On peat where it is possible to achieve yield class 8 or more for Sitka spruce we will plant peat edge woodland (PEW) using native broadleaf species (Kyle Farm). PEW will be planted with at least 50% of the area in groups of approximately 500 stems per hectare. Map 17 shows the areas that will be restored to peatland and PEW based on ESC analysis of soil and climate.
- On PAWS we plan to remove non-native tree species and restock with native broadleaves via natural regeneration where there is a seed source and planting when no seed source exists (Leitir Fura face and Mudalach).
- Where areas are inaccessible to harvesting machinery or timber wagons it makes harvesting and extraction exclusively expensive so planting native broadleaves with a minimum intervention management is the best option (Kylerhea).
- Mixed native broadleaves are good at providing stability to slopes that are prone to landslide (Kylerhea Glen).

### 5.4 Fell to recycle/ mulching

Within the Kyle farm area there are large areas of Sitka spruce and Lodgepole pine planted on deep peat. Where this planting was undertaken at higher altitude there has been poor success resulting in low yield and stocking. This means that there is not enough volume to be harvested and there is not enough brash to support harvesting machinery. As such the only way to deal with these sites is felling to recycle (FTR- where cut trees are left on site) or mulching (where a machine will mulch the trees so a layer of chip is left on site). The sites will then either be restored to peatland or will be monitored for natural regeneration or where no seed source exists native broadleaves will be planted in groups to encourage regeneration from these trees. On sites where FTR has been used there has been good success for restocking where the remaining brash from the previous stand has provided good protection of the trees from deer browsing. There are also areas at higher altitude in the Kylerhea area where there has been limited success in establishing trees, these areas will be harvested and extracted where possible and FTR or mulching will be undertaken where the crop will not provide enough brash for floatation. These areas will then be restocked with native broadleaves through restocking and natural regeneration.

### 5.5 Future Habitat and Species

The future habitat and species proposals are shown spatially on **Map 6a and 6b: Future habitat & Species** and summarised in the chart below. The majority of the Kinloch hills area is to return to native woodland through natural regeneration and planting of broadleaved trees. The choice of species will depend upon the site and soil type and will be based around the prescriptions given in **Appendices 10 and 11: Management** 

**Prescriptions on the NFE.** Kyle farm area is mostly made up of deep peat and as per the FCS peatland quidance will not be restocked where Sitka spruce will achieve yield class less than 8. On the drier areas there will be peat edge woodland established which will be planted in groups with trees spaced approximately 1.5m, not less than 500 stems per hectare and will be a mixture of native broadleaf species.

The Leitir Fura face will be restocked with native broadleaf species. Where there is a seed source this will be via natural regeneration which will be monitored every 3 years. Where natural regeneration is not establishing then planting of groups will be undertaken. These will provide a seed source from so natural regeneration can become established.

The productive areas in the plan are the Kinloch Farm area and Broadford. Kinloch farm provides good soils and good access and so lends itself well to be maintained as productive conifers. The current stands here are showing good yield of Sitka spruce and larch and as such will restocked with Sitka spruce mainly with softer conifers on the lower slopes. The steep ground here and the exposure will not allow thinning so this area will not be thinned. Broadford forest provides more sheltered and accessible stands and so this will be restocked with productive conifers. The species for this will be chosen using the prescriptions in Appendices 10 and 11: Management **Prescriptions on the NFE.** The sheltered nature and good access in Broadford allows thinning of these stands therefore resilient mixtures will be planted here such as Sitka spruce / pacific silver fir. This will provide a stand that can be thinned in the future to favour either species, this reduces the risk of pest or pathogen problems and can improve the yield class when compared with a single species stand. The north part of Broadford West contains remnants of PAWS and access is not good in to this area, because of this, this area will be restocked with native broadleaves and managed as Minimum Intervention. The areas of PAWS will be restored to a native woodland through natural regeneration or the planting of native trees to reflect the neighbouring native woodlands.

#### **Scottish Forestry Alliance (SFA) Project**

In 2001-2008 FES received funding to establish 486ha of new native woodland for carbon storage. Map 8- SFA proposals shows the areas that were planted as part of this project. The success of the planting across all these areas has been variable, some areas established well and some areas have failed. Over the plan period failed areas will be restocked through planting. All sites will be monitored until they are above deer browsing height and stocked with at least 1300 stems per hectare. As per FCS peatland quidance, areas of deep peat will not be planted.

### 5.6 Open Habitat Management

Map 17 - Potential Peatland Restoration shows where the main areas of peatland where trees have been established in the past. These areas have potential for peatland restoration. Kyle farm has approx. 400ha of peatland which is composed of wet heath, dry heath and blanket bog. This will be restored to peatland by removing non-native tree species and blocking drains, this will re-wet the site and create functioning blanket bog habitat. Where dry heaths exist and are favourable for tree establishment peat edge woodland will be established which will be planted in groups with trees spaced at approximately 1.5m and not less than 500 stems per hectare and will be a mixture of native broadleaf species.

The potential restoration areas are designed to re-create coherent open habitats that will function as peatland habitats in scale, quality, and connectivity to designated features of the neighbouring SAC. The restoration areas will also reduce threats to neighbouring priority areas (fulfilling our biodiversity duty). As a result, the carbon store of the peatland will be stabilised (after its modification and drainage during afforestation), and conditions created that will provide carbon maximise the carbon sequestration potential of the sites.

This proposal complies with FCS Guidance on restoring peatlands. They are also mentioned in the FCS guide (Deciding future management options on afforested deep peatland", as areas called "presumption to restore". This proposal complies with Scottish Government control of woodland removal policy, because the habitats restored will be priority habitats, requiring no compensatory planting to offset the deforestation.

The areas shown on the map are gross areas. There are small areas within them that are shallow peat, and will have low density native woodland established to diversify the mosaic of habitats found on this area. It is expected that up to 10% of the gross area may be planted with native woodland micro-sited carefully so as not to compromise the integrity of the peatland asset.

The SAC in the centre of Kinloch Hills will be maintained as open ground. SNH will continue to undertake site condition monitoring of the SAC to ensure it remains in favourable condition. The plan for the open habitat management is detailed in Appendix 18-Designated sites plan 2018-28.

Broadford forest has two important open habitats these are the limestone dominated habitat on the western edge of Broadford West which provides a habitat for flora specific to base rich soils, the second site is a reed bed on the East side of the A87. This is a very rare wetland habitat and as such will be maintained open. There is willow regenerating in this area which is a valid component of this habitat. Along the riparian corridors, there are also important wetland habitats to be extended. Within these riparian corridors

non-native trees will be removed.

Map 8- SFA proposals shows the areas where non-native conifers were FTR to restore important open habitats as part of the SFA Project.

Glen Varagill will not have any work undertaken on it. It is leased to crofting tenants who manage it for rough grazing of cattle and sheep.

### 5.7 Deadwood

A third of forest-dwelling species rely on dead or dying trees, logs, and branches for their survival (WWF, 2004). It is therefore of upmost importance for the conservation of bio-diversity that there is ample provision of deadwood habitat through our management. It is also acknowledged that enhancing deadwood provision is one the most cost effective ways to increase species richness on the National Forest Estate (Kortland, 2014)

The management of deadwood within the Land Management Plan area will be undertaken using the principles contained in the Appendix 12 Deadwood Management, Summary Guidance for FES (Kortland, 2014). Following a desk based analysis deadwood ecological potential (DEP) classes have been assigned to the Land Management Plan area as shown on Map 13: Deadwood Ecological Potential.

The deadwood prescription for harvesting operations will be tailored to each site based on the areas DEP classification through the work plan process. This provides a flexible and more valuable way to meet the UKWAS target of an average of 20m3 per hectare over the total forested area.

New riparian zones will be created and existing areas expanded. These areas will be managed using Minimum Intervention so that mature trees will die and produce a deadwood resource. Maintaining these across the forest provides a network of deadwood habitat throughout the forest.

### 5.8 Deer Management

Site condition monitoring undertaken by SNH in 2009 indicated that some qualifying features of the SAC were in unfavourable condition due to deer browsing pressures. Deer population assessments were undertaken in 2012 and they concluded the deer population is too high and cull figures needed to increase to over 250 / year to reduce the deer density to the required 5 animals per 1km<sup>2</sup>. Map 19 – Deer Management shows the cull data and the main issues with deer management in Kinloch Hills.

Kinloch Hills and Broadford forest does not have external deer fences so there is free movement from surrounding land in and out of these blocks. Kinloch Hills and Broadford are part of the Sleat Deer management group there are no agreements with neighbours regarding deer management.

### 5.10 Recreation

The recreation provision within this area falls mainly into two categories: wildlife viewing and forest walks.

### Wildlife viewing:

In Kylerhea there has been an FCS wildlife viewing facility (hide) in place since the early 1980's, along with an associated toilet block. This has been developed and added to over the years; with the upgrading and enlargement of the car park taking place in 2017 to accommodate larger visitor numbers and limited space. There are plans to modernise and upgrade the toilet provision here.

The presence of Otters in this area was the initial spur for the development of a hide, but the presence of many other species of aquatic wildlife using this stretch of water ensured that the interest broadened as more visitors saw what was there. Cetaeceans (Porpoise, Dolphin and occasional Whales) are to be seen here as well as large numbers of several species of seals.

In recent years, with the reappearance of Sea Eagles, regularly seen fishing in the stretch of water below the Kylerhea site, RSPB has erected a hide adjacent to the car park for viewing them. This has been open and manned between Easter and Autumn break (normally October) and has had significant visitor numbers in recent years (4,500 visitors in 2016, 3,700 in 2017). This is an ongoing developing relationship between the FCS and RSPB to improve wildlife viewing facilities in the area for local enthusiasts and for tourists. As it is manned by experienced RSPB staff, this has enhanced the wildlife viewing experience for visitors to this location.

#### Walking:

All three main forest blocks; at Kyleakin, Broadford and Kinloch have footpath networks. These are featured in FCS publications; "The Kyleakin and Kinloch Hills" and "The Isle of Skye" which are available at many tourist locations and in distribution boxes at local sites.

There is a link on the FCS website to publications available on walks: http://scotland.forestry.gov.uk/visit/kyleakin

Broadford forest has a car park and loop walk: going from Skinidin car park in a loop to the sea, round past the village and returning to the car park via the old A87. Broadford Forest walks were developed in partnership with Broadford and Strath Community Company. The main loop path is intended to compliment the campsite and classrooms which BSCC are developing in their adjoining NFLS area.

In 2013 the path network was completed, FCS worked in conjunction with HC Access Officer and Skye Disabled Ramblers to upgrade the path to a standard which would allow

the use of disabled buggies; which are available locally at the HC hub in Broadford. We continue to have a dialogue with BSCC regarding the development of recreation facilities

FES plans to improve the "Barge Site" and to provide a bench and picnic area at this location.

Kyle Farm Forest has the Hill of the Fox path network. This is adjacent to the village of Kyleakin, which is a popular tourist destination. The path network has the Cnoc and the Anavig trails which provide paths to panoramic views over the Inner Sound; to Scalpay, Raasay, Rona, North Skye and Applecross. The network links to the forest road network for walkers wishing to explore more extensively.

Kinloch Forest has a long path network, going from a car park at Kinloch out to the abandoned village of Leitirfura. This is complemented by the forest road to form a long loop path and a short loop path from the car park. This provides good views over the Sound of Sleat, Loch Hourn and Knoydart, over to Mallaig and out to Ardnamurchan and the Small Isles. This walk network is popular with local users as well as summer visitors. There are orientation and information boards in the car park to inform and direct tourists.

There is a historical drove route: "the Drove Road" (not waymarked or maintained) which runs between Kinloch and Kylerhea. This is a historical cattle droving route: detailed in the well known book by A. Haldane"The Drove Roads of Scotland" 1952 ISBN:9781841586953 . It is listed in Heritage Paths <a href="http://www.heritagepaths.co.uk/pathdetails.php?path=321">http://www.heritagepaths.co.uk/pathdetails.php?path=321</a> and several other walks publications.

The route is also recorded in the Highland Council Historical Environment Record: (HER:

http://her.highland.gov.uk/hbsmrgatewayhighland/DataFiles/LibraryLinkFiles/185770.pdf

At its heyday between 5000 and 8000 black cattle were driven along this route from Sleat to Kylerhea annually, to be swum across to the mainland, and thus avoiding ferrying costs. The path was

unpaved and mostly open hill with few formal features (stone culverts and levelled crossing places at streams). It is currently not waymarked. It has a rough surface and is hard to find in places. As regeneration of the forest on the hillside there takes place, trees are starting to obscure that route and we intend to mark the line of the route (with posts) as required, to stop walkers getting lost or the path course widening and "wandering" around the original line. This will take place as required; as regeneration encroaches upon the line of the route.

### 5.11 Community

Within this catchment area FES have good communication links with Kyleakin and Kylerhea Community Council and with Broadford and Strath Community Council.

There are several other community interests in this area:

Broadford and Strath Community Company <a href="https://www.broadfordandstrath.org/">https://www.broadfordandstrath.org/</a> We have developed recreation facilities around Broadford in partnership with BSCC. There is a campsite being built on the site that Forestry Commission Scotland disposed of to the community under the National Forest Land Scheme. This site should be open for campervans in 2018 and fully open for all camping in 2019.

A loop path network has been constructed under FCS supervision, linking the village and campsite with the cemetery and the Skianidin bay. This offers great views over the Inner Sound, Scalpay and the other islands of the area. This was constructed with input from Skye and Lochalsh Disabled Ramblers group

(http://www.spanglefish.com/skyeandlochalshdisabledramblers/onholidayjustvisiting.asp) and Highland Council Access Officer (Donald Kennedy) as well as representatives of BSCC in order to offer access to less mobile people. Motorised buggies are available at HC offices in Broadford.

FCS attended BSCC planning exercises in Broadford, and continues to develop our plans for the recreational use of our forest in conjunction with these other parties.

Broadford and Strath Community Company are establishing a new outdoor learning centre to provide outdoor after-school, nursery and school holiday child care in the Broadford Community Woodland. The centre will care for and educate children following the Curriculum for Excellence, incorporating learning in an outdoor environment where free play, fresh air, fun, exposure to the natural world and physical activity are an integral part of learning. The aim is to address the increasing disconnect between children and nature through the provision of inspiring learning opportunities in the natural environment. Key to this project is collaboration between the community company, local schools, clubs, children's organisations, businesses and of course Forestry Commission Scotland.

Kyle and Lochalsh Community Trust ( <a href="http://www.kyleandlochalsh.org.uk/">http://www.kyleandlochalsh.org.uk/</a> ) border on this area and look across onto Kyle Farm forest block (Kyleakin). We have had no recent contact from KLCT regarding Kinloch Hills forests.

FCS now leases out the island between Kyle of Lochalsh and Kyleakin (Eilean Ban) to the Eilean Ban Trust: <a href="http://eileanban.org/">http://eileanban.org/</a> . This is on a long term lease. The lighthouse keepers building is used as a museum to Gavin Maxwell, and a holiday let; which funds the development and workings of the island. This building had been the home of Maxwell for the last years of his life in 1968/9. The lighthouse is a Stevenson Lighthouse and is still the property of, and run by, the Northern Lighthouse Board.

## 5.12 Heritage Management

Eilean Ban: The old lighthouse (Stevensons') is still the property of the Northern Lighthouse Board. The lighthouse keepers buildings are now leased by FCS to Eilean Ban

rust and are used as a museum to Gavin Maxwell, and as a holiday let through Eilean Ban Trust (http://eileanban.org/).

Drove Road: This route which was used by drovers over centuries to take cattle from Sleat and further afield on Skye, over to Kylerhea, to be swum to the mainland at Glenelg. This route has been surveyed, and archaeological features identified and recorded. As yet the route is not waymarked, but this is likely to become necessary as regeneration of native woodland along this route develops and infringes onto the route.

Ruanacallich: This township, located on the point between the straits at Kylerhea and Kyleakin village has been surveyed and recorded. The report of the survey is in Appendix 15.

### 5.13 Infrastructure (roads, quarries and bridges)

SSE are planning to upgrade the powerlines that currently pass through the Kylerhea area. Depending upon the working method they may require further roads for access with machines and materials. These roads will be agreed once the complete plan for the upgrade has been decided upon. SSE are also planning to continue this new powerline through Broadford West, it would be FES's preference that SSE took the new powerline along the edge of the existing boundary to avoid cutting down established restock from 2004. The powerline upgrade is expected to start by 2020.

Broadford East has a good network of roads that are in good condition. As such there are no new roads planned in this block. There will however be road upgrades required following harvesting. Road stone will be sourced from the existing quarry in Broadford (NG62842585) which will need to be extended.

Kyle farm has a good road network currently so no new roads are planned. There will however need to be road upgrades following harvesting. The current quarry at NG71582477 has been re-instated so a new guarry will need to be opened up at NG72722536 to provide enough stone for this. A bridge will be installed at NG73592554 in the hill of the fox coupe to allow quad access and public pedestrian access.

The harvesting of the red coupe at Kinloch Farm will require an extension of the existing stacking area and will require a bridge to be put in place to cross the Allt an Damhain. This has been used for a crossing in the past and as such the bridge abutments are in place. This stone can be accessed by extending the current cutting at Kinloch Farm (NG69741751). There will be a new road required to access this timber see Map 20-Planned Road Kinloch Farm.

### 5.14 Natural Hazards

The north side of Kylerhea Glen has had landslides in the past that have blocked the road (see section 2.3). The report (**Appendix 13**) indicates this is a high risk category and that planting of a mixture of native broadleaves will increase the stability of the slope to reduce the risk of landslides in the future. This will be the preferred option instead of using more intensive built options, this slope was included as part of the Scottish Foresty Alliance new native woodland creation mentioned in section 5.5.1. Some planted trees are establishing well with natural regeneration infilling any gaps resulting in a mix of birch, willow, rowan and holly. The area will be surveyed in order to assess the stocking of the site and any enrichment planting will be programmed in.

Map 7 - Flood risk shows the areas at risk of flooding from 10, 200 and 1000 year floods. The main areas are listed in section 3.1. The list below indicates what measures we will take (where possible) to reduce the risk of flooding:

- Glean na beiste- An area of high risk of flooding (once in every 10 years). This is completely within the forest; however flooding does not affect any infrastructure or buildings.
- Allt Anavig- A small river that shows potential to flood where it passes under the main road (NG73582597). The catchment for this is entirely in the Kyle Farm area of the forest. This area is due to be clearfelled and replanted with native broadleaves, it will also partly be restored to peatland in the wetter areas. The process of establishing broadleaved woodland and peatland restoration would reduce the chance of flood risk on this burn as the woodland increases interception of rainwater and increases percolation of the surface water and the peatland restoration acts as a good storage of surface water that is then slowly released.
- Broadford River- This is shown as an area of high risk flooding however the Broadford forest is only a small part of the catchment for the river so management of the NFE will have little impact on the flooding.
- Kylerhea Glen- There is an area of high risk flooding in Kylerhea Glen for which the majority of the catchment is in the NFE. This catchment is mostly made up of open hill ground however the north side of the glen has been planted with broadleaves and is showing success in establishing native broadleaves via natural regeneration. There are also plans to establish native woodland on the south side of the glen. This will increase surface water filtration and also interception of the rainwater and therefore reduce the risk of flooding in the glen. This is not a high priority area for flooding as no infrastructure or buildings are threatened by it.
- Abhainn Ceann Loch Eishort- This is an area at high risk of flooding and half of the catchment is in the NFE. This area will continue to be managed as productive forest

however the riparian zones will be wider and coupes will be phased in order to minimise the area of clearfelled ground at any one time. This will reduce the risk of flooding in this area. The area at risk is currently a football pitch that was bought from FES in 1993 by the local football club however there may be a chance that this could have houses built on it. Given the risk of flooding this would not be recommended, also the conditions of sale were that the land could only be used for recreation purposes.