Moray and Aberdeenshire Forest District

Spey Mouth

Forest Design Plan

Plan Reference No: FDP 12

Plan Approval Date:

Plan Expiry Date:

FOREST ENTERPRISE - Application for Forest Design Plan Approvals in Scotland

Forest Enterprise - Property

Forest District:	Moray & Aberdeenshire FD
Woodland or property name:	Spey Mouth
Nearest town, village or locality:	Fochabers
OS Grid reference:	NJ36125638

Areas for approval

	Conifer	Broadleaf
Clear felling	299	3
Selective felling	20.06	0
Restocking	238	46
New planting (complete appendix 4)	N/A	N/A

1. I apply for Forest Design Plan approval*/~~amendment approval*~~ for the property described above and in the enclosed Forest Design Plan.

2. * I apply for an opinion under the terms of the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999 for Deforestation*/roads* as detailed in my application.

3. I confirm that the initial scoping of the plan was carried out with FC staff on June 2015

4. I confirm that the proposals contained in this plan comply with the UK Forestry Standard.

5. I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included.

6. I confirm that consultation and scoping has been carried out with all relevant stakeholders over the content of the of the design plan. Consideration of all of the issues raised by stakeholders has been included in the process of plan preparation and the outcome recorded on the attached consultation record. I confirm that we have informed all stakeholders about the extent to which we have been able to address their concerns and, where it has not been possible to fully address their concerns, we have reminded them of the opportunity to make further comment during the public consultation process.

7. I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed ……. Forest District Manager

Signed ……. Conservator

District Moray & Aberdeenshire FD

Conservancy Grampian

Date …….

Date of Approval …….

Date approval ends: …….

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Environmental Impact Assessment

Determination Enquiry Form

Complete this form to find out if you need consent, from the Forestry Commission (under the EIA Regulations 1999), to carry out your proposed work.

Section 1 Proposed work							
Please put a cross in the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broadleaves.							
Proposed work	cross	Area in hectares	% Conifer	% broadleaves	Proposed work	cross	Area in ha
Roads	X	2.829ha	100%	N/A	New roads	X	2.289ha
Deforestation	X	Gow Moss 70ha Moss of Cairnty 7.8 ha	100% 100%	N/A N/A	Lowland heath restoration	X	77.8ha
Location and District		Spey Mouth, Moray & Aberdeenshire					

(Planned Roads Map 9 and Futures Species Map 7 illustrate areas for proposed works)

Section 2 Property details	
Property Name	Spey Mouth
Grid Reference (e.g. AB 123/789)	NJ36125638
Local Authority	Moray
Nearest Town	Fochabers

Section 3 Applicant's category *(please put a cross in one box)*			
PE Personal occupier		PU Public ownership	X
BU Business occupier		OT Other	
VO Voluntary organisation		CT Crofting tenant	

Section 4 Applicant's type *(please put a cross in one box)*			
LS Lessee		OW Owner	X
TE Tenant		TR Trust	

Section 5 your agent or woodland manager's details						
Title	Mr	Initials	I	Surname	Walker	
Organisation	Forestry Commission Scotland					
Address	Moray & Aberdeenshire FD,					
Portsoy Road						
Huntly				Postcode	AB54 4SJ	
Tel No	01466 794161			Mobile		
Fax	01466 794986			e-mail	Iain.walker@forestry.gsi.gov.uk	
Is this the address for correspondence?				Yes	X	No	

Section 6 Applicant's details					
Title		Initials		Surname	
Organisation	Forestry Commission Scotland				
Address	Moray & Aberdeenshire FD,				
Portsoy Road					
Huntly				Postcode	AB54 4SJ

Tel No	01466 794161	Mobile			
Fax	01466 794986	e-mail			
Is this the address for correspondence?		Yes	X	No	

Section 7 Sensitive Areas: Give the area of the proposal that is covered by any of the following designations	
Sensitive Area as listed in "Schedule 2" of the 1999 EIA Regulations Area (ha)	Area in hectares
a. Sites of Special Scientific Interest (SSSI) or Proposed Sites of Special Scientific Interest (PSSSI)	31
b. SSSI's with a Nature Conservation Order (Section 29 of the Wildlife and Countryside Act 1981)	N/A
c. National Park (NP)	N/A
d. The Broads	N/A
e. World Heritage Site	N/A
f. Scheduled Ancient Monument (SAM)	0.2
g. an area designated as National Scenic Area	N/A
h. Area of Outstanding Natural Beauty (AONB)	N/A
i. "Natura 2000" site – (European network of special areas of conservation and special protection areas under the Wild Birds Directive)	N/A

Contents

Appendices:

Support documents:

Forest Design Plan Summary

This plan is a review of Forestry Commission Scotland's management of Spey Mouth Forest.

The purpose of the plan is to set out the management objectives and prescriptions for the forest for the next ten years in detail, and in more broad terms for the following twenty years, which will fulfil the requirements of the UK Woodland Assurance Scheme. The land management plan balances our obligation to provide an economically viable, sustainable, quality timber resource while providing creative measures for health and well being, coherent landscape design and the environmental and ecological improvement of the land we manage.

The main objectives of the forest are:-

- Maintain the forest as a recreational hub within the forest district.
- Use silviculture which is beneficial for the environment, biodiversity and recreation whilst creating a forest with a sustainable timber yield; where the preference will be a low impact silviculture system where conditions are suitable.
- Establish Scots Pine on the most appropriate sites, but elsewhere take opportunities to diversify in order to create a forest more robust to disease and climate change.
- Restore deep peat areas associated with Moss of Cairnty and Gow Moss where this complies with current FCS peatland guidance.
- Manage watercourses appropriately so measured consideration can be given to catchment area, flooding and erosion. Areas located by SSSI, SAC, SPA and RAMSAR designated areas should be naturalised.

(Please note as of the 23/03/16 the scheduled ancient monument, Meikle Dramlach bridge SM3881, NJ3730056900 has been excluded from the schedule of nationally important monuments because it is still in use. It is now categorised as a listed building. However, this land management plan still refers to it as scheduled as it was during the writing of this text that the change occurred and there are no significant management implications from the change.)

Refer to Map 1: Location.

1.1 Setting and context

Spey Mouth forest is situated next to the village of Fochabers and is split by the A96 and A98 trunk roads. Elgin which is the largest conurbation in Moray is 8.2miles to the west and Buckie, a small to medium sized coastal town, is 6.5 miles to the north. The block covers an area of approximately 4025ha where a large proportion of the forest is currently managed under a low impact silvicultural approach. The river Spey lies to the west of the forest and this borders some of the forest outliers.

The forest is generally seen as a plateau backdrop between Fochabers and Keith, where the topography generally offers "natural" distant views. Internal or short views from roadsides are generally more important than distant views of forest hillsides, with the main exception being the Hill of Mulderie.

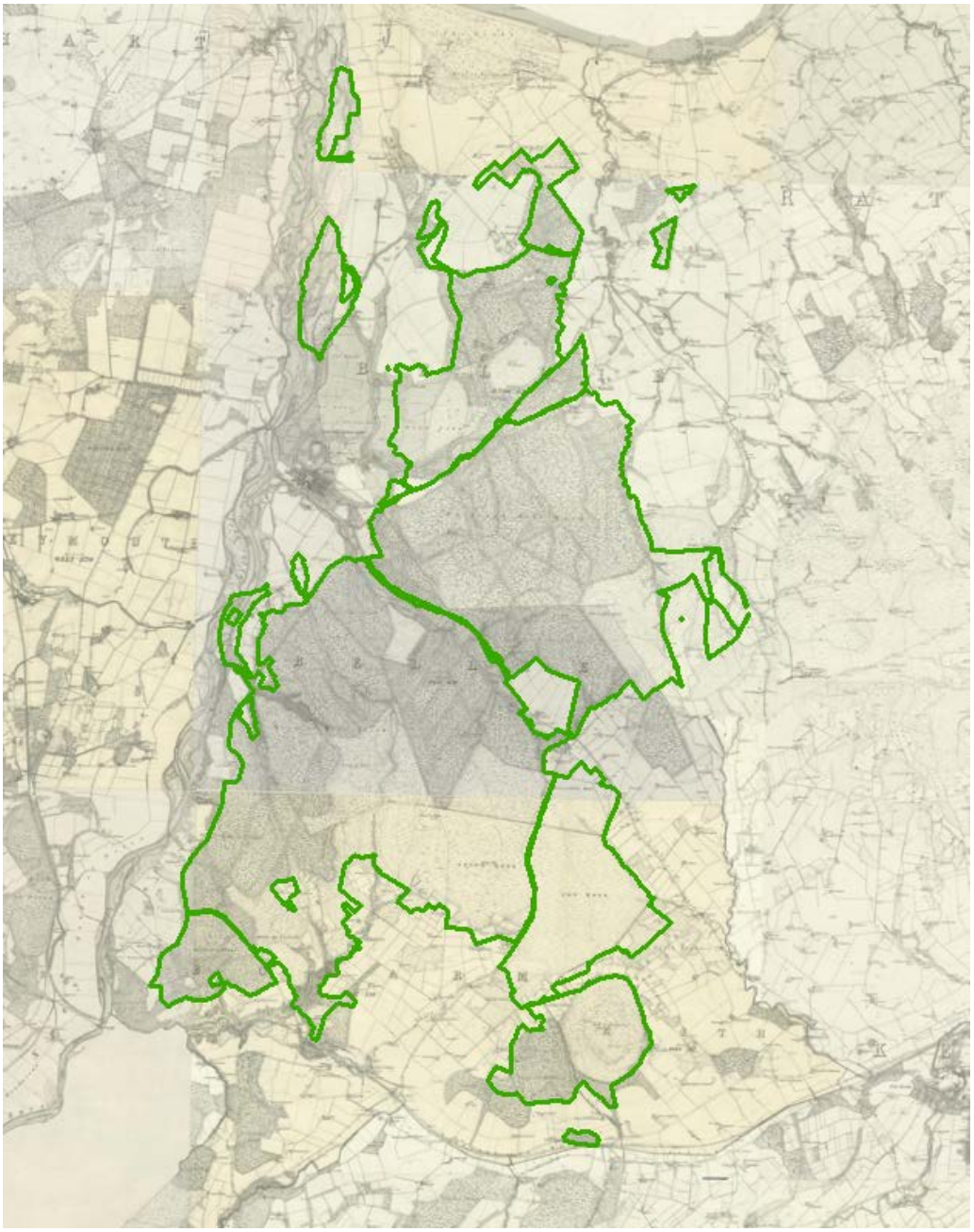
The main stays of the local economy are agriculture and distilling, while tourism also plays an important role. The area is associated with the malt whisky trail and the Speyside way long distance route.

The forest itself is a recreational hub for walking and mountain biking and is associated with a wide array of wildlife.

1.2 History of the forest

The area to the south of the A96 was acquired from the Crown Estate in 1955 and was previously owned by other private estates including Gordon Richmond and Delfur. The northern area was purchased in 1947 and 1955 from the Duke of Richmond, Gordon Estate and the Gordon Lennox family.

From looking at historic maps such as 1856-1891, 1 inch 1st edition OS map of Scotland, it is obvious that in general the area has largely been associated with plantation forestry. However, a noticeable change over time has been the afforestation of moorland in areas such as Gow Moss and Moss of Cairnty in the 1950s.



1856-1891, 1inch, 1st edition OS map of Scotland gives an image of the forest and emphasises that there was a larger area open in the past, this is best illustrated at Gow Moss.

2.0 Analysis of previous plan

Theme	**Priority (in current approved plan)**	**Objective (in current approved plan)**	**Management Indicator**	**Progress to date** **1-** Nominal progress **2-** Some progress **3-** Progress as per FDP	**Proposed action (in this plan)**
Climate Change	Medium	Manage potential natural reserve sites to create habitat that requires no further intervention which is beneficial for carbon capture. Where there are gully systems these should be managed in order to protect the friable soils and also maintain the existing wet habitat.	**Natural Reserve**	2- Some gully systems were identified as natural reserves and this allowed for the protection of friable soils and the continuing establishment of wet habitat. Elsewhere Culriach and	Deep gullies will be managed to minimise soil damage. Priority areas of Gow Moss and Moss of Cairnty will be restored following FCS Peatland guidance, UK Forestry Standard and the Scottish government's policy on control of woodland removal.

				Warren Wood were identified as natural reserves. However, none of these sites currently meet the criteria of natural reserves.	
Climate Change	High	Naturalise woodland next to River Spey to aid flood management.	**Naturalisation / Flood management**	2- Along the Spey the previous design identified the use of smaller coupes and low impact silvicultural systems along with increased broadleaves. This management will result in time with the naturalisation of the Spey, which has significant benefits for the	Smaller coupe or low impact silvicultural systems, which favour native woodland in areas associated with flooding will be beneficial to flood and catchment management.

				prevention of flooding.	
Climate Change	Medium	Increase the area managed under CCF to minimise input and increase rotation lengths. This will be beneficial for carbon sequestration.	**LISS**	3- Significant area of Spey Mouth is now successfully managed under LISS.	Where possible manage forest as LISS for biodiversity, environment and recreation benefits.
Timber	High	Following on from clearfelling select and plant species appropriate to the site conditions to maintain the overall productivity of the area.	**Production and Species**	3- Operations undertaken on time with restocking mainly consisting of Scots Pine on the poorer soils. Elsewhere better soils have been restocked with Sitka Spruce and Douglas Fir.	In order to create a robust forest utilise the ecological site classification to establish Scots Pine as the main species on the most appropriate sites, but elsewhere where conditions allow take opportunities to create species diversity. Establish high quality timber on suitable sites.
Timber	High	Undertake thinning to improve timber quality wherever possible with	**Thinning / CCF**	3- Thinning programmes are ongoing within	Continue to manage the forest using good silviculture to improve

		subsequent conversion to CCF systems.		the forest. However, in general the crop within the forest is young excluding some areas in Deer Park where group selections have been ongoing.	timber quality and optimise production.
Timber	Medium	Use Birch and other broadleaved regeneration to increase the potential for niche marketing and supplying the local fuelwood market.	**Niche marketing and fuelwood**	2- There has been some progress here where coppicing has been carried out in places. There is a need within the district to program more of this type of work.	Continue to manage the forest using good silviculture to improve timber quality and optimise production. Where possible manage forest as LISS for biodiversity, environment and recreation benefits.
Business development	Medium	Plan and undertake all operations to increase the positive contribution by increasing the diversity of species and	**Tree diversity / Age class**	2- Apart from the low level of broadleaves at 3.5%, there is already a good	Establish high quality commercial timber (including broadleaf) on suitable sites.

		age class.		species diversity within the forest. The forest tends towards an old forest (+60years) structure which is largely due to large stands of similarly aged Pine and its LISS nature. As the forest matures and management prescriptions are implemented the forest age structure should improve.	In order to create a robust forest utilise the ecological site classification to establish Scots Pine as the main species on the most appropriate sites, but elsewhere where conditions allow take opportunities to create species diversity. In order to restructure the large areas of similar aged Pine and to maintain a sustainable timber supply, early felling of Pine and appropriate transformation dates will be used; where the speed of change will be quicker in Deer Park and Whiteash (Starting in 20 years time).

Community development	Medium	Continue current level of involvement with the various communities to maintain their interest in the area.	**Community consultation**	3- The various forest teams are in contact with the important stakeholders on a regular basis.	Appropriate consultation with stakeholders undertaken during the planning process.
Access & Health	Medium	Establish an appropriate recreation facility within the forest.	**Recreation**	3- The forest is now one of the recreational hubs of the district, with constructed facilities such as the winding walks and the Monster trails.	Maintain Spey Mouth as a focal point for recreation within the forest district.
Environmental quality	Low	Progress the naturalisation of woodlands where appropriate to increase landscape value.	**Naturalisation / Landscape**	2- Overall riparian areas are being naturalised. Mulderie is more sensitive within the landscape and appropriate input to coupe design has occurred. Powerlines are	For the forest to tie in with the landscape character its shape, scale and diversity should relate to dominant characteristics of the landscape. This is of particular relevance to Mulderie. There is limited scope for improvement of

				located within the landscape but there is limited scope to improve without loss of timber production.	powerlines within the forest without the loss of productive land.
Environmental quality	High	Plan management regimes and operations to improve the ecological value of the area for FC priority species.	**FC priority species**	3- The LISS nature of the forest has benefits for habitat networks important for Capercaillie, Red Squirrel, Twin Flower and Juniper. Species. Forest management favours red squirrels over grey squirrels as per Forestry Commission Practice Note 2- Managing Forests as Red Squirrel Strongholds.	Where possible manage forest as LISS for biodiversity, environment and recreation benefits. Forest management to favour red squirrels over grey squirrels as per Forestry Commission Practice Note2- Managing Forests as Red Squirrel Strongholds.
Environmental	Medium	Work in cooperation	**Invasive species**	2- Invasive	Invasive species within

quality		with other landowners and SNH, towards the eradication of invasive species at Culriach and Warren Woods, in order to improve their ecological value.		species are being prioritised for removal within the design plan, where the priority is the ancient woodland site in Culriach.	planted ancient woodland area of Culriach should be removed in order to allow natural regeneration of native species. Elsewhere invasive species should be removed dependent on resources and other priorities.
Designated sites	High	Convert Warren and Culriach forest areas to wet riparian woodland to improve their ecological value.	**Wet riparian woodland**	2- Restructuring towards a wet riparian wet woodland is progressing well.	Smaller coupe or low impact silvicultural systems which favour native woodland in areas associated with flooding, will be beneficial to flood and catchment management. Naturalise designated areas to increase biodiversity value.

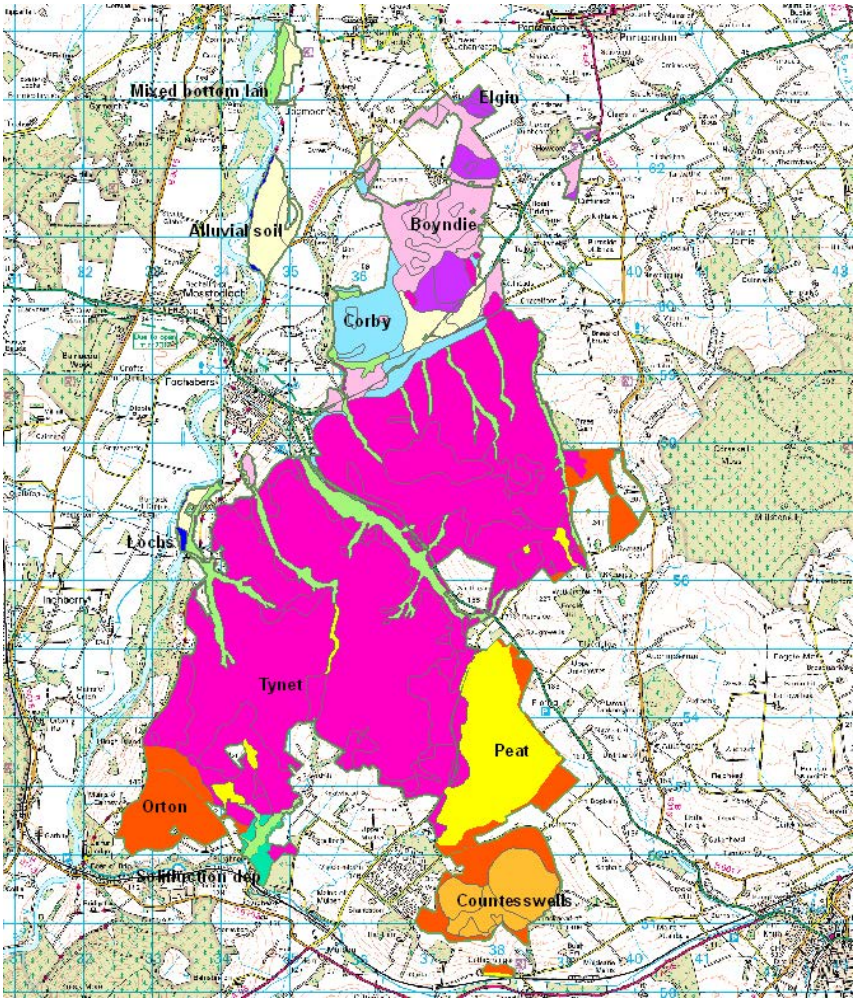
3.0 Background information

3.1 Physical site factors

Refer to Map 2: Key Features.

3.1.1 Geology, soils and topography

Geology - According to the British Geological Survey Geological Map of the UK the majority of this land management plan area is underlain by Middle and old Red Sandstone of the Devonian period which generally leads to soils with low nitrogen availability.

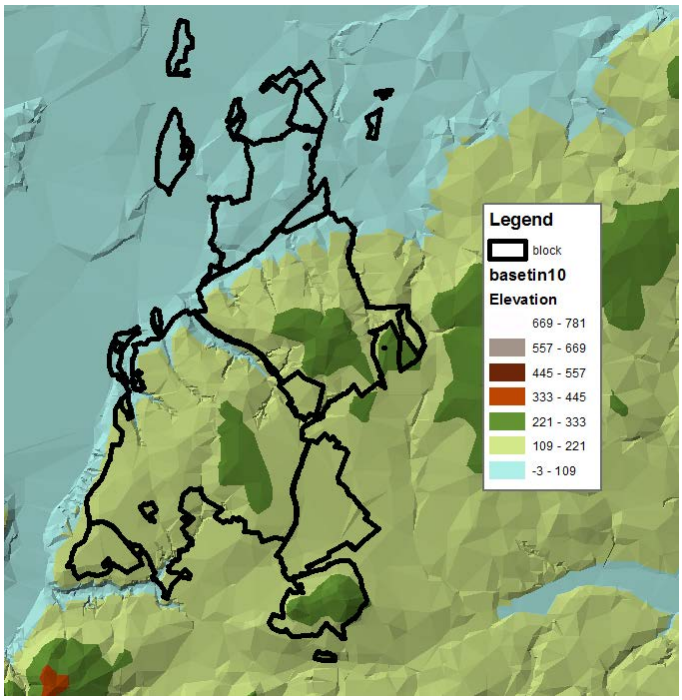


Soils - The Soil Survey of Scotland map reveals the soil associations underlying Spey Mouth as shown in the map above.

The main soil associations in the soils map are Tynet, Countesswells, Orton, Boyndie, Elgin and Peat soils which are associated with nutrient poor soils such as podzols, gleys, iron pans and peat. However, there are richer soils such as brown earths located on the Corby, Alluvial, Mixed bottom lain and Solifluction dep associations. Indeed it has been noted that the Alluvial soil associations that underlie Culriach and Warren Woods are normally sandy loams, and these are inherently fertile; but prone to flooding due to their riverside location, in most cases.

Topography –

The elevation of the design plan area runs from about sea level to approximately 310meters at the top of Hill of Mulderie. Deer Park and the other northern outliers are located in an area with very gentle rolling landform. Otherwise the majority of the forest lies on conical hills, separated by deep and steep gullies that overlook the Spey valley to the west.



Topology of Spey Mouth

3.1.2 Water

The River Spey lies to the west of the forest block and directly impacts on the lower Spey outliars Culriach, the Warren and part of Ordiequish. Fochabers and Aultderg burns are the two main watercourses which directly feed into the Spey, and there is also the Burn of Mulben which lies to the south of the forest block.

The River Spey is tremendously important for the economy, the local community and the environment of Strathspey and Moray. It is renowned for its purity and is of both national and international importance for its salmon rod fishery, whisky distilling industry and its wildlife. It provides for major domestic and industrial water supplies, as well as a challenging environment for outdoor pursuits. The River Spey is an SSSI and SAC (see section 3.2 Biodiversity and environmental designations).

A Spey catchment management plan was prepared in 2003, which "sets out a strategic framework for the wise and sustainable use of the water resource, and for the protection and enhancement of water quality and natural heritage within the River Spey catchment". The drivers of this report were the Spey Fishery Board, Scottish Natural Heritage, the Scottish Environmental Protection Agency and the Highland and Moray Councils. This plan seeks to develop a vision for the contribution of woodlands to management of the catchment while promoting and supporting good woodland management practice. "Woodlands are to contribute towards the objectives of integrated catchment management, addressing both 'nativeness' and landscape issues while also benefiting the local economy, communities and recreation interests" and woodland managers should "implement restructuring and appropriate scale silviculture, including continuous cover forestry within the catchment where appropriate".

A further document relates to Fochabers burn which was undertaken after a 1 in 50 hundred year flood event in 2009. This report was undertaken by the River Restoration Centre in order to come up with recommendations of how to manage this burn. Specifically for forestry it has been recommended to improve the nativeness of the riparian area which would mitigate against flooding events. Other suggestions include felling trees into/over the channel to add structural complexity, slow spate flows, retain sediment and provide habitat/cover for fish and invertebrates.

It also outlines engineering suggestions which could restore natural processes, such as weirs and bridge aprons being removed if they are no longer necessary or are functioning poorly. However, for many of these concerns there is no 'quick fix' and many issues have impact far beyond their immediate location. The approach for Fochabers Burn needs to address past pressures (land use, drainage and urban development) as well as minimising current and future pressures (in-channel works, management flood events). The issues noted in the report are discussed on an ongoing basis by the relevant parties such as the Scottish Environmental Protection Agency and Spey Fisheries Trust.

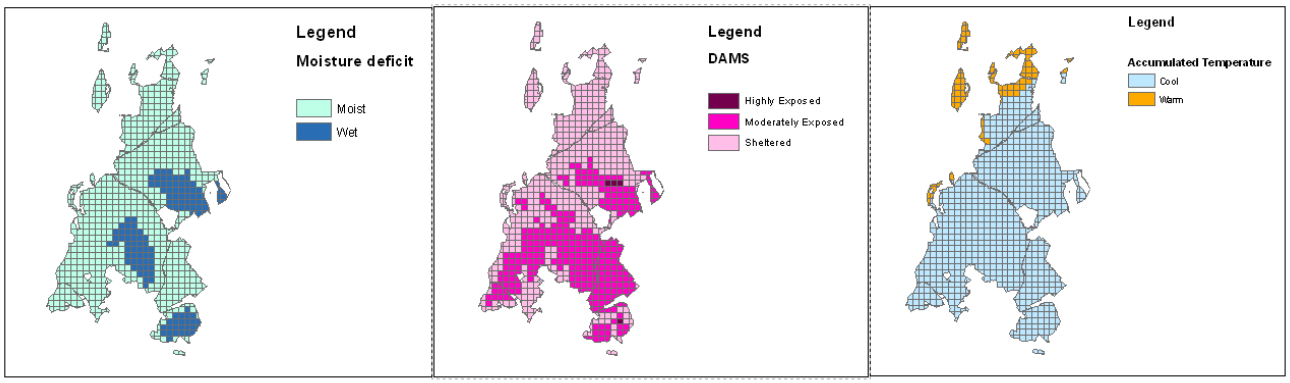
In regards to the gully systems located in the forest past forest management has highlighted issues with soils tending to have a till consistency over soft sandstone with a high potential for erosion. These areas should be subject to light touch management particularly to the potential of eroded soils getting into the SSSI/SAC Spey.

Another issue to consider in this plan is the area in Deer Park, which has in the past been associated with flooding due to the low lying topography.

3.1.3 Climate

The climate data for the design plan area is obtained from the Ecological Site Classification system (ESC).
The results of interrogating this system gave the following data.

	AT5	DAMS	MD
High ground	848	16	49
Low ground	1240	6	139



AT5 is the accumulated total of the day-degrees above the growth threshold temperature of 5º, which provides a convenient measure of summer warmth. The majority of the forest falls within the cool zone, where <775dd =alpine, 775-1200dd= cool and >1200dd= warm.

DAMS is the Detailed Aspect Method of Scoring. This represents the amount of physically damaging wind that forest stands experience in the year.
The range of DAMS is from 6-19 and windiness is the most likely limiting factor to tree growth at higher elevations. DAMS is categorise as follows:- <13 sheltered, 13-16 moderately exposed, 16-19 highly exposed, 19-22 severely exposed and >22 too exposed for commercial forestry.

MD is the Moisture Deficit for the area. Moisture deficit reflects the balance between potential evaporation and rainfall and therefore emphasises the dryness of the growing season (rather than the wetness of the winter or whole year). It can be seen that there is a large area of wet soils within the forest, where >900mm= wet, 900-160mm=moist and <100mm =dry.

These results will be used to help assist in the choice of tree species for restocking in this FDP. Each tree species has tolerances for these and other factors and they can be used to identify species suitable for the site conditions.

Further information on these criteria and the application of ESC can be found in Forestry Commission Bulletin 124 - An Ecological Site Classification for Forestry in Great Britain.

3.2 Biodiversity and environmental designations

There are a number of designations in close proximity to the land management plan area adjacent to the Spey.

River Spey SAC and SSSI- In 1998, the main stem of the River Spey was notified as a Site of Special Scientific Interest and later became a Special Area of Conservation (SAC), forming part of the Natura 2000 network, which represents some of the finest nature conservation areas in the European Community. The River Spey qualifies as an S AC on account of its internationally important populations of Atlantic salmon, sea lamprey, otter and freshwater pearl mussel.

Lower River Spey - Spey Bay SAC- The River Spey and Lower River Spey- Spey Bay are SACs under the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the 'Habitats Directive'). The River Spey qualifies for its important populations of freshwater pearl mussel, Atlantic salmon, sea lamprey and otter. Lower River Spey- Spey Bay qualifies for its alder wood on floodplains, considered to be one of the best areas in the UK and coastal shingle vegetation outside the reach of the waves, again considered one of the best in the UK.

Lower River Spey SSSI - The River Spey SSSI is notified for the populations of Atlantic salmon, sea lamprey, freshwater pearl mussel and otter. The part of the SSSI that lies within Culriach Wood consists of colonised shingle banks, with palaeochannels, ranging from those which are damp in the bottom, to those which still carry some flowing water.

Moray and Nairn Coast SPA and Ramsar site- The Moray and Nairn Coast is a classified SPA under the EC Directive 79/409/EEC on the Conservation of Wild Birds (The 'Birds Directive'). The site comprises the intertidal flats, salt marsh and sand dunes of Findhorn Bay and Culvin bar, and the alluvial deposits and associated woodland of the Lower River Spey and Spey Bay. It is of outstanding nature conservation and scientific importance for coastal and riverine habitats.

Planted Ancient Woodland Site (PAWS)**-**
Culriach was identified as a PAWS site in the inventory of ancient and long-established woodland sites and the inventory of semi-natural woodlands. Culriach is a PAWS site of high ecological importance and potential, and the overall management aim has been restoration to native woodland. One of the main issues with the establishment of native woodland along the Spey is the incidence of Himalayan Balsam and Hogweed (please see Appendix 8- Culreach SSSI plan and Appendix 9- Spey Mouth Appropriate Assessment which is an extension for the SSSI plan to be signed off by Scottish Natural Heritage)

Red Squirrel Stronghold-

As the forest is a Red Squirrel Stronghold it will be important to maintain appropriate habitat, mixture of age classes and species mixture, as this would ensure a continued supply of food and deter competition from grey squirrels. Overall management of forest should favour red squirrels over grey squirrels as per Forestry Commission Practice Note 2- Managing Forests as Red Squirrel Stronghold.

Priority Species-
The forest is home to four out of the six species identified by the UK Biodiversity Action Plan- Capercaillie, Red Squirrel (see note above), Twin Flower and Juniper.

Peatland-
The forest has two priority sites- Moss of Cairnty and Gow Moss which have been identified for restoration. In line with FCS peat policy assessments of both areas have been undertaken and these areas will be restored where there are significant environmental benefits. Reports for these sites can be found in Appendix 6 (Moss of Cairnty) and Appendix 7 (Gow Moss).

Goshawk and Osprey-
These priority bird species are located within the forest and need to be protected during the nesting season.

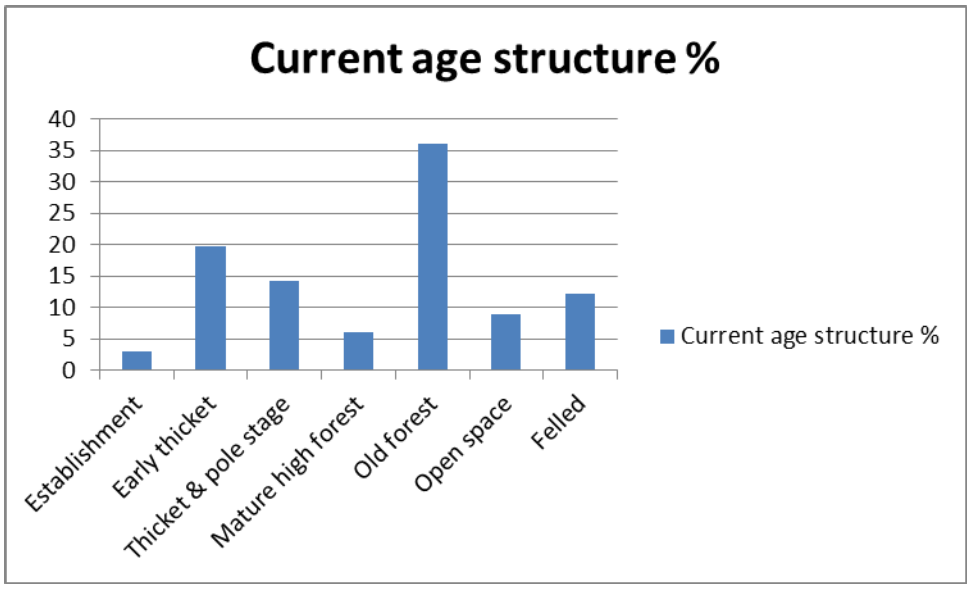
3.3 The existing forest

3.3.1 Age structure, species and yield class

Age Structure

The majority of the land management plan area is currently mature to old forest and this is largely associated with the Pine area. Due to the current LISS nature of the woodland and the time period still required for natural regeneration to come to the forefront, it is likely that the forest will continue to become more mature in the future with a young understory. In this case LISS prescriptions would be the key in regards to restructuring the forest. Another option would be to fell some of the Pine areas in order to speed up the restructuring process.

Age	Successional stage	Current age structure %
0 - 10	Establishment	3
11 to 20	Early thicket	19.8
21 - 40	Thicket & pole stage	14.2
41 - 60	Mature high forest	6
60+	Old forest	36
Open	Open space	8.9
	Felled	12.1
		100

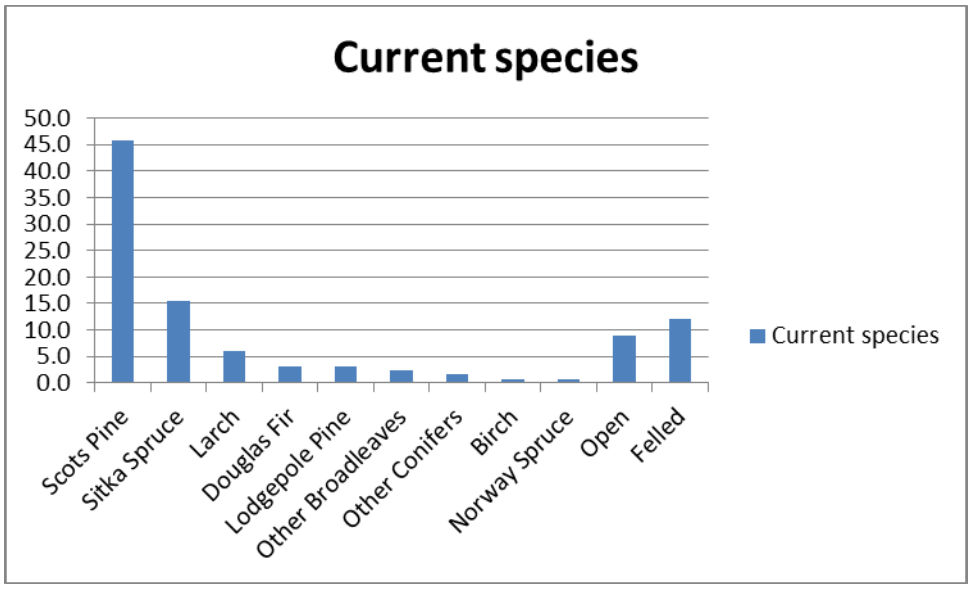


Species

Approximately half of the plan area is stocked with Scots Pine and this is due to its suitability on the poorer soils. Sitka Spruce accounts for just over 15% and is associated with wetter soils, however a number of these areas have been established in the past with the aid of fertilisers. Larch makes up 7% of the forest and has largely been planted in strips adjacent to the Scots Pine on the poorer soils. Historically Lodgepole Pine (3.1%) was planted in some of the poor/wet areas alongside Sitka Spruce, however this species has largely now been decimated by the disease Dothistroma Needle Blight and subsequently felled. There are areas of better soil where some diversity has been established to include species such as - Douglas Fir (2.9%), Norway Spruce (0.9%), other conifers (1.8%) . Currently

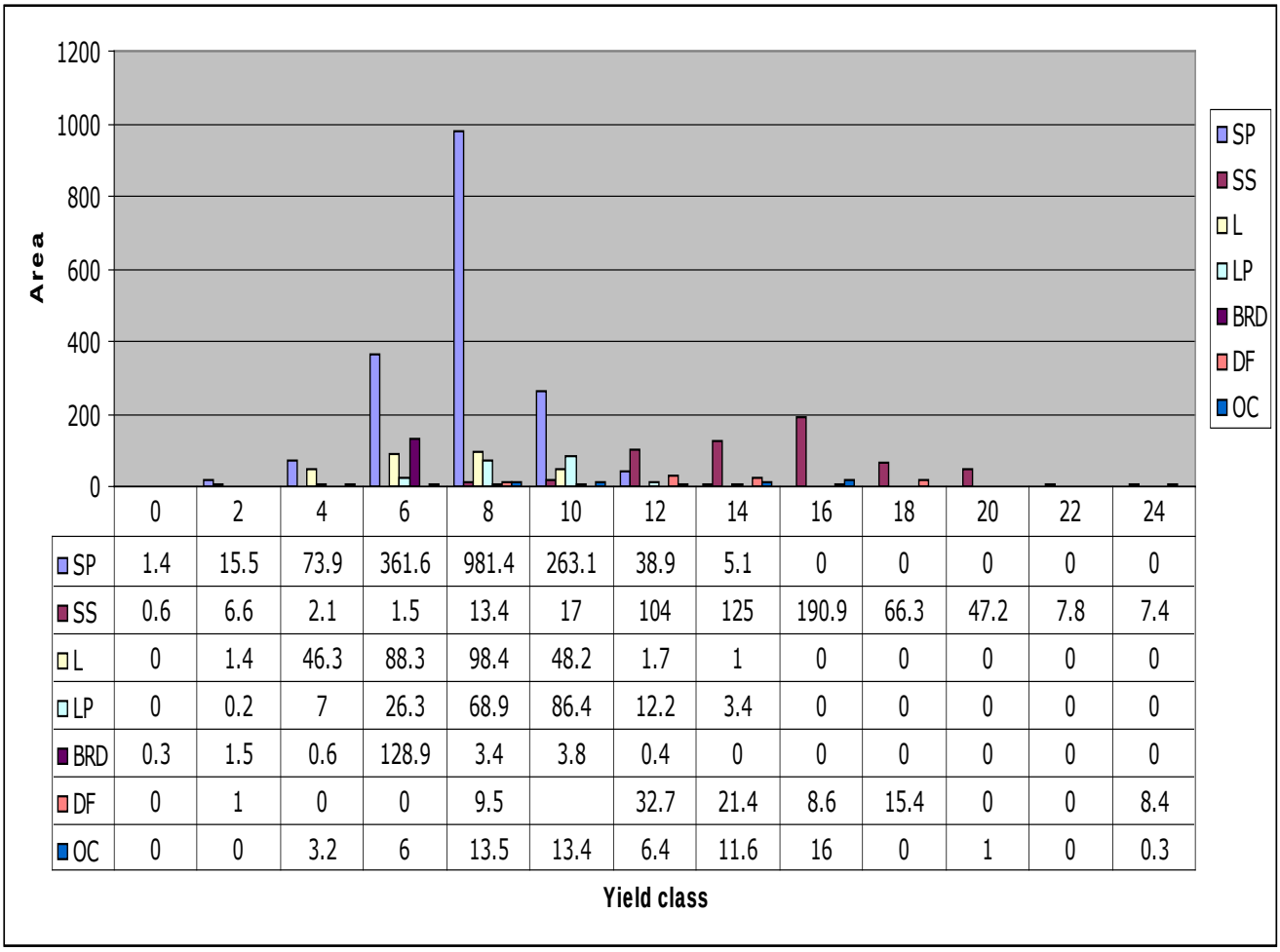
broadleaves (3.1%) and open space (8.9%) are below the level required by the UK Forest Standard.

	Area (ha)	%
Scots Pine	1844	45.8
Sitka Spruce	620	15.4
Larch	242	6.0
Douglas Fir	129	3.2
Lodgepole Pine	125	3.1
Other Broadleaves	97	2.4
Other Conifers	68	1.7
Birch	28	0.7
Norway Spruce	28	0.7
Open	358	8.9
Felled	486	12.1
Total	4025	100.0



Yield Class

The yield classes for the various species vary, as would be expected across such a large area with a number of soil types. There are few crops with yield classes greater than 16. The predominant species of Scots has an average yield class of 8 with smaller areas of Sitka Spruce and Douglas Fir currently growing at a higher yield classes.



	0	2	4	6	8	10	12	14	16	18	20	22	24
SP	1.4	15.5	73.9	361.6	981.4	263.1	38.9	5.1	0	0	0	0	0
SS	0.6	6.6	2.1	1.5	13.4	17	104	125	190.9	66.3	47.2	7.8	7.4
L	0	1.4	46.3	88.3	98.4	48.2	1.7	1	0	0	0	0	0
LP	0	0.2	7	26.3	68.9	86.4	12.2	3.4	0	0	0	0	0
BRD	0.3	1.5	0.6	128.9	3.4	3.8	0.4	0	0	0	0	0	0
DF	0	1	0	0	9.5		32.7	21.4	8.6	15.4	0	0	8.4
OC	0	0	3.2	6	13.5	13.4	6.4	11.6	16	0	1	0	0.3

3.3.2 Access

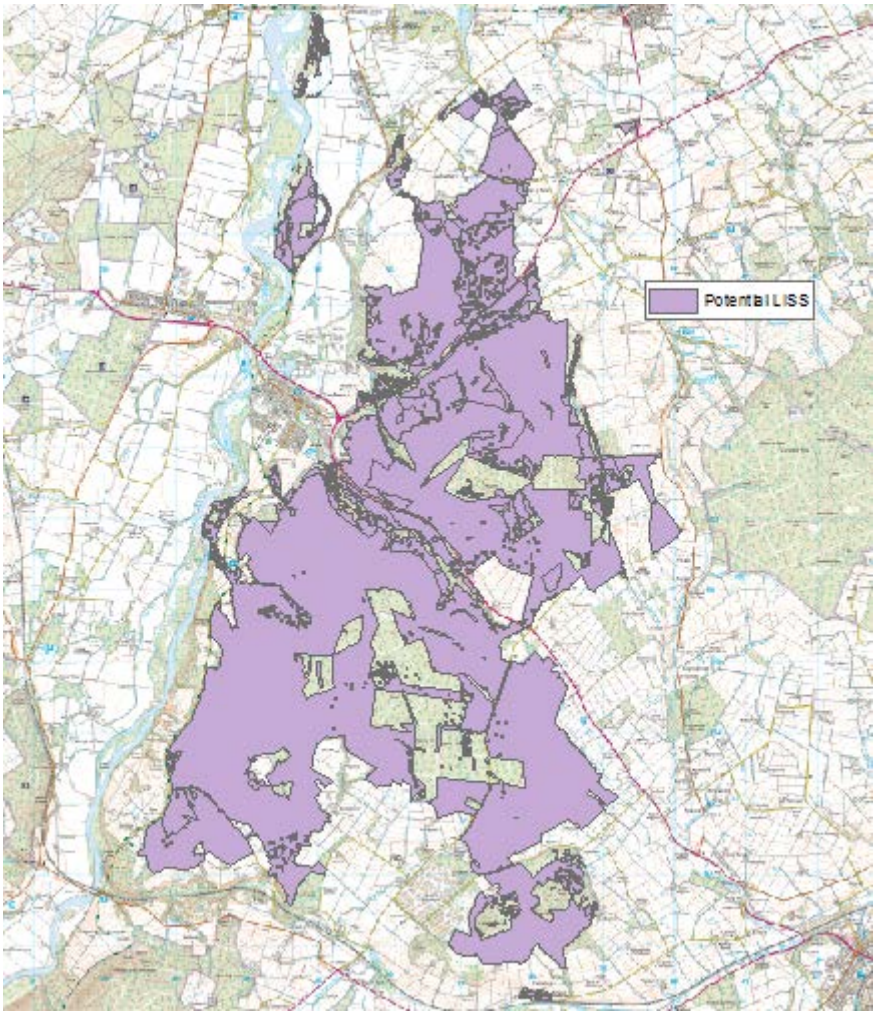
Both the A96 and A98 trunk roads run beside and through the plan area and the forest already has an established forest road network. However, there has been discussion in the past to improve access around Thiefs Hill, and also under a powerline by Jean Carr's stone (See Map 9 Planned Roads).

3.3.3 LISS potential

Due to the large area of well thinned Pine which is largely located on poorer soils there is scope for management under LISS (Low Impact Silvicultural Systems). This management system is defined as: 'Use of silvicultural systems whereby the forest canopy is maintained at one or more levels without clear felling.' Under LISS there should be no clearfell areas larger than 2 ha.

There is also scope to manage broadleaf and other conifer areas as LISS where the forest has been well thinned, but areas that have not been thinned

due to steep ground, wet ground, exposure and inappropriate species choice will need alternative management.



Areas and crops with potential for LISS management

3.3.4 Current and potential markets

The current breakdown of the timber being harvested from this design plan area across the range of sites, species and ages is shown in the table below.

Material	End product	Percentage
Short roundwood	Chip board, Orientated strand board (OSB), Paper	50%

Fencing	Posts & rails	15%
Short log	Pallets & slats	15%
Log	Construction	15%
Poorer quality logs	Fire Wood	5%

The vast majority (95%) of this production is sold into markets in the north east of Scotland, with very little travelling more than 50 miles to the processing facility.

The main change to this is likely to be the increase in material going into the local fuelwood market and the production of hardwood timber, in the longer term.

3.4 Landscape and land use

3.4.1 Landscape character and value

According to the Moray and Nairn landscape assessment carried out in 1998 by SNH, Spey Mouth lies mainly within an are a categorised as Upland Farmland. This is a large area of land lying to the east of the Spey, between the Coastal Farmland and O pen Uplands. The landform of this landscape character area comprises broad, gently undulating slopes rising in close proximity to the coast, cut by gently graded valleys to the higher lands of the Open Uplands, and punctuated by distinctive conical hills.

This area is associated with woodlands that cover a smaller proportion of land than the Rolling Farmland and Forest Character Area, and are less integrated within the farmland, forming large scale coniferous plantations of uniform colour and height to the western edge of the Character Area, on the fringes of the Spey valley. Smaller scale geometrically shaped young coniferous plantations are also prominent on higher hill slopes, forming an abrupt edge to semi improved pastures and moorland. The few areas of native woodland that exist tend to be small isolated pockets associated with individual farmsteads.

For forestry it is recommended that the re is a s trategy for felling and restocking which is at an appro priate scale and form/texture, which reduces the existing harshness of plantation when compared to the gently undulating landform. Where there are geometric issues they should be ameliorated by selective felling, extensions of the planted area and the grading of the margins.

In general views of the forest are limited to internal and short views from the roadside. The main exception would be the Hill of Mulderie which is a conical hill located to the south east of the main block, although there are also other views such as Whiteash hill form the north. It is important to note that as a substantial area of the forest is currently managed as a low impact silvicultural system, the impacts of forest management on the landscape are reduced.

Priority deep peat areas such as Gow Moss and Moss of Cairnty will need to be considered in relation to restoring lowland heathland habitat. Re-establishing these areas will allow for the creation of large open areas in areas which were historically open prior to being planted with conifer crops.

Designed Landscape

There are fragments of a designed landscape remaining in Deer Park which is associated with planting in and around Gordon Castle in the 1780/90s. Mapped evidence indicates that this south eastern area of the deer park was wooded prior to the 18th century, and from the geometrical layouts indicated this would be likely to have been plantations rather than naturally occurring woodland. Most of the original area is now heavily overlain with commercial plantings of the 20th century, which now masks most of the former design.

3.5 Social factors

3.5.1 Recreation

There are two main car parks, Winding Walks and Ordiequish car park which offer access to a number of forest walks and mountain bike trails, where the trail network is linked by a bypass under the A96. The winding walks car park is the principal parking. At this location pay and display machines have been installed.

Following a visitor experience planning process it is likely that there will be a number of changes to both mountain bike and walking routes within Ordiequish and Whiteash. The friable and mobile nature of some of the gully slopes on which both the Gully monster MTB trail and the more historic winding walks trails are built has and will continue to provide challenges in relation to long term stability and sustainability of some trails. This is likely to lead to a desire to establish some alternative and more stable routes within this plan period. Any such changes would be subject to applications for full planning permission.

A new skills training area and short green trail have recently been completed at the winding walks. These new facilities will enable the local Active Schools programme and other mountain bike trail leaders, help those new to the sport gain the skills they need to be able to tackle the rest of the monster trails.

There are a number of public rights running through the forest, some of which form part of the Moray core path plan.

These forests are used for a wide range of events held under SOAC guidelines or through permissions. These events include orienteering, sponsored walks and an annual car rally.

The Speyside way, one of four official Long Distance Routes in Scotland, runs along the western edge of the forest. There had been previous discussion in the past of moving it into the forest; however this is unlikely in the present climate as resources are limited.

3.5.2 Community

Fochabers is the main settlement within the area with Keith also lying three miles to the south east. A large area of the surrounding area is made up of communities of scattered homes and farms rather than specific villages, although there are some smaller villages in proximity to the plan area such as Mulben and Bogmoor. In general apart from the recreational element, the forest does not have a strong community usage despite its proximity to Fochabers. Strathisla and Lennox community councils will be consulted on the land management plan proposals.

3.5.3 Heritage

The only Scheduled Monument is the Miekle Dramlach Bridge. The objective for this monument will be to maintain it in a stable condition and to maintain access. It is important to note that any works to a scheduled monument require the prior written permission of Scottish Ministers, a process known as scheduled monument consent (SMC) which is administered by Historic Scotland. Such works would include any felling or thinning within the scheduled areas (which may extend beyond the visible remains), or any extraction running through the scheduled areas.

There are several non-scheduled archaeological sites within the plan area. A check of archaeological sites and monuments has been undertaken to establish the location of these features. The details of these will be included

in any work plans that are drawn up for each operation carried out within the plan area.

3.6 Pathogens and diseases

Dothestroma needle blight (DNB)

A major fungal pathogen affecting the woods within Moray & Aberdeenshire forest district is *Dothistroma Needle Blight.* This is an economically very important disease affecting a number of coniferous trees, in particular pines. The disease has a world-wide distribution but until recently was mainly of concern in the southern hemisphere. In much of the world, including Britain, it is caused by the fungus *Dothistroma septosporum*. Dothistroma Needle Blight causes premature needle defoliation, which results in the loss of timber yield and, in severe cases, tree mortality. Since the late 1990s the incidence of the disease has increased dramatically in Britain, particularly on Corsican pine, and, since the beginning of the new millennium, in Lodgepole Pine. Due to the extent and severity of the disease on these species there is currently a moratorium on the planting of Corsican and Lodgepole Pine (an exception is Alaskan Lodgepole Pine used in mixtures) on the National Forest Estate. More recently the disease has also been reported in Scots pine. Although significant damage in this species is yet limited, Scots Pine (including young plantations and regeneration) needs to be monitored intensively in order to manage the disease.

Reasons for the increase in incidence of this disease are unclear but could be due to increased rainfall in spring and summer coupled with a trend towards warmer springs, optimising conditions for spore dispersal and infection. Such conditions may become more prevalent in Britain over the next 20 years if current trends in climate change continue.

On the National Forest Estate disease management is currently focused on silvicultural measures to reduce inoculum loads and the use of alternative, less susceptible species in future rotations. Current FC policy for dealing with the existing scale of *Dothistroma Needle Blight* is to fell infected stands within the shortest time frame possible, in order to minimize the risk of infection to the surrounded uninfected pine crop (See section 5.9).

Phytophthora ramorum

First found in Scottish plant nurseries in 2002 and in gardens/parks in 2007, Phytophthora ramorum is causing extensive damage and m ortality to larch and other plants in (mainly) the wettest west of Scotland. In 2010, it was found on Japanese larch at a site on the Craignish peninsula in western Scotland. In 2011, further sites of infection were detected on Mull and several locations in Dumfries and Ga lloway. In 2012, the outbreak in Galloway expanded following a wet autumn and mild winter conditions. Since then, the disease has continued to progressively spread, most significantly in south west Scotland.

Any infection of Phytophthora ramorum is of relevance to the continued management of the forest, but Larch infection is of particularly concern due to the wide scale outbreak in the Scotland. This includes two outbreaks in Moray & Aberdeenshire forest district at B uchan Woods and Mearns forests. Monitoring protocols are in place where aerial surveys are flown every year, where selected areas are targeted in order to identify any diseased sites. Tree health Scotland must be contacted immediately if there are any suspected cases treehealthscotland@forestry.gsi.gov.uk. Protocols are in place for harvesting infected areas as well as alternative restocking requirements (See section 5.9 & 5.9).

3.7 Statutory requirements and key external policies

This Land Management Plan has been drafted to ensure that planning and operations functions 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
- The Water Environment and Water Services (Scotland) Act 2003
- Water Environment (Controlled Activities)(Scotland) Regulations 2011
- UK Woodland Assurance Standard 2008
- UK Forestry Standard 2011 – Forests and biodiversity, Forests and water
- Deer (Scotland) Act 1996

Climate Change

- The United Nations Framework Convention on Climate Change
- The Kyoto Protocol
- EC Directive 2003/87/EC
- Climate Change (Scotland) Act 2009
- UK Forestry Standard 2011 – Forests and climate change

Historic Environment

- Ancient Monuments and Archaeological Areas Act 1979
- Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997
- Treasure Trove Scotland
- UNESCO World Heritage Convention
- European Convention on the Protection of the Archaeological Heritage Valetta 1992
- UK Forestry Standard 2011 – Forests and historic environment

Forests & People

- Forestry Act 1967
- Control of Substances Hazardous to Health Regulations 2002
- Employers Liability (Compulsory Insurance) Act 1969
- Equality Act 2010
- Gangmasters (Licensing) Act 2004
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Occupiers' 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
- UK Forestry Standard 2011 – Forests and people, Forests and landscape

Soils

- Control of Pesticides Regulations 1986
- The Waste Management Licensing Regulations 1994
- European Soil Charter
- UK Forestry Standard 2011 – Forests and soil

4.0 Analysis and Concept

Refer to Map 4: Analysis and concept.

The table below shows how the Spey Mouth area has been analysed against the Forest District's strategic plan in order to identify the driving concepts for the land management plan:-

Theme- priority	Key Commitments	District specific action	Analysis	Proposed Action
Healthy (medium)	We are committed to high quality silviculture and, increasing, to using alternatives to clearfelling.	Moray & Aberdeenshire District has a high proportion (30%) of woodland cover managed under low impact silvicultural systems, which is a figure we want to maintain as a minimum.	Significant area of forest is suitable for low impact silvicultural systems.	Where possible manage forest as LISS for biodiversity, environment and recreation benefits.
Healthy (medium)	We are exploring how to best steward the carbon resources locked up in the estate's tree and soils.	The District will adopt a low impact silvicultural system where feasible to minimise the impact of ground preparation and felling, and follow Forest & Water Guidance and Forest Soils Guidance 2011.	Steep gully systems are found on fragile soils which are difficult to access.	Deep gullies will be managed to minimise soil damage.
Healthy (medium)	We will help the estate adapt to climate change and become more resilient to pressure.	The district will continually make good use of ecological site classification to closely fit species to sites, and take into account the	Pine is ideally suited to the large area of poor soils, however overdependence could reduce the resilience of the forest to disease and	In order to create a robust forest utilise the ecological site classification to establish Scots Pine as the main species on the most appropriate sites,

		anticipated effects of climate change (One important possible effect is that some Sitka spruce sites could become more susceptible to drought).	climate change.	but elsewhere where conditions allow take opportunities to create species diversity.
Healthy (medium)	We will help the estate adapt to climate change and become more resilient to pressure.	The district will manage Dophistroma needle blight in lodgepole pine during the period of this plan and, by reducing inoculum levels, will seek to safeguard Scots Pine woodlands, particularly in Speyside/Deeside and on the Moray Coast at Culbin.	There are different categories of Dophistroma infected crop within the forest.	Prioritise diseased crop for removal in order to maximise timber value and reduce inoculum levels.
Healthy (medium)	We will help the estate adapt to climate change and become more resilient to pressure.	We will continue to work with partners to reduce the risk of flooding due to a changing climate. Areas at risk include Donnottar Wood, the Deveron and Fochabers burn.	The forest has a number of areas associated with flooding such as the Spey and Fochabers burn.	Smaller coupe or low impact silvicultural systems which favour native woodland in areas associated with flooding, will be beneficial to flood and catchment management.
Healthy	We are committed to dealing with	We will continue to work with partners to	Himalayan Balsam and Giant Hogweed	Invasive species within planted

(medium)	invasive plants and animals that threaten habitats and biodiversity.	destroy Japanese knotweed (especially in the Spey catchment) and to help eradicate giant hogweed (in Deveron catchment).	are present along the Spey and in particular in the planted ancient woodland site in Culriach. Western Hemlock is prolific for regenerating adjacent to gullies, and elsewhere rhododendron, gorse and other weeds are regenerating on the more nutritious soils.	ancient woodland area of Culriach should be removed in order to allow natural regeneration of native species. Elsewhere invasive species should be removed dependent on resources and other priorities.
Productive	We aim to provide at least three million cubic metres of sustainable softwood timber every year.	The district will maintain a sustainable annual softwood timber production of 340,000 cubic metres over bark standing.	This is an important forest for producing timber for local markets.	Continue to manage the forest using good silviculture to improve timber quality and optimise production.
Productive	We intend to manage at least a quarter of our expanding broadleaf woodlands to produce quality hardwoods and woodfuel.	The district will adhere to its local broadleaf strategy. This includes increasing our productive broadleaf resource by planting a further 700ha by 2019.	Some areas of Deer Park are associated with better soils.	Establish high quality commercial timber on suitable sites.
Treasured	We are committed to creating more uniquely special places across the Estate and to delivering benefits to an increasingly diverse range of	To enhance the visitor experience, we will continue to make visual and environmental improvements around priority visitor recreation sites and	Mulderie is more visible and sensitive within the landscape. Elsewhere the forest is seen as a plateau backdrop between Fochabers and Keith, where internal or	For the forest to tie in with the landscape character its shape, scale and diversity should relate to dominant characteristics of

	Scotland's people.	along major tourist routes.	short views from roadsides are generally more important than distant views of forest hillsides. There are powerlines located within the forest.	the landscape. This is of particular relevance to Mulderie. There is limited scope for improvement of powerlines within the forest without the loss of productive land.
Accessible	We will continue to invest available resources into high quality facilities that encourage and help visitors experience and enjoy the outdoor environment.	We will continue to review our facilities and prioritise resources to ensure they continue to deliver a safe, high quality product at key locations (such as Bennachie) to meet the needs of local people and visitors in accordance with priorities informed by our visitor surveys.	The forest is a hub for recreation with an already established path network.	Maintain Spey Mouth as a focal point for recreation within the forest district.
Cared For	We are committed to maintaining the best open habitats in good ecological condition.	We will work to the Peat Policy and Lowland Raised Bog Strategy and look for opportunities to protect and enhance carbon rich soils. We will continue reinstatement work at Gowmoss and the Moss of Cairnty while looking for further sites as forest plans are reviewed.	The main deep peat areas are associated with Moss of Cairnty and Gow Moss. Elsewhere peat areas are not priority sites as they are fragmented and more suitable for planting woodland.	Priority areas at Gow Moss and Moss of Cairnty will be restored following FCS Peatland guidance, UK Forestry Standard and the Scottish government's policy on control of woodland removal.

Cared For	We are committed to maintaining the best open habitats in good ecological condition.	We will ensure that all our Land Management Plans take into consideration the requirements of the Water Framework Directive.	The forest is proximity to river Spey SSSI, SAC, SPA and RAMSAR designated areas.	Naturalise designated areas to increase biodiversity value.
Cared For	We will identify particularly vulnerable species for which the National Forest Estate is important and take specific conservation action.	Red squirrels exist throughout much of the District and there are a number of stronghold sites. We will safeguard existing populations through beneficial management and by supporting a cull programme to constrain the populations of grey squirrels in the Aberdeen area and along the watercourses of the Don and the Dee. We will also work to maintain habitats suitable for red squirrels with particular emphasis on the Deeside corridor.	The forest has been identified as a red squirrel stronghold.	Forest management to favour red squirrels over grey squirrels as per Forestry Commission Practice Note2- Managing Forests as Red Squirrel Strongholds.

5.0 Land Management Plan Proposals

5.1 Management

Refer to Map 5: Management.

Thinning

See Map 6 – Thinning.

Wherever possible the district will continue to maximise the area managed through thinning and utilise staff/contractor base to further develop professionalism and thinning expertise. FCS policy assumes that all productive crops will be thinned. The main exceptions are where:

- Thinning is likely to significantly increase the risk of windblow
- A single thinning operation is likely to require an unac ceptably large initial investment in relation to the potential benefits due to access or market considerations
- The area is out with the thinning window
- The basal area of the crop does not meet the required level
- Thinning is unlikely to improve poorly stocked or poor quality crops.
- Significant soil erosion is likely to occur

In Spey Mouth as much of the area as possible will be thinned in order to improve the timber quality. In the past the main limiting factor to thinning was the steep slopes associated with the gullies. In order to tackle this issue the gully systems will be maintained as long term retentions. This will allow for the protection of the friable soils, whilst still allowing flexibility to undertake some thinning where conditions allow.

Where Lodgepole pine occurs in mixtures with other crops, and is infected with DNB, it will be targeted for removal during thinning operations. Other crops such as Western Hemlock will also be thinned out if regenerating in undesirable areas.

All thinning decisions will be guided by Operational guidance Booklet No 9 ‘Managing thinning’ and the recent district Thinning Plan.

Low Impact Silviculture (LISS)

The main silvicultural system employed in British forestry is 'patch' clearfelling followed by planting or, occasionally, natural regeneration. However, management under LISS is becoming more common and in Spey Mouth LISS it is the predominant system used due appropriate conditions existing through a large area of the forest

'Low impact' is defined as the use of silvicultural systems whereby the forest canopy is maintained at one or more levels without clearfelling. Clearfelling is defined as the cutting-down of all trees on an area of more than 2ha.

The attraction of low impact forestry lies in the fact that this approach is suited to an era of multi-purpose forestry where environmental, recreational, aesthetic and other objectives are as important as timber production. In particular, low impact forestry is seen as a means of reducing the impact of clearfelling and the associated changes that this produces in forest landscapes and habitats.

In the previous plan 2091ha were selected for LISS management, however during the review the following factors have been considered:-

-does LISS now meet the objectives for that area of the forest
-Is there sufficient site suitability information available (soils, wind hazard data, thinning history)
-what level of ground vegetation competition is there with any natural regeneration
-are the existing species suitable for the site
-is any advanced natural regeneration present
-Age structure of forest

Following the consideration of the above factors the total area of LISS in this plan has been decreased to 1831ha. In general the decrease in LISS is mainly associated with two management considerations. 1- there are a number of areas that have destabilised (non-Pine areas) due to lack of thinning in the past and 2- we are looking for a faster rate of change in the Deer Park and Whiteash area which has resulted in some clear felling of Scots Pine. The justification for doing the latter is so that we can start restructuring the forest, as otherwise we could be faced in the future with large scale areas requiring seed fellings due to the associated 'uniform shelterwood' management system currently in place. For the Ordiequish area a slower rate of change has been put in place and currently there are no areas identified for early felling.

Detailed prescriptions have been written up for each area managed under LISS (see appendix 5. Each prescription will be included in the site management plan before any operations commences. Restocking by natural regeneration will be the aim in these areas. All areas identified for restocking by natural regeneration have been recorded and programmed for inspect on a five yearly basis. If after 10 years, or at any preceding inspection, it is apparent that natural regeneration is not going to be successful then replanting with appropriate species will be considered. Enrichment planting may also be used to increased species diversity, target key recreational/visual areas, or to ensure the rapid establishment of ground cover.

It is vitally important to emphasise here that, the prescription outlined above is a starting point, as LISS is an approach to forest management which has flexibility in order to take advantage of opportunities as they arise.

Clearfell

Although Spey Mouth is predominately managed under low impact silvicultural systems there are still significant areas which will be managed as clearfell in order for timber to be harvested before the onset of windblow. Clearfell however is still the main silvicultural system employed in British forestry where it amounts to 'patch' clear-felling followed by planting or occasionally natural regeneration.

Clear-felling, to a degree, mimics natural disturbances such as fire or windblow in a forest and as such allows the forester to alter the even aged structure of the canopy over a relatively short period of time. The adoption of a 'fallow' period before restocking, or natural regeneration establishment, also creates transient open habitat that is exploited by several species such as voles, deer and raptors such as Kestrel, Buzzard and Goshawks in this area.

Where possible the scale of clearfells will be in keeping with the scale and topography of the local landscape. Therefore in some instances large clearfells will be appropriate in terms of scale.

5.2 Future Habitats and Species

Refer to Map 7: Future habitats and management.

Although the moratorium on planting Scots Pine in infected areas within the immediate vicinity, (500 meter zone), has been lifted for the whole district by Forest Research, we will continue to assess whether it is appropriate to plant Scots Pine on specific infected sites within the 500 metre zone, where reasons range from a site being inappropriate for other species to the site being historically a pine site. This decision of taking a cautious approach to re-plant pine in former infected DNB- areas has been made due to the fact that the impact of DNB on Scots Pine hasn't been clearly determined yet, and natural regeneration on young Scots pine trees show symptoms of the disease in some areas. Also in light of advice from Forest Research, the Forest Enterprise Management Board has placed an ongoing moratorium on the planting of pure stands of Lodgepole pine (interior and coastal) on areas which have been infected, but the exception to the rule is the Alaskan provenance of Lodgepole Pine which can be planted as a nurse at the discretion of the forest district.

Taking the above information into consideration, specifically for this plan and due to the abundant areas of poor soils, Scots Pine will continue to be established as the main species where the ecological site classification will be used to establish it on the most appropriate sites. However, in order to create a robust forest due to disease and climate change, opportunities should be taken where possible to establish other species on the poorer soils such as Birch and Sitka Spruce, where it will be possible to establish Sitka Spruce with Alaskan Lodgepole Pine as a nurse.

There is currently a moratorium for the next three years on the planting of Larch on the national forest estate due to Phytophthora ramorum. However, as there is still the chance that it could return within the lifespan of this plan, the decision has been made to continue to identify potential areas. This means that during the moratorium period, alternative species for these sites will need to be identified, where our decisions will be based on the national strategy for Larch and its recommendations for alternative species for a given situation. This strategy is currently to replace larch with another conifer or broadleaf which fits in with the overall objectives of the forest, and maintains species diversity.

On the better soils in Deer Park both broadleaves and conifers such as Oak and Douglas Fir will be established in order to take advantage of the nutrient rich soils, however this will need to be balanced against the commitments to maintain the vast majority of the area as a red squirrel stronghold; where it will be still acceptable to plant large seeded

broadleaves as long as this is within the limits of the Forestry Commission Note2- Managing Forests as Red Squirrel Strongholds. Here the main criteria is that <5% of forest area can be planted with large seeded broadleaves with individual areas not exceeding 0.5ha. In riparian areas native woodland will be established with this being a priority along the river Spey and Fochabers burn, in order to alleviate flooding and naturalise designated areas. The designated area is associated with a SSSI plan where the main management will be the control of invasive non-native species such as Himalayan Balsam and Giant Hogweed (please see Appendix 8- Culreach SSSI plan and Appendix 9- Spey Mouth Appropriate Assessment which is an extension for the SSSI plan to be signed off by Scottish Natural Heritage).

Managing riparian areas will extend back into the forest and specifically for the gully systems, as these are largely associated with friable soils they will be maintained as wet woodland habitat where both conifers and broadleaves will naturally establish.
Lowland heathland restoration will be undertaken on the forest's two priority peat sites- Moss of Cairnty and Gow Moss. This is in line with FCS peat policy, where assessments of both areas have been undertaken and areas will now be restored where there are significant environmental benefits. Reports for these sites can be found in Appendix 6 (Moss of Cairnty) and Appendix 7 (Gow Moss). Specifically in terms of establishing woodland in these areas native species such as Scots Pine and Birch are the preference along with establishment through natural regeneration.

In general the forest is limited to internal and short views of the forest from the roadside, however the main exception "the Hill of Mulderie" will be associated with some species diversity such as Norway Spruce, Scots Pine, Birch and Sitka Spruce which will allow for the enhancement of the overall landscape.

Overall it is important to note that the conifer dominated forest, managed predominately as a low impact silvicutural system will be beneficial not just for red squirrels but also for other FCS priority species- Capercaillie, Juniper, Twin Flower and Juniper.

Restocking will be undertaken, or regeneration will be managed to achieve a spacing that will allow a commercial approach. This will usually be 2500 and in some cases higher (stems per hectare) if quality timber is the objective. It is important to note that this plan will act as a guide for species choice, based on soil, climate and other data, however the operational foresters will make the final decision based on the characteristics of individual sites. Where this may result in a major change from the plan, consultation with the appropriate staff and external bodies will be instigated before a final decision is made.

Establishing LISS areas

Sites that are currently recorded as felled but not yet restocked will be monitored. These results will inform the decision as to whether enhancement planting with species appropriate to the site is required for successful establishment, or if waiting for additional regeneration will produce a stocking suitable for timber production. The final decision and subsequent enhancement planting, if necessary, will be carried out within 10 years of the felling date.

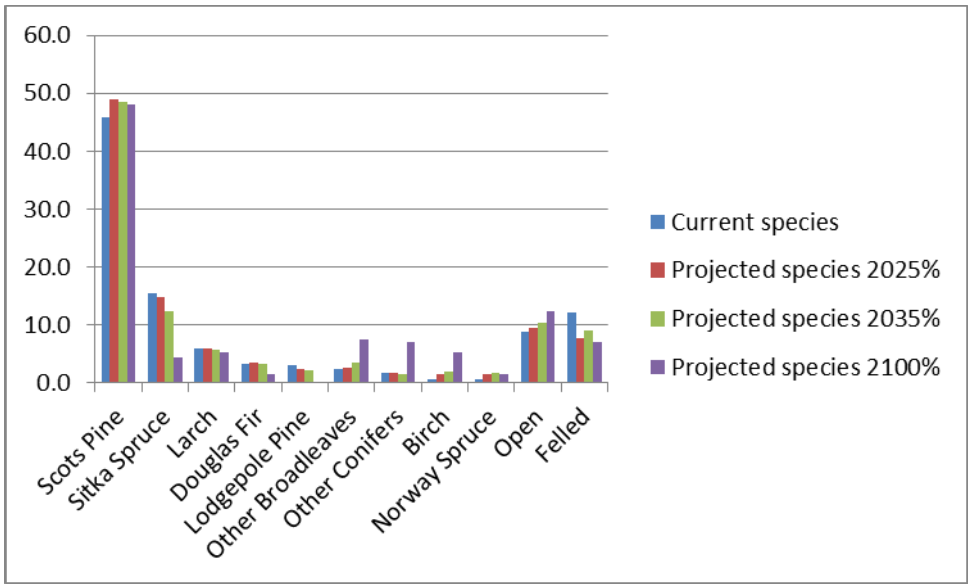
Future species within the LISS areas will mirror the current crop however, it is vitally important to emphasise here that, LISS is an approach to forest management in which the forest canopy is maintained at one or more levels without clearfelling. The word 'approach is important because we are not following a system, there are no standard prescriptions and flexibility is important- to take advantage of opportunities as they arise.

Non Commercial Areas
Areas not considered for commercial management will include permanent woodland, riparian areas and managed open habitats.

Permanent woodland and riparian areas will require monitoring to ensure it is delivering the required objectives. Non-desirable species, such as non-native conifer regeneration, may require removal.

5.3 Species tables

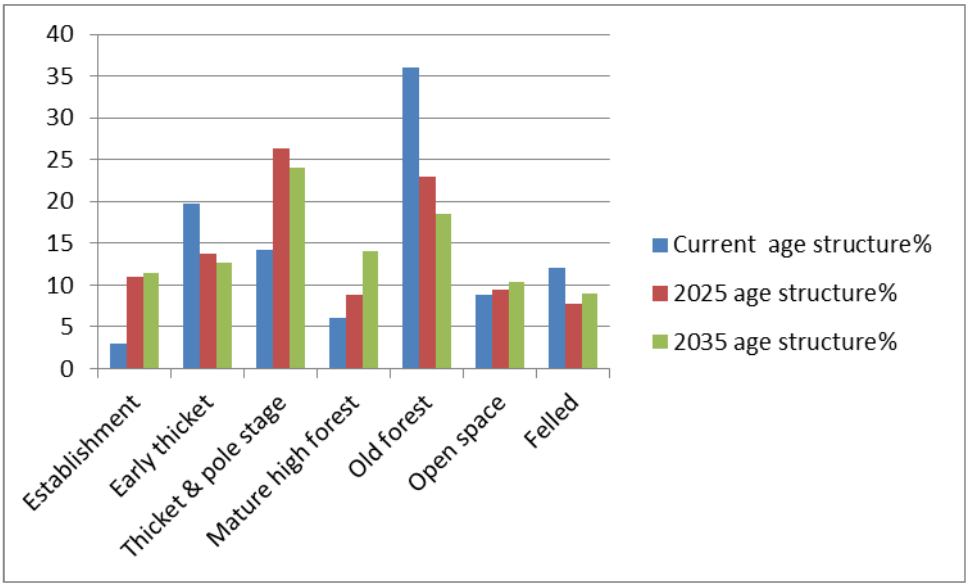
	Current species	Projected species 2025%	Projected species 2035%	Projected species 2100%
Scots Pine	45.8	49.0	48.6	48.1
Sitka Spruce	15.4	14.8	12.3	4.4
Larch	6.0	6.0	5.6	5.3
Douglas Fir	3.2	3.5	3.2	1.5
Lodgepole Pine	3.1	2.3	2.2	0.1
Other Broadleaves	2.4	2.6	3.5	7.4
Other Conifers	1.7	1.7	1.5	7.1
Birch	0.7	1.5	2.0	5.2
Norway Spruce	0.7	1.5	1.6	1.5
Open	8.9	9.4	10.4	12.3
Felled	12.1	7.7	9.0	7.0
Total	100.0	100.0	100.0	100.0



The table above shows how species composition of the forest is changing over time. Through evaluating yield classes for the different species, it is calculated that in 2035 there will be a gross reduction in timber production of approximately 1.4% of current production levels. This is mainly due to reducing the area of Sitka Spruce from 15.4% to 12.3% which is a result of this species being on inappropriate sites, and the broadleaf area increasing from 3.1% to 5.5 in order to meet broadleaf UKFS targets. These changes will potentially contribute to the overall resilience of the forest to disease and climate change. (See **Section 4** Analysis & Concept and Map7 Future Habitats and Species Map).

5.4 Age structure

Age	Successional stage	Current age structure %	2025 age structure %	2035 age structure %
0 - 10	Establishment	3	11	11.5
11 to 20	Early thicket	19.8	13.7	12.6
21 - 40	Thicket & pole stage	14.2	26.4	24
41 - 60	Mature high forest	6	8.8	14
60+	Old forest	36	23	18.5
Open	Open space	8.9	9.4	10.4
	Felled	12.1	7.7	9
		100	100	100



5.5 PAWS restoration

An area of Culriach is identified for full restoration as per the forest district's conservation team's action plan. Natural regeneration of PAWS areas is standard, and the main issue will be controlling weeds such as Himalayan Balsam and Hogweed (See Appendix 8 Culreach SSSI plan and Appendix 9 Spey Mouth Appropriate Assessment). Any other undesirable species such as sycamore will be removed during thinning.

5.6 Management of open land

The main areas of open space are associated with the lowland heathland areas located at Gow Moss and Moss of Cairnty which have been identified as priority sites (See appendices 6 and 7). Elsewhere the plan has open areas associated with powerlines, gully systems and floodplains along the Spey. In addition to these areas there will be a network of transitional open space between the felling and establishment operations, which will provide suitable feeding and breeding habitat for various species.

5.7 Deer management

Specifically for this area roe deer are found along with the occasional red, where currently and historically browsing has been at the lower end of the spectrum (~5 deer per 100ha). However, the wildlife team still recommends establishing

broadleaf areas with deer fences, as there are limited existing broadleaf areas and they would be browsed by choice by the deer.

Wild deer on the National Forest Estate (NFE) are managed in accordance with the Scottish Government's strategy "Scotland's Wild Deer a N ational Approach" and und er the auspices of the Code of Practice on Deer Management. The strategy and Code of Practice takes recognition of the fact that Wild deer are an asset, an integral part of Scotland's biodiversity and provide healthy food and recreational opportunities. The challenge of managing wild deer originates in a ne ed to balance the environmental, economic and deer welfare objectives of the Scottish nation with the objectives of private landowners for forestry, agriculture, sporting and other forms of land use.

The principal legislation governing the management of deer in Scotland and hence on the NFE is the Deer (Scotland) Act 1996.

It is therefore FCS deer policy to;

- Prevent adverse deer impacts on commercial tree crops and the wider habitat. In doing so to carry out deer culling in an exemplary and humane way.
- Work closely with relevant organisations and neighbours to make sure that there are integrated deer management plans which seek to recognise the interests of all parties.
- Take opportunities to optimise income from venison from sporting where this does not conflict with our primary objective of maintaining deer impacts at an acceptable level, in line with Quality Meat Scotland accreditation in the form of The Scottish Quality Wild Venison (SQWV) Assurance Scheme
- Take all practicable steps to slow down the expansion of deer species into areas where they are not currently present.

All deer management will be carried out in accordance with OGB 5 - Deer management.
The aim is to manage deer density safely and humanely at a level which is consistent with acceptable impacts on forests and other habitats. This is likely to be at a density level of 5 to 7 deer per 100 hectares.
Deer cull plans are prepare for each Deer Management Unit and are the responsibility of the Wildlife Ranger Manager.

5.8 Access

These are shown on map 5 – Management

A prior notification of the roads work will be undertaken when appropriate details of the roads will be supplied to the local authority (See Appendix 10- Planned Roads and Prior Notification).

5.9 Pathogens

Hylobius

In common with the majority of the national forest estate, most restocking in the plan area has traditionally taken place within two years of sites being clear felled. However many seedlings were badly damaged or killed by an endemic forest pest known as the Large Pine Weevil, Hylobius abiatis. This species lays its eggs in deadwood and stumps on clearfell sites and the emerging adults feed on the bark of young trees, often with devastating effect on newly planted conifer crops.

Previously this damage was countered by the planting of seedlings treated with insecticide, followed by 'top-up' spraying of the trees during spring and summer. However Forestry Commission is committed to a policy of chemical reduction on the national forest estate, in line with current European Union directives on chemical use, which has had a significant effect on the way we manage this pest.

From 2008 Moray and Aberdeenshire forest district introduced a default four-year fallow period for clearfell sites. This allows for the Hylobius population to peak and then drop to acceptable levels before restocking is carried out. Fallowing has been shown in studies to be the most effective method of establishing trees without intensive chemical input. Although the default fallow period is four years, restocking may take place before then if monitoring, using the Forest Research Hylobius Management Support System shows that it is safe to do so.

The Hylobius Management Support System (MSS) is based on a simple monitoring protocol using billet traps to measure Hylobius numbers on individual clearfell sites. The numbers recorded are used, with other information entered into the Hylobius MSS software, to determine the best way to manage clearfell sites for successful, cost effective and environmentally friendly restocking.

Dophistroma needle blight

In brief what has happened on the ground is Lodgepole Pine has progressed over the years increasing in infection and in turn be ing targeted for felling. Scots Pine and Corsican Pine crops have been recruited with the infection but although suffering from needle loss there are few losses from death in these crops.

The main risks of the disease to the business are:

- Increased felling programme causes increased work load for timber harvesting and marketing and restocking operations.
- Premature felling increases cost, reduces income and creates a heavy additional workload due to the amendments to land management plans, work plans and programmes.
- A high proportion of dead trees make sites uneconomical to harvest. This is exacerbated where wet sites require extensive brash cover that is not available from these sites and c ould lead to breaches of environmental legislation.
- DNB could cause widespread death of Pinewoods and loss of an extremely valuable habitat.
- Increased felling programme and long fallow periods cause problems with adjacency and deforestation that does not comply with UKWAS.
- Resilience measures such as pruning and early thinning/respacing are all operations that will increase cost.

The objectives of management to reduce the above risks are:-

- Slow down the spread of DNB
- Reduce inoculum levels in infected coupes and blocks and reduce the risk of hybridisation of mating types and/or genotypes.
- Minimise the economic loss by prioritising felling of infected sites with low mortality and a marketable value
- Increase resilience of uninfected stands
- Manage felling programme to minimise adjacency problems
- Ease the workload by implementing a more flexible approach to tolerance for LMPs and utilising a more agile programme management approach.
- Prioritise felling and restock operations to spread the increased felling programme over a number of years and therefore make the programme more achievable.
- Monitor impact of DNB on different species over time i.e. Scots Pine.

These objectives will be met by undertaking the following management practices.

Priority clear felling of infected coupes with marketable timber. Priority will be given to sites with the greatest risk for further spread. Table 1 below identifies how to prioritise activity. Infection levels are assessed based on data collected during the summer extensive survey. Where coupes are inaccessible and there is little value in felling the trees because of high infection levels the trees will be retained as standing deadwood. Table 1 below shows the scoring allocated to each coupe.

The following scale and categorisation has been agreed upon for assessing tree crop condition. Crop is graded using a seven point scale based on a visual assessment of needle retention, mortality, crown density, bark condition and light levels/ground vegetation abundance.

1	Healthy Crop. No evidence of infection.
1/2	Intermediate between 1 and 2.
2	Evidence of early stages of infection. E.g. some needle loss, thinning of crowns, early signs of mortality.
2/3	Intermediate between 2 and 3.
3	Clear evidence of infection. E.g. significant needle loss, 'lion's tail' effect, clear sight lines through the crop, presence of vegetation cover on forest floor, possible bark splitting, mortality is evident.
3/4	Intermediate between 3 and 4.
4	Crop is dead or is very likely to die. E.g. will die within the next few months, high mortality and is unlikely to recover.

Table 1: Clearfelling prioritisation

<u>Felling priority based on score</u>

1: Rarely changes to date of coupe operations. Thin or potentially clearfell small areas as part of an adjacent thinning coupe. Decision based on coupe size/volume, percentage of pine in mixture etc;

2: Felling date brought forward and crop felled at earliest opportunity. Exceptions to this may be for environmental or economic reasons.

3: Felling date brought forward and crop felled at earliest opportunity. Where the species and origin in this coupe are declining rapidly the coupe will be prioritised over more resistant species and origin, this will be based on the intensive survey results to allow prioritisation of different origins at district level.

4: LMP felling date will be adhered to and not delayed for other reasons.

Restocking DNB sites

In order to increase the resilience of the estate to DNB and other diseases it is important that the right trees are selected for the right site based on site type and climate. Restocking following DNB infection would give opportunities to consider alternative species to meet FES objectives (see section 5.2 Future Habitats and species).

Phytophthora ramorum

The forest district will continue to be surveyed by helicopter in order to identify further Phytophthora ramorumon infected larch, as part of a national effort. If any areas are confirmed as indeed infected they would be served with a Plant Health Statutory Notice by Grampian Conservancy, and thereafter felled and marketed subject to appropriate biosecurity measures and risk assessments. These sites would be restocked with alternative conifers and broadleaves (Section 5.2 Future Habitats and species).

5.10 Critical Success Factors

- Undertake felling and restocking within sensible periods to allow for continued restructuring of the forest.
- Undertake the planned thinning programme in order to improve crop quality
- Carry out LISS prescriptions (appendix 4) for biodiversity, environment and recreational benefits.

- Manage moorland area identified for Heathland restoration, specifically at Moss of Cairnty and Gow Moss- Appendix 6&7.
- Remove invasive non-native species in Culriach as per SSSI plan- Appendix 8&9.
- Establish quality broadleaves with consideration to- the Red squirrel stronghold to be managed as per Forestry Commission Practice Note2- Managing Forests as Red Squirrel Strongholds.
- Construct the planned forest roads to improve access within the forest and undertake a prior-notification- Appendix 10 Planned Roads and Prior Notification.
- Maintain access and integrity of scheduled ancient monument- Meikle Dramlach bridge.
- Continue to liaise with Speyside Fisheries Trust and SEPA in regards to future management of Fochabers burn.

Appendix 1 – Consultation record

Statutory Consultee	Date contacted	Date response received	Issue raised	Forest District Response
Scottish Natural Heritage (SNH)	17/10/13	17/10/13	Our input over the years to these areas has predominantly been to further the interests of the wet woodland. Culriach is within the designated area and Warren Wood is just out with it, and the latter woodland has been subject to erosion and flooding. It is recommended to use adaptive management in these sections of woodland, as the river will influence what can reasonably be achieved in terms of forestry. The protected areas affecting the area are -	Native woodland will be established in association with the Spey and the Fochabers Burn, and this will be positive for wet woodland habitat and also for flooding and erosion. Habitat favourable for Capercaillie will be achieved through managing the forest largely as a low impact silvicultural system. Ospreys will be protected as per current legal responsibilities. During all operation water & forest guidelines will be adhered

			River Spey SAC and SSSI, Lower River Spey - Spey Bay SAC, Lower River Spey SSSI, Moray and Nairn Coast SPA and Ramsar site. The area is associated with Capercaillie and it is recommended to seek advice as what to do for habitat in these areas Operations should consider avoiding impacts on water quality during harvesting and road operations. Other interests that are linked geographically are ospreys that feed in the estuary but no doubt nest in places like Whiteash and Ordiequish. Would be supportive of actions to restore peatland and wetland areas to improve biodiversity value within the area.	to. Priority areas at Gow Moss and Moss of Cairnty will be restored where this complies with the FCS Peatland guidance, UK Forestry Standard and the Scottish government's policy on control of woodland removal. Any wetland areas are identified would be protected as per the Water Framework Directive, where forest adjacent to river Spey and Fochabers burn will be naturalised. The plan will comply with the statutory requirements and key external policies outlined in section 3.7.

Scottish Environmental Protection Agency (SEPA)	17/10/13	None	Details of future felling and planting should be submitted where less than 20% of any water body should be felled within any three year period. The forest should contribute towards achieving the objectives of the River Basin Management Plan, where both the River Spey and Fochabers burn have downgraded ecological status. It is also recommended to consult with Spey Fisheries Board in regards to these watercourses. Water structures should be identified where removal would deliver environmental improvement. Also any new structures within the plan such as roads should be outlined. Invasive species should be	New planting/felling/roads are outlined in Maps 5-9. No area greater than 20% of any catchment will be felled in any 3 year period. The forest plan develops a vision for the contribution of woodlands to management of the catchment while promoting and supporting good woodland management practice towards the objectives of integrated catchment management, addressing both 'nativeness' and landscape issues while also benefiting the local economy, communities and recreation interests. This will be achieved through implementing restructuring and appropriate scale silviculture, including continuous cover forestry within the catchment

			identified and proposals for control outlined. The plan should confirm adherence to the UK Forestry Standard and related Forestry Standard Guidelines and comply with the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations (as amended) (CAR). We would be supportive of any low impact silviculture system, which reduces extraction damage to soils and the likelihood of resulting impacts on the water environment. Forest management should enhance the potential of forests to protect society and the environment from the various effects of climate change, where this is particularly relevant to peat land, where appropriate restoration of	where appropriate. Riparian and floodplain woodland will be established both along the river Spey and Fochabers burn to reduce flooding and aid bank stabilisation. The Spey Fisheries board have been consulted, where recommendations include removal of conifers along riparian corridors and establishment of native woodland. A report was previously undertaken by the river restoration centre for Fochabers burn, where recommendations have been taken on board for improving nativeness of riparian areas, which would mitigate against flooding events. Other suggestions taken on board include felling trees into/over the channel to add structural complexity, slow spate flows, retain

			deep peat in line with current guidance may be appropriate within this plan. The SEPA wetland inventory indicates that there are some wetlands within the plan and it would be preferable to establish native woodland on these sites, where seepages, springs or flushes found on site are protected. There is a requirement to conform to SEPA' guidance management of forestry waste. Scottish Natural Heritage need to be consulted if it is thought that the proposal will affect a protected site or protected species.	sediment and provide habitat/cover for fish and invertebrates. In regards to engineering suggestions which could restore natural processes, such as weirs and bridge aprons being removed if they are no longer necessary or are functioning poorly, there are concerns that there is no 'quick fix' and many issues have impact far beyond their immediate location. The Fochabers burn issues will not be sorted overight and there is ongoing discussions between SSSI, Speyside fisheries trust and the forest district. Details of new roads are detailed on Map 9. Invasive species within planted ancient woodland area of Culriach should be removed in order to allow natural regeneration of native

				species. Elsewhere invasive species should be removed dependent on resources and other priorities. The plan will comply with the statutory requirements and key external policies outlined in section 3.7. A large area of the forest will be managed as low impact silvicultural system and details of these are available in Appendix 4-LISS prescriptions. Priority areas at Gow Moss and Moss of Cairnty will be restored where this complies with the FCS Peatland guidance, UK Forestry Standard and the Scottish government's policy on control of woodland removal. Any wetland areas are identified would be protected as per the Water Framework Directive,

				where forest adjacent to river Spey and Fochabers burn will be naturalised. Any forest waste operations would be undertaken after consultation with SEPA. Scottish Natural Heritage has been consulted with in regards to this plan.
Moray Council (roads)	17/10/13	22/10/13	Our only comment is in relation to the local roads network. The area is well served by local roads many of which are already Agreed Routes. Where possible haulage should take place using these routes, if haulage requires to take place using non-Agreed Routes then further consultation will be required and conditions agreed.	Only agreed haulage routes are used.
Moray Council (Planning)	17/10/13	None	Only reference is to consult with roads department.	See comment above ^

Moray Council (Archaeology)	17/10/13	22/10/13	The sites include one Scheduled Monument, NJ35NE0003, a bridge on the old military road, now part of the forestry track. There are a number of other archaeology sites and listed buildings.	All archaeology and listed buildings will be considered during any operations and specific management plans will be followed as per Historic Scotland's guidance. The scheduled Meikle Dramlach bridge will be maintained in a stable condition with continued access.
Historic Scotland	17/10/13	22/10/13	Whiteash Forest contains one scheduled monument, which is an archaeological site that has been recognised as being of national importance and is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas Act 1979. 'SM 3881 Meikle Dramlach, bridge' is located within Whiteash Forest and comprises a well constructed bridge	Management plans relating to scheduled monument to be followed and full consultation with Historic prior to any works within the scheduled area. Most of the original area of the historic garden landscape is now heavily overlain with commercial plantings of the 20th century which now masks most of the former design, and therefore there is no specific management in place. However, prior to

			carrying the former military road across a steep sided burn. A 10 year Monument Management Plan was agreed between FCS and HS in 2009 to cover management of this monument within Whiteash Forest, and the actions contained within this plan should therefore be embodied within the wider overarching Forest Design Plan. It is important to note that any works to a scheduled monument require the prior written permission of Scottish Ministers, a process known as scheduled monument consent (SMC) which is administered by Historic Scotland. Such works would include any felling or thinning within the	works any remnants of value will be identified and retained.

			scheduled areas (which may extend beyond the visible remains), or any extraction running through the scheduled areas. In addition, a large proportion of Deer Park lies within the Inventory Garden and Designed Landscape of Gordon Castle. Management of Deer Park should therefore ensure that elements considered important in terms of the designed landscape should be protected and managed in line with their historical designed/planted importance.	
Strathisla community council	17/10/13	None	N/A	N/A
Lennox community	17/10/13	None	N/A	N/A

council				
The Royal society for the protection of birds (RSPB)	16/10/13	16/10/13	Capercaillie is an important species within this forest and appropriate habitat would be preferred. Providing a diverse forest structure will also benefit goshawk, osprey, crested tits, crossbill species and red squirrel, that are also found in these forests. The retention and management of deadwood within the forest would provide biodiversity benefits. We recommend that if woodland management that causes disturbance takes place within the main bird breeding season (April to June) the FCS Guidance Note 32: Forest operations and birds in Scottish forests is utilised,	LISS will be the predominant management system within the forest where habitat is suitable for Capercaillie and red squirrels and other wildlife. LISS is associated with a higher level of deadwood. FCS Guidance Note 32: Forest operations and birds in Scottish forests (Nov 2006) will be followed. There is an ongoing management aim of restructuring the forest which will have associated biodiversity benefits.

			and appropriate checks for active nests are undertaken. This will avoid unnecessary disturbance of breeding birds and ensure that the requirements of the Wildlife and Countryside Act, as updated by the Nature Conservation (Scotland) Act 2004 are met.	
Scottish Wildlife Trust	29/11/13	17/12/13	Forest is a red squirrel stronghold.	Forest Management to favour red squirrels over grey squirrels as per Forestry Commission Practice Note2- Managing Forests as Red Squirrel Strongholds.
Historic Garden Society	17/10/13	25/10/13	The majority of planting around Deer Park would have been undertaken as part of the 1780s/90s landscape improvements and most of the remnant species found probably date from this era. Mapped	Most of the original area of the historic garden landscape is now heavily overlain with commercial plantings of the 20th century which now masks most of the former design, and therefore there are no

			evidence indicates that this south eastern area of the deer park was wooded prior to the 18th century, and from the geometrical layouts indicated this would be likely to have been plantations rather than naturally occurring woodland. Although the total area is now heavily overlain with the commercial plantings of the 20th century, thereby masking most of the former design, careful management of the surviving fragments, together with the replanting of appropriate species, will both assist in maintaining and restoring some elements of the 18th century layout.	specific management objectives in place. However, prior to works any remnants of value will be identified and retained.
Speyside Way	17/10/13	None	N/A	N/A
Spey Fisheries Board	17/10/13	17/10/13	The Fochabers Burn has had issues with flooding and the burns habitat has	The Fochabers burn will be enhanced with riparian woodland. Discussions are

			suffered through various interventions. This is partly due to the coniferous trees which are planted right up to the burns edge. The removal of these and the establishment of a native riparian zone would greatly enhance the biodiversity of the burn. Strategically placed dead wood and log jams to try and slow the flow of water at peak times would also help.	ongoing with SEPA, Spey Fisheries Board and Forest District in regards to placing dead wood in Fochabers burn.
Gordon Castle Estate	17/10/13	30/10/13	Eager to preserve the historic planting in the area. Thinning conducted on boundaries is a concern as it could lead to increased windblow on Gordon Castle Estate. It is requested that the estate is included in the Deer management plan. We would welcome the creation of other naturalised broadleaf to	Most of the original area of the historic garden landscape is now heavily overlain with commercial plantings of the 20th century which now masks most of the former design, so there are no specific management objectives in place. However, prior to works any remnants of value will be identified and retained. Appropriate

			assist in the flood and catchment of the area.	consultation will occur where forest operations could have an impact on neighbouring forest, and this will include covering any deer management issues. The plan will seek to improve riparian woodland.
Fochabers Heritage Centre	29/11/13	None	N/A	N/A
Christie Nurseries	17/10/13	None	N/A	N/A
Scottish and Southern Energy (SSE)	2/12/13	None	N/A	N/A
Smith Gore	29/11/13	None	N/A	N/A
Delfur estate	29/11/13	None	N/A	N/A
Crown estate	29/11/13	None	N/A	N/A
Outfit Moray	29/11/13	None	N/A	N/A
Moray sled dog association	29/11/13	None	N/A	N/A
Moray road runners	29/11/13	None	N/A	N/A
Moray mountain bike	29/11/13	20/12/13	N/A	N/A

club				
Moray Equestrian Access Group	29/11/13	None	N/A	N/A
Moravian Orienteers	29/11/13	None	N/A	N/A
Keith running club	29/11/13	None	N/A	N/A
Jog Scotland (Buckie)	29/11/13		Jog Scotland Buckie think it is good to know that an overall plan is being looked at, especially if it involves an examination of footpath provision in the 'east zone' of Speymouth's woodlands. Buckie is conspicuous amongst north east towns in not having ready access to edge of town/community woodland: consequently, several of our members will travel to Fochabers for an off-road experience. We therefore welcome any moves you make in the future to improve this situation, either within the	The forest is a forest district hub for recreation and already has a substantial recreation element.

			existing areas around Fochabers, or even nearer to Buckie itself.	
Jog Scotland (Fochabers)	29/11/13	None	N/A	N/A
Jog Scotland (Keith)	29/11/13	None	N/A	N/A
SSE	29/11/13	None	N/A	N/A
Confor	April 2016	None yet	N/A	N/A
Burn of Fochabers Woodland Trust	22/3/16	23/3/16	Only observation is no specific mention of maintaining and encouraging wildlife e.g. red squirrels and osprey . Nice to see the popularity of the mountain bike trails. There has been a problem with litter left near the car parking on Ordiequish road so perhaps more bins required.	Main part of forest is red squirrel stronghold and forest will managed specifically for this species. Ospreys will be protected as per environmental legislation. The forest is a hub for recreation. Recreation team informed about possible need for more bins.
Neighbour		4/1/16	Our concerns are about the amount of felling which has taken place over the last couple of years at Gow	The large scale fellings have been associated with removal of DNB infected Lodgepole Pine.

			Moss and we wish to know what the proposals are for restocking this ground. As you are aware the amount of felling was far more than would be usual in a block of this size and we are keen to see as much of the ground restocked as possible, both for the aesthetic views of the area from our house but also for the economic use of the ground. We are also interested in the proposals for ground preparation for the restocking and drainage measures which will need to be put in place. Therefore we would like to see the proposed Land Management Plan when you have it available please. We will then be better placed to make any comments on your proposals. Finally we would like to be kept up to	In compliance with the FCS Peatland guidance, the main central area of Gow Moss (161ha) has been identified for being restoration to open bog habitat (peat depth >1m). A second area has been identified for edge woodland as peat depth is not consistently over 0.5m, where this will be established with SP and Birch along with a component of open space. Areas of peat <0.5m have been identified for commercial woodland and will be established with SP, Birch and Larch. Open bog habitat will be subject to drain blocking in order to aid restoration (See Appendix 7- Gow Moss). Neighbour will be kept updated on the work being undertaken at Gow Moss.

			date on what works is occurring on Gow Moss.	

Appendix 2 – Tolerance table

	Adjustment to felling period	**Adjustment to Felling coupe boundaries**	**Timing of restocking**	**Change to species**	**Windthrow clearance**	**Designed open space**	**Changes to roadlines**
Approval by formal plan amendment	Advance felling of unapproved coupe into current 10 year plan	>4.0 ha or 10% of coupe.	Over 4 planting seasons after felling	Change between species group i.e. conifer or broadleaf	> 4.0 ha in sensitive areas. >6.0ha in low sensitivity areas.	More than 2ha or 10% Any reduction in open space in sensitive areas Colonisation of open areas agreed as critical	As below in high sensitivity areas.
Approval by exchange of letters and map	Felling moved into previous or subsequent 5 year period	1.0 ha to 4.0 ha or 10% of coupe – whichever is less			1.0 ha to 4.0 ha – if mainly windblown trees in sensitive areas 1.0ha to 6.0 ha – if mainly	Increase of 0.5ha to 2ha or 10% - whichever is less Any reduction in open space	Additional felling of trees not agreed in plan. Departures of > 60m in either direction from

					windblown trees in areas of low sensitivity		centre of line of road in low sensitivity areas.
FC Approval not normally required	Fell date can be moved within 5 year felling phase where separation or other constraints are met.	1.0 ha or 5% of coupe area – whichever is less.	Up to 4 planting seasons after felling	Change within species group i.e. conifer or broadleaf	Up to 1.0 ha	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	No greater area to be felled than originally proposed Departures of < 60m in either direction from centre of line of road

Appendix 3 – FDP Brief

Theme- priority	Key Commitments	District specific action	Analysis	Proposed Action
Healthy (medium)	We are committed to high quality silviculture and, increasing, to using alternatives to clearfelling.	Moray & Aberdeenshire District has a high proportion (30%) of woodland cover managed under low impact silvicultural systems, which is a figure we want to maintain as a minimum.	Significant area of forest is suitable for low impact silvicultural systems.	Where possible manage forest as LISS for biodiversity, environment and recreation benefits.
Healthy (medium)	We are exploring how to best steward the carbon resources locked up in the estate's tree and soils.	The District will adopt a low impact silvicultural system where feasible to minimise the impact of ground preparation and felling, and follow Forest & Water Guidance and Forest Soils Guidance 2011.	Steep gully systems are found on fragile soils which are difficult to access.	Deep gullies will be managed to minimise soil damage.
Healthy (medium)	We will help the estate adapt to climate change and become more	The district will continually make good use of ecological site classification to closely fit	Pine is ideally suited to the large area of poor soils, however overdependence could reduce the resilience	In order to create a robust forest utilise the ecological site classification to establish

	resilient to pressure.	species to sites, and take into account the anticipated effects of climate change (One important possible effect is that some Sitka spruce sites could become more susceptible to drought).	of the forest to disease and climate change.	Scots Pine as the main species on the most appropriate sites, but elsewhere where conditions allow take opportunities to create species diversity.
Healthy (medium)	We will help the estate adapt to climate change and become more resilient to pressure.	The district will manage Dophistroma needle blight in lodgepole pine during the period of this plan and, by reducing inoculum levels, will seek to safeguard Scots Pine woodlands, particularly in Speyside/Deeside and on the Moray Coast at Culbin.	There are different categories of Dophistroma infected crop within the forest.	Prioritise diseased crop for removal in order to maximise timber value and reduce inoculum levels.
Healthy (medium)	We will help the estate adapt to climate change and become more	We will continue to work with partners to reduce the risk of flooding due to a changing climate. Areas	The forest has a number of areas associated with flooding such as the Spey	Smaller coupe or low impact silvicultural systems which favour native woodland in areas

	resilient to pressure.	at risk include Donnottar Wood, the Deveron and Fochabers burn.	and Fochabers burn.	associated with flooding, will be beneficial to flood and catchment management.
Healthy (medium)	We are committed to dealing with invasive plants and animals that threaten habitats and biodiversity.	We will continue to work with partners to destroy Japanese knotweed (especially in the Spey catchment) and to help eradicate giant hogweed (in Deveron catchment).	Himalayan Balsam and Giant Hogweed are present along the Spey and in particular in the planted ancient woodland site in Culriach. Western Hemlock is prolific for regenerating adjacent to gullies, and elsewhere rhododendron, gorse and other weeds are regenerating on the more nutritious soils.	Invasive species within planted ancient woodland area of Culriach should be removed in order to allow natural regeneration of native species. Elsewhere invasive species should be removed dependent on resources and other priorities.
Productive	We aim to provide at least three million cubic metres of sustainable softwood timber every year.	The district will maintain a sustainable annual softwood timber production of 340,000 cubic metres over bark standing.	This is an important forest for producing timber for local markets.	Continue to manage the forest using good silviculture to improve timber quality and optimise production.
Productive	We intend to manage at least a quarter of our expanding broadleaf	The district will adhere to its local broadleaf strategy. This includes increasing	Some areas of Deer Park are associated with better soils.	Establish high quality commercial timber on suitable sites.

	woodlands to produce quality hardwoods and woodfuel.	our productive broadleaf resource by planting a further 700ha by 2019.		
Treasured	We are committed to creating more uniquely special places across the Estate and to delivering benefits to an increasingly diverse range of Scotland's people.	To enhance the visitor experience, we will continue to make visual and environmental improvements around priority visitor recreation sites and along major tourist routes.	Mulderie is more visible and sensitive within the landscape. Elsewhere the forest is seen as a plateau backdrop between Fochabers and Keith, where internal or short views from roadsides are generally more important than distant views of forest hillsides. There are powerlines located within the forest.	For the forest to tie in with the landscape character its shape, scale and diversity should relate to dominant characteristics of the landscape. This is of particular relevance to Mulderie. There is limited scope for improvement of powerlines within the forest without the loss of productive land.
Accessible	We will continue to invest available resources into high quality facilities that encourage and help visitors experience and enjoy the outdoor environment.	We will continue to review our facilities and prioritise resources to ensure they continue to deliver a safe, high quality product at key locations (such as Bennachie) to meet the needs of local people and visitors in accordance with priorities informed by our	The forest is a hub for recreation with an already established path network.	Maintain Spey Mouth as a focal point for recreation within the forest district.

		visitor surveys.		
Cared For	We are committed to maintaining the best open habitats in good ecological condition.	We will work to the Peat Policy and Lowland Raised Bog Strategy and look for opportunities to protect and enhance carbon rich soils. We will continue reinstatement work at Gowmoss and the Moss of Cairnty while looking for further sites as forest plans are reviewed.	The main deep peat areas are associated with Moss of Cairnty and Gow Moss. Elsewhere peat areas are not priority sites as they are fragmented and more suitable for planting woodland.	Priority areas at Gow Moss and Moss of Cairnty will be restored following FCS Peatland guidance, UK Forestry Standard and the Scottish government's policy on control of woodland removal.
Cared For	We are committed to maintaining the best open habitats in good ecological condition.	We will ensure that all our Land Management Plans take into consideration the requirements of the Water Framework Directive.	The forest is proximity to river Spey SSSI, SAC, SPA and RAMSAR designated areas.	Naturalise designated areas to increase biodiversity value.
Cared For	We will identify particularly vulnerable species for which the National Forest Estate is important and take specific conservation action.	Red squirrels exist throughout much of the District and there are a number of stronghold sites. We will safeguard existing populations through beneficial management and by supporting a cull	The forest has been identified as a red squirrel stronghold.	Forest management to favour red squirrels over grey squirrels as per Forestry Commission Practice Note2- Managing Forests as Red Squirrel Strongholds.

		programme to constrain the populations of grey squirrels in the Aberdeen area and along the watercourses of the Don and the Dee. We will also work to maintain habitats suitable for red squirrels with particular emphasis on the Deeside corridor.		

Appendix 4 – LISS prescriptions

*Continuous cover stands: simple = 1 or 2 layers in canopy structure; complex = 3 or more layers in canopy structure
*Presumption will be that regeneration will be natural, unless otherwise stated.

Coupe (See map 1 below)	Management objective/Reason for selection		Long-term structure* and desirable species	Age Trans. period and return time (years)	Regeneration and ground flora	Observations (e.g. likely barriers to achieving objective)	Next treatment required**	Other useful information
1	Uniform Shelterwood 21.5ha	Species diversity and timber production	Simple structure MC 100%	Age- 68 years, Trans period- 132 years, Return time- 7 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown Thinning	N/A
2	Uniform Shelterwood 14.6ha	Biodiversity, recreation, environment and timber production	Simple structure SP 70, MB 10%, Open 20%	Age 66 years, Trans period- 145, Return time- 7 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown Thinning	N/A
3	Uniform	Biodiversity,	Simple	Age- 59	JL	No issues	Crown Thinning	N/A

	Shelterwood 19.3ha	recreation, environment and timber production	structure SP 80%, JL 20%	years, Trans period- 143 years, Return time- 7 years	regeneration in places (Jan 2016)	yet (Jan 2016)		
4	Uniform Shelterwood 23.2ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, JL 20%	Age- 63 years, Trans period- 137 years, Return time- 7 years	JL regeneration in places. Ground flora- heather/grass vegetation (Jan 2016)	Western Hemlock regenerating could be an issue for establishing desired species (Jan 2016)	Crown Thinning	Use Western Hemlock for brash mat and seek market for timber
5	Uniform shelterwood 6.1ha	Biodiversity, recreation, environment and timber production	Simple Structure, SP 60%, Birch 40%	Age- 86 years, Trans period- 120, Return time- 10 years	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown Thinning	N/A
6	Uniform shelterwood 157.8ha	Biodiversity, recreation, environment and timber	Simple structure, SP 60%, JL 40%	Age- 53 years, Trans period-	JL regeneration in places. Ground flora-	Western Hemlock regenerating could be an	Crown Thinning	Use Western Hemlock for brash mat and seek

		production		117 years, Return time 10 years	heather/grass vegetation (Jan 2016)	issue for establishing desired species (Jan 2016)		market for timber
7	Uniform shelterwood 105ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age- 61 years, Trans period- 205 years, Return time 7 years	Ground flora- heather/grass vegetation (Jan 2016)	Western Hemlock regenerating could be an issue for establishing desired species (Jan 2016)	Crown Thinning	Use Western Hemlock for brash mat and seek market for timber
8	Uniform Shelterwood	Biodiversity, recreation, environment and timber production	Simple structure, SP 70%, BI 30%	Age- 61 years, Trans period- 95 years, Return time 7 years	Ground flora- heather/grass vegetation (Jan 2016)	On steeper slope below A96 (Jan 2016)	Crown thinning	N/A
9	Uniform Shelterwood	Biodiversity, recreation, environment and timber production	Simple structure, SP 50%, MC 40%, open 10%	Age- 76 years, Trans period- 120 years,	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

				Return time 10 years				
10	Uniform Shelterwood 7.4ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 50%, MC 50%	Age- 2, Trans period- 146 years, Return time 10 years	Good birch regeneration, ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
11	Uniform Shelterwood 5.8ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age- 49, Trans period 111 years, Return time 7 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
12	Uniform Shelterwood 23.5ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age- 48, Trans period 113 years, Return time 7 years	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
13	Uniform Shelterwood	Biodiversity, recreation,	Simple structure,	Age- 71, Trans	Very little (Jan 2016)	Western Hemlock	Crown thinning	N/A

	0.2ha	environment and timber production	SP 80%, MB 20%	period 155 years, Return time 10 years		P45 on site (Jan 2016)		
14	Uniform Shelterwood 130.2ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 70%, JL 20%, MB 10%	Age- 60, Trans period 164 years, Return time 7 years	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
15	Uniform Shelterwood 15.8ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age 65, Tran period 99 years, Return time 10 years	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
16	Uniform Shelterwood 29.5ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 60%, MB 40%	Age 64, Trans period 98 years, Return time 10	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

				years				
17	Uniform Shelterwood 1.3ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 60%, MB 40%	Age 71, Trans period 173 years, Return time 10 years	Very little (Jan 2016)	Adjacent to main road (Jan 2016)	Crown thinning	N/A
18	Uniform Shelterwood 27.4ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age 64, Trans period 108 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
19	Uniform Shelterwood 29.7ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age 64, Trans period 108 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
20	Uniform Shelterwood 62.3ha	Biodiversity, recreation, environment and timber	Simple structure, SP 70%, MB 20%,	Age 60, Trans period 144	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

		production	JL 10%	years, Return time 7 years				
21	Uniform Shelterwood 8.2ha	Biodiversity, recreation, environment and timber production	Simple structure SP 60%, Birch 40%	Age 79, Trans period 93 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
22	Uniform Shelterwood 35.7ha	Biodiversity, recreation, environment and timber production	Simple structure SP 70%, BI 20%, JL 10%	Age 15, Trans period 109 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
23	Uniform Shelterwood 48ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, JL 20%	Age 58, Trans period 72 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
24	Uniform	Biodiversity,	Simple	Age 64,	Ground flora-	No issues	Crown thinning	N/A

	Shelterwood 8ha	recreation, environment and timber production	structure, SP 80%, MB 20%	Trans period 98 years, Return time 10 years	heather/grass vegetation (Jan 2016)	yet (Jan 2016)		
25	Uniform Shelterwood	Biodiversity, recreation, environment and timber production	Simple structure, SP 50%, MC 40%, Open 10%	Age 61, Trans period 125 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
26	Uniform Shelterwood 15.9ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80% MB 20%	Age 68, Trans period 92 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
27	Uniform Shelterwood 175.2ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 60%, MB 20%, JL 20%	Age 60, Trans period 154 years, Return	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

				time 7 years				
28	Uniform Shelterwood 74.2ha	Biodiversity, recreation, environment and timber production	Simple structure, SP 80%, MB 20%	Age 52, Trans period 105 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
29	Uniform Shelterwood 85ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, MB 10%, NS 10%	Age 71, Trans period 170 years, Return time 7 years	Good birch regeneration, ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
30	Uniform Shelterwood 7.2ha	Biodiversity, recreation, environment and timber production	Simple structure SP 60%, MB 30%, Open 10%	Age 101, Trans period 125, Return time 7 years	Very little (Jan 2016)	Granny pine area would require manual felling or otherwise would be left to senesce	Crown thinning	N/A
31	Uniform Shelterwood	Biodiversity, recreation, environment	Simple structure SP 80%,	Age 54, Trans period	Ground flora-heather/grass vegetation	No issues yet (Jan 2016)	Crown thinning	N/A

	6.8ha	and timber production	MB 20%	138, Return time 10 years	(Jan 2016)			
32	Uniform Shelterwood 10.1ha	Biodiversity, recreation, environment and timber production	Simple structure SP 70%, BI 30%	Age 12, Trans period 96, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
33	Uniform Shelterwood 10.7ha	Biodiversity, recreation, environment and timber production	Simple structure SP 70%, BI 30%	Age 64, Trans period 103 years, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
34	Uniform Shelterwood 13.1ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, MB 20%	Age 64, Trans period 133, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
35	Uniform	Biodiversity,	Simple	Age 67,	Ground flora-	No issues	Crown thinning	N/A

	Shelterwood 20.3ha	recreation, environment and timber production	structure SP 70%, BI 30%	Trans period 101, Return time 10years	heather/grass vegetation (Jan 2016)	yet (Jan 2016)		
36	Uniform Shelterwood 136.9ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, JL 20%	Age 56, Trans period 180, Return time 7years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
37	Uniform Shelterwood 12.4ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, MB 20%	Age 65, Trans period 169, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
38	Uniform Shelterwood	Biodiversity, recreation, environment	Simple structure SP 100%	Age 67, Trans period	Ground flora-heather/grass vegetation	No issues yet (Jan 2016)	Crown thinning	N/A

	3.3ha	and timber production		91, Return time 10 years	(Jan 2016)			
39	Uniform Shelterwood 19.1ha	Biodiversity, recreation, environment and timber production	Simple structure SP 100%	Age 12, Trans period 100, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
40	Uniform Shelterwood 20.2ha	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, MB 20%	Age 64, Trans period 135, Return time 7 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
41	Irregular Shelterwood 5.5ha	Biodiversity, recreation, environment and timber production	Complex structure BI 100%	Age 12, Trans period 56, Return	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

				time 10 years				
42	Irregular Shelterwood 23.5ha	Biodiversity, recreation, environment and timber production	Complex structure SP 60%, BI 20%, JL 20%	Age 58, Trans period 82, Return time 10 years	Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown Thinning	N/A
43	Group selection 46.7ha	Recreation	Complex structure MC 40%, MB 30%, Open 30%	Age 86, Trans period 180, Return time 10years	Various species starting to come up now- Birch, Sitka Spruce, Scots Pine, Western Hemlock. Ground flora- heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	4.8ha of group felling (16*0.3ha)	Felling groups to target existing regeneration
44	Uniform Shelterwood	Biodiversity, recreation, environment	Simple structure SP 80%,	Age 55, Trans period	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

	4.1ha	and timber production	MB 20%	139, Return time 10 years				
45	Group Selection 17.4ha	Biodiversity, recreation, environment and timber production	Complex structure SP 70%, MB 30%	Age 89, Trans period 183, Return time 10 years	Some birch regeneration. Ground flora-heather/grass vegetation (Jan 2016)	SS and DF within this area are younger and some of the DF already thinned so only 1ha for group selection (Jan 2016)	Matrix thin with 1ha group felling (3*0.33ha)	Felling group to target existing regeneration
46	Group Selection 41.3ha	Biodiversity, recreation, environment and timber production	Complex structure SP 50%, DF 50%	Age 26-59, Trans period 153, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	4ha group felling (12*0.33ha)	Felling group to target existing regeneration

47	Uniform Shelterwood 4.4ha	Biodiversity, recreation, environment and timber production	Complex structure SP 80%, MB 20%	Age 60, Trans period 154, Return time 10 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
48	Uniform Shelterwood 13.1ha	Environment-riparian enhancement	Simple structure MB 50%, Open 50%	Age 10-140, Trans period 224, Return time 7 years	Various broadleaves and conifers (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
49	Group Selection 33ha	Biodiversity, recreation, environment and timber production	Complex structure SP 70%, MB 30%	Age 87, Trans period 181, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	There has already been 18 groups felled (Jan 2016)	3ha of group felling (9*0.33ha)	Felling group to target existing regeneration

50	Uniform Shelterwood 1ha	Biodiversity, recreation, environment and timber production	Simple structure BI 100%	Age 60, Trans period 144, Return time 10 years	Birch (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
51	Uniform Shelterwood 1ha	Biodiversity, recreation, environment and timber production	Simple structure	Age 54, Trans period 138, Return time 10 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
52	Group selection 44ha	Biodiversity, recreation, environment and timber production	Complex structure SP 70%, MB 30%	Age 86, Trans period 180, Return time 10	Ground flora-heather/grass vegetation (Jan 2016)	There has already been 29 group fellings (Jan 2016)	3.3ha group felling (10*0.33ha)	Felling group to target existing regeneration

				years				
53	Group selection	Biodiversity, recreation, environment and timber production	Complex structure DF 50%, MB 50%	Age 129-38, Trans period 263, Return time 10 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	Site was visited (June 2015) and it was decided to wait longer before putting groups in.
54	Uniform Shelterwood	Environment-riparian enhancement	Simple structure MB 80% MC 20%	Age 26-86, Trans period 170,	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A

				Return time 10 years				
55	Uniform Shelterwood	Biodiversity, recreation, environment and timber production	Simple structure SP 80%, MB 20%	Age 9, Trans period 193, Return time 10 years	Very little (Jan 2016)	No issues yet (Jan 2016)	First thin at or before 12m top height	N/A
56	Group Selection 17ha	Biodiversity, recreation, environment and timber production	Complex structure SP 70% MB 30%	Age 94, Trans period 128, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	Seven groups already put in. (Jan 2016)	3.96ha of group felling (12*0.33ha)	Felling group to target existing regeneration
57	Group	Biodiversity,	Complex	Age 64,	Ground flora-	No issues	Crown thinning	N/A

	Selection 38ha	recreation, environment and timber production	structure BI 100%	Trans period 158, Return time 10 years	heather/grass vegetation (Jan 2016)	yet (Jan 2016)		
58	Group Selection	Biodiversity, recreation, environment and timber production	Complex structure SP 80% MB 20%	Age 22-86, Trans period 160, Return time 10 years	Ground flora-heather/grass vegetation (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
59	Single Tree Selection	Biodiversity, recreation, environment and timber production	Complex structure BI 50% DF 50%	Age 50-187, Trans period 271, Return time 10 years	Very little (Jan 2016)	No issues yet (Jan 2016)	Crown thinning	N/A
60	Minimum Intervention	PAWS	Complex structure	Age 78, Trans period	Very little (Jan 2016)	Invasive species (Jan 2016)	Remove invasive species (Hogweed/Balsam)	N/A

	11ha		MB 70% Open 20	162, Return time 10 years				
61	Minimum Intervention 1ha	Environment-riparian enhancement	Complex structure MB 90% Open 10%	Age 65, Trans period 149, Return time 10 years	Very little (Jan 2016)	Invasive species (Jan 2016)	Remove invasive species (Hogweed/Balsam)	N/A

(See Map 10: LISS prescription for location of coupes)

Appendix 5 – LISS management

LISS is an approach to forest management in which the forest canopy is maintained at one or more levels without clearfelling.

The word 'approach' is important because:
- we are not following a system;
- there are no standard prescriptions; and
- flexibility is important – to take advantage of opportunities as they arise.

Stands that have been regularly thinned are more likely to be successful with CCF. Crown thinning will be undertaken when transforming stands to CCF rather than low or intermediate types, as used in plantations. The basis of crown thinning is to remove competition from around selected trees (Frame trees), even if the trees to be removed are as big. Using crown thinning usually increases the average tree size, so there is potential for more income.

There are two main types of structure:
- Simple – in which there will be one or two canopy layers of trees
- Complex – where there are three or more canopy layers of trees

1. Transformation of a young (<40 yrs) stand to a simple structure

The objective is to achieve reasonably even regeneration of the desired species and then remove the canopy in a number of thinnings.

Early crown thinning will be heavier (10-20%) than management table intensity and aim to develop 100 equally distributed 'frame' trees per hectare.
'Frame' trees are well-formed dominant trees with good crowns at reasonably even spacing.
When the trees begin to cone (see table 1 below) stands will be thinned to the basal areas shown in table 2 to develop good conditions for regeneration to establish.
If/when natural regeneration occurs it will be more variable than on a planted site, giving more variability in age, density and species.
Canopy removal will aim to maintain a leader-to-lateral ratio of >1 in the regeneration (see figure 1), generally this will be achieved using the basal areas in table 2.

The final removal of the overstorey may not involve all the trees depending on management objectives and windthrow considerations (green tree retention).
If natural regeneration is only partially successful in terms of number and species mix planting will be undertaken. Planting will be concentrated so the location of trees is known and they can be maintained. This will be by using a minimum of 16 trees in distinct group with the trees planted at 1.5 m x 1.5 m to form robust groups.
If natural regeneration has been completely unsuccessful and CCF is still seen as appropriate planting will be undertaken to form the new canopy layer.
Before planting the stand will be thinned to the basal areas for 'seedling growth' in the table 2.
The felling and extraction of the canopy trees will be considered when deciding where to plant.
Planting will be at 2500 trees per hectare in a well-defined pattern so they can be found for subsequent maintenance. 'Blanks' will be left when the planting position is close (<1 m) to canopy trees. This should ensure restocking compliance with OGB 4, as the area under the canopy is not part of the net area.
Attention will be paid to site preparation, vegetation management, plant quality and reducing the impact of mammals to make sure of successful establishment. In general opportunities for site cultivation will be constrained by the overstorey.
If the established crop is between the ages of 20 and 40 years, a transformation period of up to 50 years is expected.

Table 1. Species seed production details.

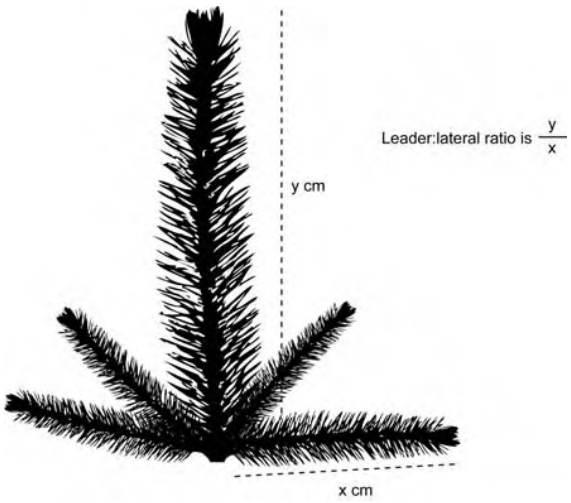
Species	Age of first good seed crop	Age of max seed production	Interval between good seed crops (yrs)
Sitka spruce	25-35	40+	3-5
Scots pine	15-20	60+	2-3
Douglas fir	30-35	50+	4-6
European larch*	25-30	40+	3-5
Japanese larch*	15-20	40+	3-5
Hybrid larch*	15-20	40+	3-5
Western hemlock	25-30	40+	2-3
Corsican pine	25-30	60+	3-5
Lodgepole pine	15-20	30+	2-3
Norway spruce	30-40	50+	**
Noble fir	30-40	40+	2-4
Grand fir	35-45	40+	3-5

Table 2. Basal area guidance for natural regeneration

Species / group	Shade tolerance of seedlings	BA (m2 ha-1) Establishment*	BA (m2 ha-1) Seedling growth**
Larches	Intolerant	20-25***	15-20
Pines	Intolerant	25-30***	20-25
Sitka spruce	Intermediate	30-35	25-30
Douglas fir	Intermediate	35-40	30-35
Norway spruce	Tolerant	40-45	35-40
Western hemlock	Tolerant	40-45	35-40

* On moderate to fertile sites where vegetation regrowth will be faster and more severe the BA for establishment will be increased.
** Seedlings and saplings are growing well under a canopy when the ratio of the length of the leader to the length of laterals in the upper whorl is ≥1, as shown in figure 1.
*** Stands of larch and pine at these basal areas will usually have well-developed ground vegetation layer and control or cultivation will be needed to start regeneration.

Figure 1. Leader-to-lateral ratio.



2. Transformation of a young (<40yrs) stand to a complex structure

The objective is to create a wider dbh range than under a simple system by:

- retaining small trees; and
- encouraging fast growth of selected frame trees

The pattern of regeneration will be different to a simple structure, and will be
arranged in groups that only cover up to 20% of the area at any one time.

Up to 50 'Frame' trees will be selected per hectare and these will be crown thinned so as to keep as many small trees as possible.
'Frame' trees are stable, well-formed dominant trees. They may need to be present on the site for a long time; spacing should be 'clumpy' and not regular. Stable trees will have a larger diameter for a given height.
The stand will be thinned to a residual basal area of about 18-25 m2 per ha for larches and pines, and 25-35 m2 per ha for spruces and Douglas fir. The choice within this range will depend upon the site and the balance between the overstorey and any regeneration. If there is little or no regeneration a higher value will be chosen to provide suitable conditions for seedlings to establish. If there is enough regeneration, which needs to be released, then a lower value will be favoured. The aim at each thinning is to remove enough trees to achieve the chosen residual basal area.
If there is too much regeneration thinning will be concentrated on releasing the best regeneration and attempting to hold it back in other areas.
Planting in complex structures will be considered to increase chances of success.
Trees will be planted in canopy gaps of 0.1 ha minimum size.
Trees will be planted in half the area of the gap in the centre.
Close spacing (1.5 m x 1.5 m) will be used to make the groups robust.
For example, when planting a canopy gap of 0.1 ha 200 trees will be planted at 1.5 m spacing on half the area in the middle of the gap.
Close spacing will ensure rapid canopy closure and planting only half the area ensures minimal competition from the canopy trees, allowing opportunities for natural regeneration and increasing operational access.

3. Transformation in older (>40yrs) stands

Transformation of stands older than 40 years may be possible, especially on wind-firm sites, but the opportunity to steer the development of the young stand in thinning has been lost. The main implications of this are:

for simple systems there will be reduced opportunities for developing the crowns of 'Frame' trees and the window for natural regeneration is reduced. Therefore more 'frame' trees will be retained and a longer regeneration period used.
in complex systems the main risks are that 'Frame' trees will become too large to be marketable, and the stand will still be quite uniform when windthrow starts. The aim is to establish groups of regenerating seedlings under an irregular overstorey while older trees are progressively felled.

Appendix 6 – Moss of Cairnty

Lowland raised bog restoration - Moss of Cairnty

10 June 2014 visit - summary and recommendations

Background

The Land Management Plan for Spey Mouth is being revised. My visit was to advise on the area known as Moss of Cairnty, in particular whether it is suitable for bog restoration or whether it should be restocked and if so, with what forest type.

Observations

Old but poor crops have been felled round about the two unplanted bog areas at Moss of Cairnty.

This area is mostly deep peat 2-3 m deep.

The two unplanted areas and much of the adjacent planted ground has had the top metre or so of peat cut and removed many years ago. A bank forming the edge of this cutting is visible in many places.

There is Scots pine bog woodland, our rarest peatland habitat type, on the site but this is being colonised by more recent LP regeneration.

There is an interesting natural sink hole where water runs into a small cave in the peat and then disappears down into an underground channel.

Recommendations

1. Moss of Cairnty is a lowland raised bog and should be treated as priority habitat for bog restoration.

2. Three management zones are identified in Figure 1: the central, mostly cutover part within the blue line (approximate), the non-cutover peripheral deep peat area between the blue and red lines, and the probable deep peat areas not investigated to the north-west and south-east within the yellow lines.

3. Although the central part of the bog has been cutover in the past, it is now extremely wet, very Sphagnum-rich and eminently

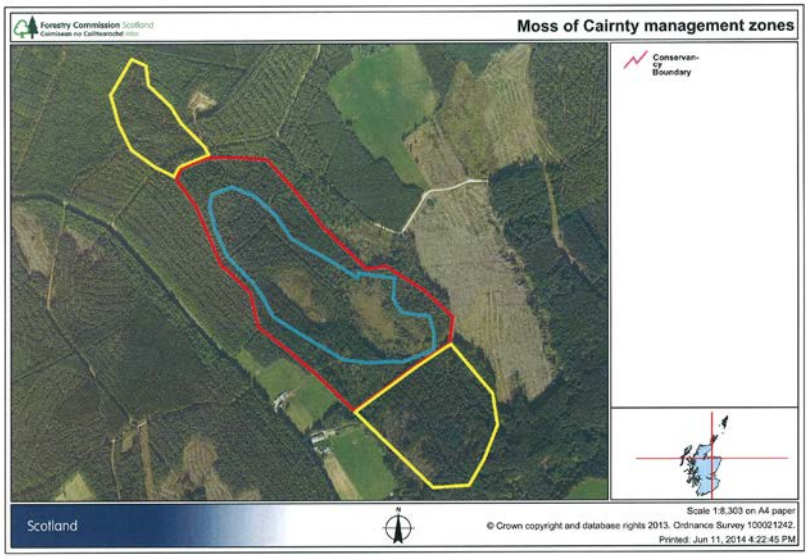
restorable. This part of the site is slowly restoring itself but there is some scope for assisting the rewetting by damming drains and other channels with peat or plastic piling. LP and SS regeneration should be cleared by felling to recycle in the more open areas and by chipping, mulching or extracting the denser and taller regen. Birch regen will need to be controlled. Weed-wiping with glyphosate is effective once the seedlings grow above other vegetation. Grazing with a low stocking rate of cattle or sheep may be an effective long-term solution.

4. The areas of Scots pine bog woodland within the central area should have the LP regen removed but the stunted Scots pines should be left. It appears to be stable and not threatening to invade the open bog.

5. The non-cutover periphery still has deep peat but is too dry and not easy to rewet. This area should be managed as open native woodland, mainly of Scots pine. The canopy cover varies but currently probably averages more than 20%. Restocking is not recommended and natural regeneration of birch and LP should be controlled.

6. Birch must not be planted on or adjacent to the deep peat area as this would encourage regen on the bog in future. Existing birches in both these areas should be felled to limit regen.

7. The deep peat areas to the north-west and south-east (within the yellow lines on Figure 1) should be investigated and if found to be deep peat, should be assessed for restoration or restocking according to the FCS guidance at felling time.



Russell Anderson, Forest Research

Appendix 7 – Gow Moss

Gowmoss Management Plan

Prepared by: Philippa Murphy

20th April 2015

Introduction

Gow Moss lies within Ordiequish Forest, a part of the Speymouth Land Management Plan area.

Gow Moss is an intermediate bog with a total peat area of 352ha as mapped by the British Geological Society (BGS). Forest Enterprise Scotland (FES) manages 97% of this total area, i.e. 340ha. Approximately 91ha of the FES managed portion is open bog vegetation. The remaining FES managed area had been planted in 1960 with primarily Lodgepole Pine, with some Japanese Larch, Hybrid Larch and Sitka Spruce. Over the last few years, a significant amount of this area has since been clearfelled due to pine crop being heavily infected with Dophistroma Needle Blight (DNB). 14ha of the plantation area is now second rotation restock, this being Scots Pine planted in 2004-2006.

Site Survey

- The site was visited in 2010 by the then FES Open Habitats Ecologist , Jeff Waddell
- In 2012 was revisited during the development of the Lowland Raised Bog Strategy for the National Forest Estate – ranking Gowmoss 8th on national list of sites which are ecologically suitable for restoration and on which further work should be initiated
- In 2014 a further site visit was undertaken as part of the forest plan review process by current FES Open Habitats Ecologist, Ian McKee.

All survey results and documents recommend that there is moderate to good potential for bog restoration and that further work should be initiated to restore the site.

A further survey was undertaken in November 2014 to ascertain the depth of the peat across the site.

Following release of the Supplementary Guidance Note on Peatland Habitats, forest managers have a duty of care to assess the implications of management options for carbon, alongside other priorities such as timber production, biodiversity, environmental protection of water and hydrological impacts, and landscape, where peat depth exceeds 50cm. The

appended reports along with this guidance, have led the forest district to reassess the use of this area of ground.

Site Description

Much of the open vegetation is quite similar throughout the site, generally falling into the NVC (National Vegetation Classification) category M19 *Calluna vulgaris-Eriophorum vaginatum* mire (Heather-Hare's-tail Cottongrass mire). Heather and Hare's-tail Cottongrass are both abundant in the open parts of the site, both varying in frequency slightly. i.e. more Heather in the dryer bog areas and more Hare's-tail Cottongrass in the wetter areas. The main Sphagnum encountered was *Sphagnum capillifolium*, which was frequent in the least disturbed wetter areas, less common elsewhere. *Sphagnum fallax* was locally abundant, particularly in wet peat cuttings. *Sphagnum magellanicum* and *Sphagnum cuspidatum* were both quite rare. Less frequent plants seen include Bog Myrtle *Myrica gale*, Bog Asphodel *Narthecium ossifragum* and Crowberry *Empetrum nigrum.* The nationally scarce pinewood plant Creeping Lady's-tresses *Goodyera repens* was recorded in two locations in Pine plantations. Although nationally scarce, this species is quite common in Pine plantations in Moray.

The south western open bog area is thought to be largely primary uncut bog, but there is a large peat cutting on its western flank, which is wet and has regenerated with largely native Scot's Pine and Birch woodland that is developing into the EU annex 1 habitat, Bog Woodland. The open area in the centre of the bog has been largely cut over and has revegetated with bog vegetation. The plantation to the west of this is thought to be on the primary bog surface.

Peat depth varies across the site as can be seen in the peat depth map below. Adjacent to the Mulben Road, to the north of the site, peat is generally <50cm. To the south of the site, the peat is generally 0-100cm. The core bog area of the site ranges from 150cm up to 240cm in depth.

Prescriptions

It is proposed that the site will be divided into three management zones (See Gow Moss management map below).

Zone 1 – Restoration to open bog (161ha – an increase of 70ha from existing open bog area)

Peat within this area is consistently greater than 1m and is of the highest ecological value.

Actions for Restoration Zone

- No restocking of clearfelled areas

- Continue clearance of non-native regeneration across the site (biannual programme as required)
- Retain areas of Annex 1 Bog Woodland (fell to waste of non-native species)
- Block ditches within core area (2016)

Zone 2 – Edge Woodland (50.5ha)

Peat within this area is generally greater than 50cm but there are areas shallower than 50cm. In previously felled areas, bog vegetation is returning amongst SP &BI.

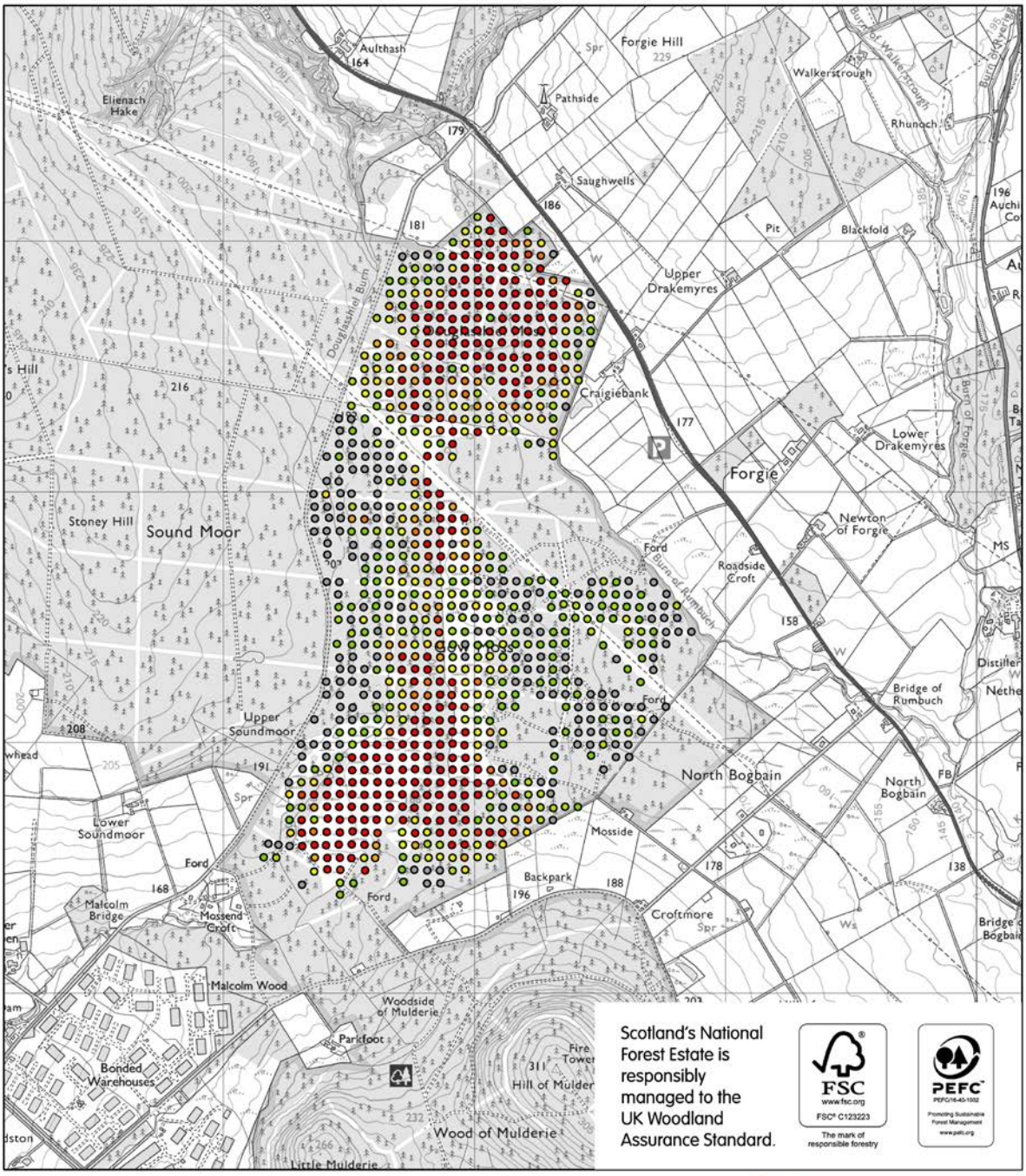
Actions

- Establish site with native woodland comprising a minimum 20% and up to 50% tree cover and 50% open space, through natural regeneration and supplemented by planting as required.
- Natural regeneration is the preferred method of establishing tree cover on the area of peatland edge woodland. If after year 10 from clearfelling, insufficient tree establishment has taken place, then planting native trees will be considered to ensure that a minimum of 20% canopy cover is likely to be established at year 25. Invasive regeneration will be controlled to less than 1% cover by year 10 and 25
- Minimise cultivation and do not retain artificial drainage
- Monitor non-native tree regeneration, accepting an element where this does not threaten establishment of native woodland. Monitoring will be undertaken on a 3year cycle

Zone 3 - Commercial Restock (91ha)

Peat within this area is consistently <50cm

- Minimise soil disturbance during cultivation, using appropriate ground preparation (See Forestry on Peatlands Habitats Practice Guide for allowable methods)
- Avoid using SS or LP to reduce seeding onto bog restoration site. Recommendation is Scots Pine and Mixed Broadleaves.



Legend

Gow Moss Peat depth

(cm)

0-25	126-150
26-50	151-175
51-75	176-200
76-100	201-225
101-125	226-240

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Moray & Aberdeenshire Forest District

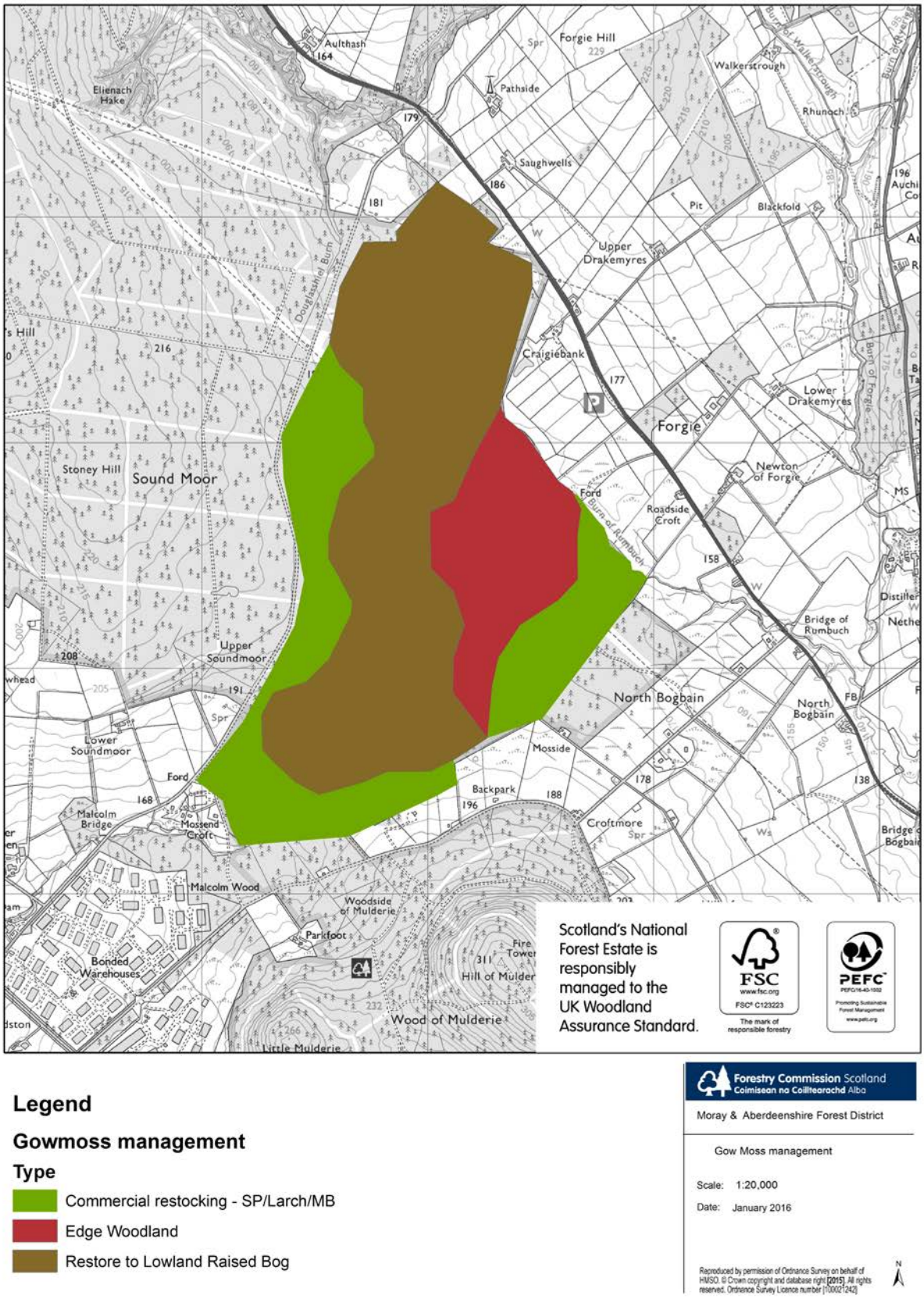
Gow Moss peat depth

Scale: 1:20,000

Date: January 2016

N

(Gow Moss- Apprendix6)



Appendix 8 – Culreach SSSI plan

FE Ref: FM 12/4/7 **Grid Ref: NJ 349636**

SNH Ref: KM 1803/KE2174

FORESTRY COMMISSION SCOTLAND

MORAY FOREST DISTRICT

CULRIACH WOOD
SITE OF SPECIAL SCIENTIFIC INTEREST
CONSERVATION MANAGEMENT PLAN

1 April 2004 – 31 March 2009

Plan revised By Mick Canham ..... Date ...22/12/04.....

Forestry Commission Scotland

Plan Agreed By .....R.A. MacDonald..... Date ....25/01/05.....
Area Manager SNH

Plan Approved By .....Phil Whitfield..... Date .....7/2/05.....
Forest District Manager. Moray Forest District

INTRODUCTION

1. The Lower River Spey SSSI, extending to 228.8 ha, lies between the old railway viaduct, now a footpath, to the north, and the A96 to the south. It includes the River Spey, the shingle banks, and the river banks, stretching to a width of 750 m in places, to include older river channels, now overgrown. It has a northerly aspect. Elevation varies from about 20 m to near sea level. The predominant soil type is shingle, and other fluvial deposits.

2. Ownership is divided between Gordon-Lennox Estate, Crown Estates and Forestry Commission Scotland, which owns 25.5 ha.

3. The area was notified as an SSSI in 1988 by the then NCC (now SNH). A copy of the Lower River Spey SSSI citation is included as Appendix 1, along with a list of potentially damaging operations as Appendix 2. The area was also notified as a Special Protection Area and a Ramsar Site in February 1997 It is also designated as a cSAC under the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the 'Habitats Directive'). This Management Plan has been drawn up with the assistance of Scottish Natural Heritage to ensure the area is managed as carefully as possible to conserve the features of Scientific Interest.

4. This plan has been compiled with consultation between FCS and SNH to ensure that the areas unique features are maintained and where appropriate enhanced.

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION – Lower River Spey

Geomorphological

5. The Lower River Spey is unique within Scotland in comprising an actively braided channel right down to the river mouth. Within

the site there are excellent examples of a range of shingle bar forms developed at a large scale for British rivers. These lower reaches of the Spey are characterised by unusually steep slopes, a wide potential floodplain over which the channel can migrate, cobble size bed material and a flashy runoff regime. The neighbouring floodplain area has extensive paleochannels, some of which can be attributed to the catastrophic 1829 flood event. The availability of diverse historical sources also makes it possible to examine fluctuations in the intensity of braiding over the last 200 years.

Biological

6. The extensive area of river shingle deposits in the lower River Spey floodplain supports a range of shingle-related habitats on a scale which is exceptional in Britain.

7. A wide variety of vegetation types has developed reflecting the succession from presently mobile, unstable condition to those which have been stable for considerably longer. Alongside the present river channel itself there are extensive areas of largely bare shingle and sand which are still regularly flooded and/or have only recently been deposited. These support a very diverse flora of rapidly colonising species including some more commonly associated with coastal habitats (eg. Sea campion, (*Silene maritima*) or montane habitats (eg. Alpine lady's mantle, (*Alchemilla alpina*). Willows are abundant, particularly around recently abandoned channels, which are also rapidly colonised by fringing and aquatic plants including curled pondweed (*Potamogeton crispus*), marestail (*Hippuris vulgaris*), bottle and water sedge (*Carex rostrata*) and (*Carex aquatilis*).

Status

8. This is a geomorphological and botanical review site.

Operations likely to damage the special interest

(From lower Spey SSSI citation)

9. The numbers given for the potentially damaging operations refer to SNH's standard list.

1	Cultivation, including ploughing, rotovating, harrowing and re-

	seeding.
2b	Changes in the grazing regime (including type of stock and intensity or seasonal pattern of grazing and cessation of grazing).
3	The introduction of stock feeding.
4	The introduction of mowing or other methods of cutting vegetation
5	Application of manure, fertilisers and lime.
6	Application of pesticides, including herbicides (weedkillers).
7	Dumping, spreading or discharge of any materials.
8	Burning.
9	The release into the site of any wild, feral or domestic animal*.
10	The killing or removal of any wild animal*, including pest control.
11	The destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, dead or decaying wood, moss, lichen, and fungus.
12	The introduction of tree and/or woodland management and changes in tree and/or woodland management including afforestation, planting, clear and selective felling, thinning, coppicing, modification of the stand or underwood, changes in species composition, cessation of management.
13b	Modification of the structure of watercourses (eg. rivers, streams, springs, ditches, dykes, drains) including their banks and beds, as by re-alignment, regrading and dredging and erection of river bank protection works.
13c	Management of aquatic and bank vegetation for drainage purposes.
16a	Changes in freshwater fishery production and management including the use of traps or fish cages.
20	Extraction of minerals, including shingle, sand and gravel, topsoil and sub-soil.
21	Construction, removal or destruction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, or the laying, maintenance or removal of pipelines and cables, above or below ground.
22	Storage of materials on or against features of interest.
23	Erection of permanent or temporary structures, or the undertaking of engineering works, including drilling.
24	Modification of natural or man-made features, clearance of boulders, large stones or loose rock.
26	Use of vehicles or craft likely to damage or disturb.
27	Recreational or other activities likely to damage features of interest.
28	Changes in game or waterfowl management.

FORESTRY COMMISSION SCOTLAND LAND HOLDING

Acquisitions

10. T he Forestry Commission acquired the area now known as Culriach Wood from the Crown Estates Commissioners in 1956. The details are as follows: (Serial numbers refer to the acquisition documents held in Moray Forest District.)

Serial Number	**Title**	Year of Acquisition	Type of Acquisition	Restrictions in Title
AQ3/MRY/679	Byres Farm		FEU	The Crown Estate Commissioners reserve the right of access to the River Spey for fishing, including use by Gordon Castle.

Access

11. Ac cess to the Culriach Wood part of the SSSI is from the B9104, via the routes marked "FC Access" on the stock map included as Appendix 3.

Leases and Lets

12. None

DETAILED DESCRIPTION

13. The part of the SSSI which lies within Culriach Wood consists of colonised shingle banks, with palaeochannels, ranging from those which are damp in the bottom, to those which still carry some flowing water.

14. The areas between the channels was planted in 1956 with a mixture of Lodgepole pine, Corsican pine, Norway spruce, Sycamore, and small numbers of other conifers. The amount of ground flora varies with the tree species.
15. The conifer and sycamore trees on the Forestry commission Scotland land holding and the neighbouring Crown Estates land was felled in the winter of 1998/1999. The intention is to convert the woodland into natural *wet* woodland.

16. The areas of the palaeochannels is mainly colonised with alder and to a lesser extent willow as tree species. The ground flora in these areas, generally of species related to damp sites, is much more profuse under the more open canopy.

SPA

17. The Moray and Nairn Coast is a classified SPA under the EC Directive 79/409/EEC on the Conservation of Wild Birds (the 'Birds Directive'). The site qualifies by providing foraging grounds for nationally important numbers of breeding osprey; supporting over 20,000 wintering waterfowl; and internationally important wintering populations of Icelandic/Greenland pink-footed geese, Icelandic greylag geese and redshank, which are rare in a European context.

18. The European Priority Interest is alder woodland on floodplains, considered to be one of the best areas in the UK, and European Interest of coastal shingle vegetation out of reach of the waves, considered one of the best in the UK.

Ramsar Site

19. The area is part of the Moray Basin Firths and Bays Site, and qualifies for its wetland features: dunes, shingle, mudflat, saltmarsh, and floodplain forest and by regularly supporting rare plants and animals. It also qualifies by regularly supporting more than 20000 wintering waterfowl, and also by regularly supporting internationally important winter populations of Icelandic/Greenlandic pink-footed goose (4% of total population), Icelandic greylag goose (3% of total population), and redshank (2% of British population). The population of wintering birds also includes nationally important populations of velvet scoter, red-breasted merganser, and bar-tailed godwit. Spey Bay is an important feeding area for osprey.

cSAC

The River Spey, the Moray Firth and Lower River Spey – Spey Bay are cSACs under the EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the 'Habitats Directive') The River Spey qualifies for its important populations of freshwater pearl mussel, Atlantic salmon, sea lamprey and otter. Lower River Spey – Spey Bay qualifies for its alder wood on

floodplains and coastal shingle vegetation outside the reach of the waves.

MANAGEMENT

20. Since the main felling of the non-native element of tree cover work has been carried out to remove regenerating non-natives using scrub cutters and subsequent stump treatment using 20% round–up. This management is ongoing as necessary within budgetary limitations. In addition two areas of deer fenced enclosures (1790m) have been erected to aid native tree regeneration. These are monitored on an annual basis and good signs of Birch, Alder, Willow and Ash regeneration have been noted. Two interpretation lecterns were erected in 2002 and one had to be replaced in 2003 because of damage. As has been the nature of the river over the past 100 years the Spey is altering its course at the northern end of the site which may threaten one of the fenced areas in the future. There are no plans to avoid this situation which is viewed as a natural process.

CONSENTS

21. It is proposed to maintain the tracks within the wood, and carryout non-native tree regeneration removal using scrub cutters and subsequent chemical stump treatment as and when necessary, for which consent will be required.

Operation & Detail

- Maintenance and upgrading of existing roads / tracks
- Removal of Non-native tree regeneration and stump treatment

LIAISON

22. Liaison with SNH will be on an annual basis in September . SNH will be consulted in the event of circumstances requiring activities not covered in this plan.

Appendix 9 – Spey Mouth Appropriate Assessment (extension of Culreach SSSI plan)

Name of designated site/s **Lower River Spey and River Spey (Culreach Wood)**
Type of designation/s **SSSI / SAC**
Start Date of Plan *(2016)*
End Date of Plan *(2025)*
Overview photo of designated site/s (if overlapping with similar features)

Overall Management Aims & Objectives for each designated site

As Culreach Wood is also a plantation on ancient woodland site, the overall management objective is to restore the site to wet woodland and clear non-native invasive species.

Section 1 Designated Sites covered by this appendix (or FDP)

Designated Site Name	Site code	Site Type	Total Area of designated site (ha)	Area within this FDP (ha)	% With in this FDP	% on NFE *	Annex containing SNH site documentation #
e.g.							
Lower River Spey	1107	SSSI	228.8	31	13%	13	Annex 2
River Spey	1699	SSSI	1957.67	31	1%	1	Annex 3
Lower River Spey	8311	SAC	228.8	31	13%	13	Annex 4
River Spey	8365	SAC	1957.67	31	1%	1	Annex 5
Moray & Nairn Coast	8447	RAMSAR	17761	31	0.1%	0.1	Annex 6
Moray & Nairn Coast	8550	SPA	17761	31	0.1%	0.1	Annex 7

* Occasionally an extensive designated site may cover 2 or more FDPs, or even more than one Forest District.
# It is important to retain a copy of the SNH site documentation as at the time of writing this document as these SNH documents could change with de-notifications, boundary changes, etc. It therefore could be difficult to link to the original document used when this plan was written and therefore the rationale for the decisions made based on these documents.

Refer to Key Issues map (Map 2 of Speymouth Forest Plan) which highlights the location of the above designated sites in relation to the FDP boundary and the NFE management area.

For further detail on the designation refer to the SNH documentation in the above listed annexes, which refers to the entire designated site area. The remainder of this plan will refer in detail to the element of the above designated site/s on the NFE.

Although all designations completely contain Culreach Wood, they only represent a small percentage of the total designated area. The designated features of the SPA and RAMSAR do not occur on the NFE.

Section 2 Features on the NFE and condition

Only features that exist on the NFE within this FDP are listed in the table below.

Site Type	Site code	Feature description	Feature code	SCM Condition (Date assessed)	Condition on NFE	Management Classification (if relevant)
SSSI / SAC	1107	Alder Woodland on floodplains		Unfavourable	Unfavourable	

* Note that the latest SCM results may not be contained within the SNH legal documentation for the site. Always check the SCM spreadsheet or database.

Alder Woodland on floodplains

Section 3 Pressures and proposed actions

Site Type	Feature description	Feature code	Pressures	Proposed action	Timescale	Location Map highlighting work & other key limiting factors
SSSI/SAC	Alder Woodland on	12918	Invasive Non-Native Species	Annual control programme	Annually	Needs to be part of a coordinated

	floodplains			of cutting and spraying		approach with neighbours

Section 4 Operations within the FDP that could impact on the designated features on the NFE

Operation Type	Detailed description of operation and method	Mitigation measures to be applied	Timing	Map reference & other relevant comments
Control of INNS	Knapsack application of roundup to control INNS.	PA1 & PA6 qualified operators. Only INNS to be treated following guidelines and best practice to avoid drift / application to non-target species	Annual late spring treatment	See map annex 9

Section 5 Operations within the FDP or aspects of the national forest estate within the FDP that could impact on designated sites adjacent to national forest estate

Operation Type / Aspect of forest	Detailed description of issue or operation	Proposed action &/or mitigation	Timing	Map reference & other relevant comments
Chemical Application to control INNS / treat Sycamore stumps	Use of knapsack sprayers or weed wipers to apply Glyphosate to target species	PA1 & PA6 trained operators. Calibration of equipment. No application of chemical within 10m of watercourse. Pollution control kit present on site and all times. Water brought to site. No mixing of chemical or filling of sprayers within 20m of watercourse and	Annual late spring treatment	See map annex 9

		drip trays used.		

Section 6 Appropriate Assessment/s undertaken on work contained within the FDP

Appropriate assessment required for Lower Spey and Spey Bay SAC qualifying features of Atlantic Salmon, European Otter, Freshwater Pearl Mussel and Sea lamprey(not present on NFE but operations on NFE could impact). Appropriate assessment can be found in annex 8. Note that the appropriate assessment covers operations relating to the entire Speymouth plan.

Section 7 Approvals, agreements & signatures

I confirm that the above management plan which covers the section of SSSI "Lower River Spey and Spey Bay" (Site code 1107) within Land Management Plan "Speymouth" contains the necessary detail, content and mitigation measures to comply with the statutory requirements contained within the Nature Conservation (Scotland) Act 2004 and in particular in relation to Part 2, Chapter 1, Section 14 (d), which covers consents via an agreed management plan (i.e. "SNH's consent under section 13 is not required in relation to carrying out an operation of the type described in subsection (1) of that section – …….(d) in accordance with the terms of a management agreement between SNH and the public body or office-holder carrying out the operation").

SNH Signature …… Date ……..

SNH Name ……..

SNH Job Title ……..

Address……..

Email ……..

Contact telephone number ……..

FCS has a corporate requirement under UKWAS (2nd edition) and under the FCS Framework Document for FES (2010) to manage all designated sites in accordance with plans approved by the statutory authority, I therefore sign below to approve the contents of this plan in relation to the designated sites SAC Lower River Spey and Spey Bay that fall within its boundary on the NFE.

SNH Signature …… Date ……..

SNH Name ……..

Annex 1

Map highlighting the location of the designated sites in relation to the FDP boundary and the NFE management area.

Refer to map2 Key Issues for location of designated sites

Annex 2

Lower River Spey SSSI (Site Code 1107):

1) Citation

2) List of operations requiring consents

3) Site Management Statement

Annex 3

River Spey SSSI (Site code 1699):

1) Citation

2) List of operations requiring consents

3) Site Management Statement

Annex 4

Lower River Spey & Spey Bay SAC (Site Code 8311)

1) Notification

Annex 5

River Spey SAC (Site Code 8365)

1) Notification

Annex 6

Moray & Nairn Coast RAMSAR (Site Code 8447)

1) Citation

Annex 7

Moray & Nairn Coast SPA (Site Code 8550)

1) Citation

Appendix 10 – Planned Roads & Prior Notification

Grampian Conservancy
Portsoy Road
Huntly
AB54 4SJ

Moray & Aberdeenshire
Forest District
Portsoy Road
Huntly
Aberdeenshire
AB54 4SJ

moray&aberdeenshire@
forestry.gsi.gov.uk
Tel: 01466 794161
Fax: 01466 794986

Forest District Manager
John Thomson

Area Operations Manager
Alastair Young

Dear Sir/Madam,

"Road works in Spey Mouth land management plan"

I am writing to you in order to inform you that in regards to the planned road works in Spey Mouth, we commit to the following undertakings:-

1. SEPA has been consulted with the land management plan and are happy with current proposals.

2. A prior notification of the road works will be undertaken where details of the road will be supplied to the local authority. They will determine whether a full planning application will be required.

3. Road design (including drainage) will be undertaken as per OGB Managing Forest Roads as well as complying with SEPA guidelines. Appropriate consultation will be undertaken prior to works.

Kind Regards
Iain Walker- Planning Forester,
Moray & Aberdeenshire Forest District