Appendices

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Appendix I: Supporting Information

1.0 The existing forest and land

1.1 History of the land holding

The forest we see today at Lennox is comprised, in the main, by part of what was Lennox Castle, purchased in 1928. In 1968 the forest was expanded to include the former Craigend farm. An access agreement is in place to link these 2 areas.

FLS planting began in the 1930's, felling and restocking from the 1960's to the 1980's with Craigend Farm (now known as the Lennox Arm) planted in 1977.

The forest suffered badly in a gale in 1968 and this has left the legacy of patches of older wind blow which have remained uncleared and are now forming dense thickets of natural regeneration. There remains however some large specimen trees above the surrounding crops.

Crop age, and to some degree species diversity, is a feature of the main block. The forest has a history of industrial use with mining of coal and limestone. Avenues of alder along some rides remain for the former estate plantings.

This plan will replace the previous Forest Design Plan (FC Ref: 032/05/02) which has extended until 31st December 2019.

2.0 Analysis of previous plan

The previous plan (Scottish Forestry File Ref: 032/05/02) was approved on 06/02/2006 and has had extension approval until 31/12/2019. The general objective of the previous plan was to maintain and enhance the area as a multi-purpose forest. This was to be achieved by a programme of felling and restocking, diversifying age ranges and habitats. There was also planned enhancements for Great Crested Newt habitat as well as broadleaves forest habitat networks and landscape considerations of the effects of forest operations. Maintaining and enhancing the public recreation value of the site was also an objective.

Further detail and progress on the aims of the previous plan are provided below.

2.1 Aims of previous plan and achievements

Table 1 – Progress on previous LMP objectives

Objective	Proposed management actions	Progress to date 1 - Little/No progress 2 – Some progress 3 – Progress as per LMP
Meet the UK Forestry Standard	• All operations will be conducted in accordance with the FC's Environmental Guidelines and the UK Forestry Standard.	3
Maintain a supply of timber for the timber industry	• In the period 2005-2014 an average 4,500 tonnes per annum will be produced from the plan area. • Sitka spruce will form the major component of restocking to ensure timber supplies.	3 3 although opportunity will be taken to diversify to Norway spruce and Douglas fir in appropriate areas in light of DNB and *Phytophthora ramorum*
Improve recreation benefit of the forest and preserve features of archaeological interest	• Scrub clearance along forest road allowing the surface to dry prior to upgrading of these roads for future timber haulage. • The planned new road will help public access to Lennox Arm. • Tracks the forest are frequently used by mountain and trail bikes. A number of routes through the trees have also	2 3 2

Objective	Proposed management actions	Progress to date 1 - Little/No progress 2 – Some progress 3 – Progress as per LMP
	been cleared but are not surfaced and are suffering a lot of ground damage. Enthusiastic mountain bikers have also built structures within the forest designed to be very challenging. FC Staff are working with the bikers to manage this activity. There is good potential in the forest to develop co-ordinated safe use for various users groups.	
	• Sites of lime kilns have been identified on the south and west of the main block and clearance of conifers will reveal these features once more opening up the potential for low-key interpretation.	2
	• 3 boundary marker stones between Baldernock and Campsie parishes have been located on a ride in the centre of the forest; these will be protected during operations.	3
Increase the benefits of the area to wildlife by increasing age and species diversity and developing a Forest Habitat Network (FHN) based on watercourse corridors.	• Felling and restocking will be timed to ensure that a variety of age classes is dispersed throughout the area.	3
	• Age diversification will produce an increasing range of wildlife habitats.	3
	• A major increase in edge habitat will result from the felling and replanting proposals.	3
	• Substantial areas of conifer and broadleaf retentions are planned providing wildlife shelter.	3 - although these have not proven as stable as previously thought and some conifer retentions will need to be felled in future
	• Management of the existing open areas, including felling of conifer regeneration and creation of ponds or	3

Objective	Proposed management actions	Progress to date 1 - Little/No progress 2 – Some progress 3 – Progress as per LMP
	wetland will be targeted mainly to improve habitat for Great-crested newts, but will also benefit other wildlife.	
	• Native broadleaf trees and shrubs will be concentrated along the principle watercourses contributing to a FHN.	3
	• Rides will be widened at restocking to benefit Small Pearl-bordered Fritillary Butterfly.	3
	• Blanket Bog adjacent to the SWT reserve at Loch Ardinning will be cleared to leave this as open habitat.	3
Improve external and internal views of the forest.	• Visible north facing slopes will be enhanced by adding larch in mixture.	2 due to *Phytophthora ramorum* some areas were restocked with pure SS. Opportunity to diversify to NS/DF in next rotation
	• Mixed planting, including broadleaves, along watercourses will significantly improve the internal appearance from recreation routes.	3
	• Replanting of the Lennox Arm northern face will not be commercial but rather low density planting with a landscape softening affect to be retained in perpetuity.	2 – areas of poor SS crop retained as uneconomic to fell so not replaced with MB> opportunity to diversify in future
	• Use of broadleaves to replace solid edge spruce along southern slopes will break up the uniform appearance.	3
	• Opportunity will be taken at restocking to reduce impact of straight line boundaries.	3
Protect water quality and the physical integrity of streams.	• All operations will be conducted in accordance with the FC's Environmental Guidelines and the UK Forestry Standard.	3 3

Objective	Proposed management actions	Progress to date 1 - Little/No progress 2 – Some progress 3 – Progress as per LMP
	• Native broadleaf trees and shrubs will be concentrated along the principle watercourses contributing to a FHN.	

2.2 How previous plan relates to today's objectives

This new revision of the plan largely follows on from the objectives of the previous plan to achieve a multi-purpose forest (see **Appendix II**).

3.0 Background information

3.1 Physical site factors

3.1.1 Soils & landform

Lennox Forest sits on bedrock which is sedimentary in origin. This bedrock was previously influenced by glaciation with glacial deposits providing the superficial geology however due to the topography and increased rainfall in the intervening millennia this led to waterlogging and acidification producing the conditions that resist the normal breakdown and decomposition of dead plants, with organic material accumulating as deposits of peat. This has resulted in ~ 52% gleyed soils, 17% peaty gley, 11% flushed basin bog, 8% unflushed blanket bog, 3% flushed blanket bog, 7% brown earth soil, 1% podzol and 1 % valley complex. Elevation across the site rises from ~230 m - ~370 m above sea level (asl) (see **Map 3a – Soils).**

3.1.2 Current climate & exposure

The climate across the sites ranges from 'Warm' and 'Moist' to 'Cool' and 'Wet' with the vast majority of the forest lying at the latter end of that spectrum (see **Map 3b – Climate**).

Detailed Aspect Method Scoring (DAMS) is a measure of windiness of a site using the angle to the horizon in the eight compass points, weighted towards the prevailing wind direction. Scores range from 0-24: The higher the score the greater the exposure, with scores below 13 regarded as sheltered and above 22 as too high for commercial forestry. DAMS on the site range from moderately exposed 15 to severely exposed 19, with scores generally increasing with elevation. The majority of the plan area is a highly exposed 17.

The predominant climate and exposure across the forest also limit the choice of species suited to the conditions. Cumulatively the soils, climate and exposure limit the choice of tree species suitable for continued productive conifer crops.

3.1.3 Future climate

Climate data projections for 2050 and 2080 have been used to predict the anticipated future climate, which is expected to have warmer and drier summers, but with an increase in the frequency and severity of winter storms. Although this suggests that the range of suitable species may expand to accommodate more demanding species, and that the growing season may extend, it may also indicate an increased risk of drought which may, in future rotations, limit the site suitability of species which are currently suitable.

3.1.4 Hydrology

3.1.4.1 Flood Risk

Lennox Forest sits within 2 Drainage (or Catchment) Areas, the Kirkintilloch Glazert Water Drainage Area and the West and North Glasgow Drainage Area. The fluvial (river) body which Lennox Forest may directly impact is Craigmaddie Burn which downstream feeds into Allander Water in the West and North Glasgow Drainage Area. The forest may also indirectly impact the Glazert/Finglen Burn within the Kirkintilloch Glazert Water Drainage Area. The Scottish Environment Protection Agency (SEPA) has identified Kirkintilloch as the main downstream Objective Target Area (or Drainage point) which could be impacted by activities within the Kirkintilloch Glazert Water Drainage Area. SEPA's Flood Risk Management Maps show that the various small burns within the site may be susceptible to surface run off.

3.1.4.2 Forestry Activity

Given that the Kirkintilloch Glazert Water Drainage Area has only 17% woodland cover with Lennox Forest contributing only a proportion of this, the impact of potential forestry felling activity and short term reduction in canopy cover (potentially leading to less evaporation of the water) is unlikely to have a significant impact on the peak flow.

3.1.4.3 Water Condition

SEPA's Water Environment Hub indicates that the Craigmaddie Burn is in overall a good condition however when measuring for water quality, fish accessibility, water flow and water levels, physical condition and freedom from invasives. Glazert Water/Finglen Burn however is overall in a poor condition due to its physical condition, water low and water levels.

3.2 The existing forest

3.2.1 Species, age structure & yield class

Table 4 below shows the species make-up of Lennox Forest with Figure 2 further illustrating the species composition. Both the table and figure show that the forest is predominantly conifer (~87%) of which Sitka spruce constitutes ~68% (see **Map 3c - Existing Forest Stock**).

Table 2 – Current Forest Species by Area

Species	Area (Ha)
Sitka spruce	155
Norway spruce	18
Larch	10
Pine	11
Other conifer	2
Broadleaves	29

Figure 1 – Current Forest Species Composition

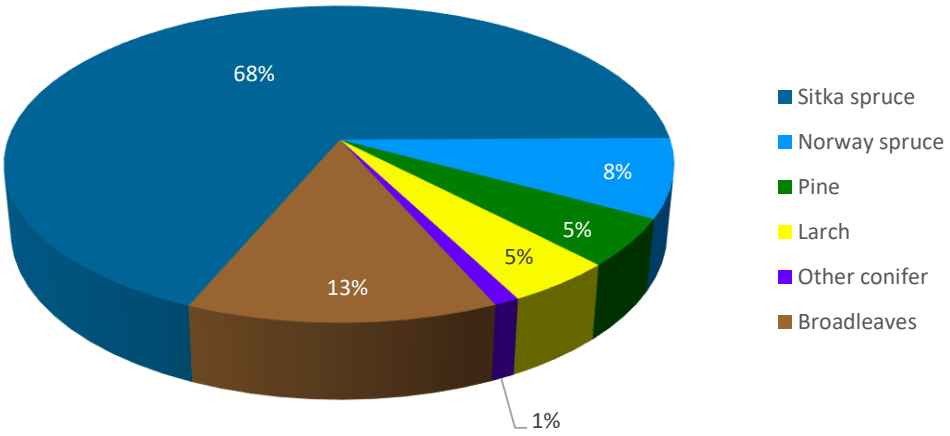
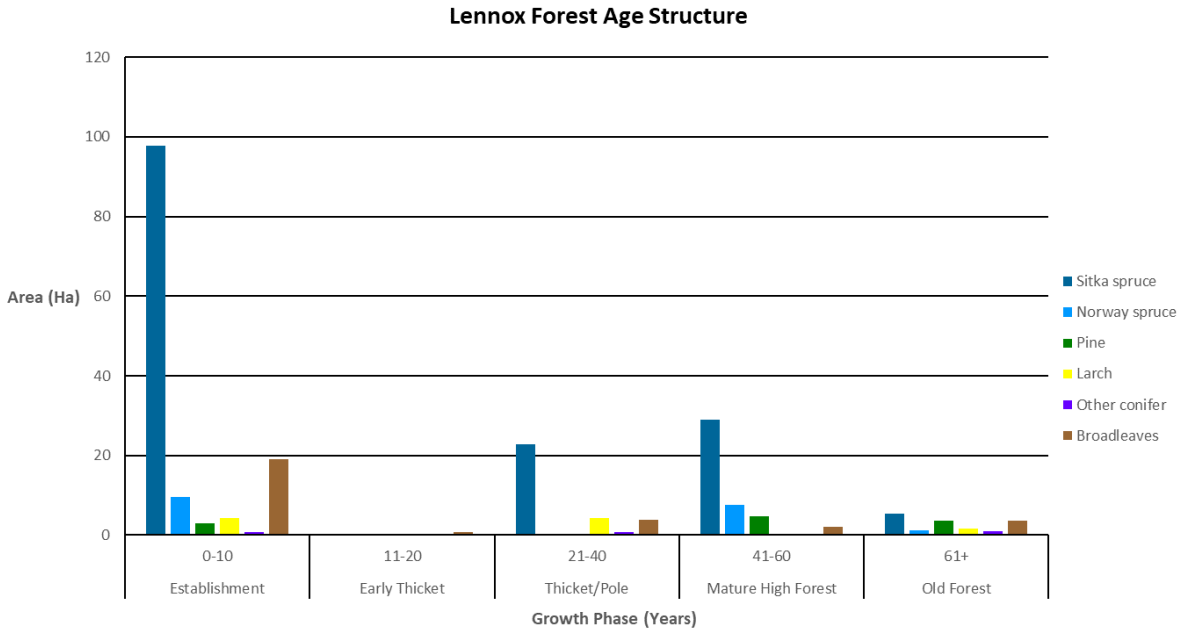


Figure 2 below illustrates that the general picture across the forest is much of the forest is predominantly made up of establishing productive conifer with residual areas of pole and mature crop remaining to be felled. This is no surprise given the relatively even aged nature of the forest, generally planted or restocked during the 1950's, 60's & 70's and presents a challenge to diversify the age structure avoiding a similar situation at the end of the next rotation.

Figure 2 – Current Forest Age Structure



Yield classes for Sitka spruce range from 6 – 24 across the sites with the majority of the crops being around YC 14. Much of the less recent crops on poorer soils will have benefitted from fertilizer application and therefore with fertilizer application no longer generally practiced we can expect a general reduction in yield class of crops by 2-4 grades. We can mitigate against this reduction somewhat by the use of improved stock and the use of nurse crops such as Alaskan Lodgepole pine.

Table 3 - Area by species

Area by species						
Species	**Current***		**Year 10***		**Year 20***	
(Add relevant species groups, or OG/OL)	**Area (ha)**	**%**	**Area (ha)**	**%**	**Area (ha)**	**%**
Sitka spruce	154	51	129	42	134	44
Norway spruce	18	6	22	7	21	7
Pacific Silver fir	0	0	17	5	18	6
Douglas fir	1	0	2	1	2	1
Lodgepole pine	11	3	6	2	8	3
Other conifer	12	4	6	2	6	2
Broadleaves	28	9	31	10	32	10
Open/other	81	27	92	30	86	28
Total	**306**	**100**	**306**	**100**	**306**	**100**

Table 4 - Area by age

Age class (years)	**Current**	**Year 20**
	Area (ha)	**Area (ha)**
0-10	137	14
11-20	1	71
21-40	31	125
41-60	39	2
61+	17	8
Total	224	220

3.2.3 Operational access

Lennox forest has a forest road network. The current infrastructure has generally been adequate however further enhancements will be required to access certain areas needing felled in the next 10 years.

3.2.4 Low Impact Silviculture Systems (LISS) potential

With the predominantly highly exposed nature of the site along with the poor, wet soils the majority of the site is not deemed as suitable for LISS however along both the north and south eastern edges of the forest which are both more sheltered and sit on better mineral soil there is the potential to thin and manage under LISS in future.

3.2.5 Pathogens

3.2.5.1 Dothistroma Needle Blight (DNB)

DNB (also known as Red Band Needle Blight because of the colourful symptoms it shows on pine) causes premature needle defoliation, resulting in loss of yield and, in severe cases, tree death. Recent surveys have shown outbreaks of DNB across Central Region although it has not been observed at Lennox Forest.

3.2.5.2 *Phytophthora ramorum* (*P. ramorum*)

P. ramorum is a fungus-like pathogen of plants that is causing extensive damage and mortality to trees and other plants in parts of the United Kingdom. Larch in particularly is extremely vulnerable, and high infection and mortality levels are currently causing significant issues in South Region. Several isolated instances of *P. ramorum* have been detected within Central Region forest blocks at the time of writing, although these were isolated trees rather than large-scale infections. Lennox Forest falls within Risk Zone 2, deemed of medium risk, and although larch only makes up 5% of the woodland cover it is predominantly planted in intimate mixture with other species and therefore any infection resulting in a Statutory Plant Health Notice to remove all larch within the affected stand as well as a 250m buffer surrounding the affected stand could result in significant areas of woodland being felled.

3.2.5.3 *Chalara fraxinea* (Ash dieback)

Ash dieback is a serious disease of ash trees caused by a fungus, resulting in leaf loss, crown dieback and, potentially, tree death. No cases of Chalara have been confirmed at Lennox Forest however ash is present as a component in various areas and therefore the potential for infection is there.

3.3 Landscape & Land use

3.3.1 Landscape character

Lennox Forest sits within the - Drumlin Foothills Landscape Character type as described in the East Dunbartonshire Council's 'Natural Environment Planning Guidance' 2018 and 'Glasgow and Clyde Valley Landscape Character Assessment' produced by Scottish Natural Heritage in 1999.

Key Characteristics of the Drumlin Foothills relevant to Lennox Forest are:

Table 5 – Landscape character assessment

Landscape Type	211 DRUMLIN FOOTHILLS - GLASGOW & CLYDE VALLEY
Key characteristics and features	• Distinctive undulating drumlin landform created by glacial deposition subsequently modified by fluvial erosion. • Area of transition from lowlands areas to the Rugged Moorland Hills. • Small-to-medium scale landscape with varied views. • Dominance of well-managed pastoral farming and golf courses in lower parts of the hills, giving way to areas of moorland vegetation in more elevated and exposed areas. • Combination of semi-natural woodlands along incised burns, farm woodlands, small conifer plantations and, along the northern edge of the hills, more extensive areas of mixed and coniferous woodland. • Predominantly rural character.
Previous LCS Relevant landscape guidelines	*Landscape planning and management should aim to conserve and reinforce this area's distinctive character. Management should aim to secure the conservation of distinctive landscape features and explore the potential for patterns of additional woodland planting that would emphasise variations in landform and land use.* • this landscape type has the potential to accommodate additional woodland planting provided that this is of an appropriate scale, is correctly sited and reflects local patterns of species; new woodland can enhance the local landscape by emphasising the rolling landform created by glacial activity, echoing, for example the existing pattern of farm woodlands, and tying into the existing structure of field boundaries, shelterbelts and burn side woodlands; any new woodlands should not cover an area greater than one drumlin and should seek to respect topographic variations by both covering and framing hill landforms; • encourage sensitive design of new commercial plantations to ensure that they do not undermine or obscure the small-scale nature of local topography; where this type of forestry does occur, the aim should be to encourage planting patterns which retain a significant proportion of open land, which make use of organic shapes and outlines , and which avoid geometric edges and boundaries.

3.3.2 Local Landscape Areas (LLA)

Glazert Valley LLA

The north facing slopes of Lennox are within the **Glazert Vallley LLA**.

The Natural Environment Planning Guidance states: *"The special landscape qualities of Glazert Valley that justify its selection as a LLA are its distinctive broad valley landform, contrasting views in relation to elevation and a diverse range of land uses and recreational opportunities."*

Special qualities of the Glazert Valley LLA that are relevant to Lennox Forest are:

- **Dramatic elevated views into and across the valley** from the southern foothills of the Campsie Fells in the north, and from areas near Lennox Castle in the south.
- **Sequential views experienced along the valley floor and towards the paddocks, moorland and woodlands along the valley sides**, from the A891 and John Muir Way.
- A variety of land use including small farms with their small fields enclosed by hedges, as well as **mixed coniferous and deciduous woodlands historically related to designed landscapes, notably Lennox Castle and Campsie Glen.**
- The John Muir Way and a network of core paths provide access to the visitor attractions of Clachan of Campsie and the Campsie Glen, and the higher ground in the Campsie Fells, **Lennox Forest**, and Lennox Castle woodlands.

See table 6 for comment on the LLA special qualities and Lennox Forest.

Bardowie, Baldernock and Torrance LLA

Lennox Forest also sits on the northern boundary of the **Bardowie, Baldernock and Torrance LLA**.

The Natural Environment Planning Guidance states *"The special landscape qualities of the Bardowie, Baldernock and Torrance area that justify its selection as a LLA are the unique drumlin landform, variety of views, a high standard of land management and recreational opportunities."*

Special qualities of the Bardowie, Baldernock and Torrance LLA that are relevant to Lennox Forest are:

- Localised series of views across the drumlin landscape often contained by landform at lower elevations and longer distance views of the backing Campsie Fells.

See table 7 for comment on the LLA special qualities and Lennox Forest.

Table 6 - Assessment of potential impact of Lennox Forest LMP on the relevant Special Qualities of the ***Glazert Valley*** LLA

Special Quality	Existing Contribution	How the special quality is maintained/affected
Dramatic **elevated views into and across the valley** from the southern foothills of the Campsie Fells in the north, and from areas near Lennox Castle in the south.	Lennox Forest forms part of the backdrop across the Glazert Valley from elevated views on the Campsie Fells. Viewpoint 1 has been selected to reflect these views. From viewpoint 1 Lennox Forest sits behind and blends with the woodland of Lennox Castle which is a mix of mixed broadleaves and confier plantations.	Despite two planned felling coupes in Drum Plantation within the life of the LMP woodland cover at Lennox Forest will be retained and managed and will continue to blend in with the wooded slopes of Lennox Castle to the north.
Sequential views experienced along the valley floor and towards the paddocks, moorland and woodlands along the valley sides, **from the A891 and John Muir** Way.	Views of Lennox Forest from the Glazert valley floor are largely screened by Lennox Castle woodland and by the steep sides of the valley itself – Lennox Forest being situated on the higher ground beyond the steep valley slopes. The Lennox Forest 'arm' to the west is however more visible from the valley floor with some glimpsed views from the John Muir Way and A891 out of Strathblane.	The screening effect of the surrounding woodland will obscure any impact of the minor fellings proposed in the life of this LMP on the northern edge of the forest and Woodland cover will be retained to the higher slopes and hills south of the Glazert Valley.
A variety of land use including small farms with their small fields enclosed by hedges, as well as **mixed coniferous and deciduous woodlands historically related to**	Lennox Forest sits above the farming landscape and provides a backdrop to Lennox Castle. Lennox Forest relates well to Lennox Castle woodland.	Woodland planting will remain – predominately conifer plantation where the forest interfaces with Clochcore Wood. Both pure conifer and conifer mixtures are proposed as well as some

Special Quality	Existing Contribution	How the special quality is maintained/affected
designed landscapes, notably Lennox Castle and Campsie Glen.	Baldow Plantation – Interface with mixed woodland including broadleaves and confier plantation. Drum Plantation - predominately conifer plantation interfacing with historic beech planting and mixed broad leaves beyond. Clochcore Wood – predominately conifer plantation	judicious planting of beech which will ensure the designed landscape character is retained.
The John Muir Way and a network of core paths provide access to the visitor attractions of Clachan of Campsie and the Campsie Glen, and the higher ground in the Campsie Fells**, Lennox Forest**, and Lennox Castle woodlands.	Limited views from the valley floor from the John Muir Way to Lennox Forest. Lennox Castle woodlands screen the forest or Lennox Forest appears as a backdrop to Lennox Castle. Core paths link through Lennox Forest linking Lennoxtown to Tower road in the south.	Core path access will remain through Lennox Forest.
Conclusion: • Lennox Forest sits in an elevated position to the south of the Glazert Valley and provides that wooded backdrop in views from the Campsie Fells and some glimpsed views from the valley floor.		

Table 7 - Assessment of impact of Lennox Forest LMP on the relevant Special Qualities of the ***Bardowie, Baldernock and Torrance*** LLA

Special Quality	**Existing Contribution**	**Proposal/Concept** **How the special quality is maintained/affected**
• Localised series of views across the drumlin landscape often contained by landform at lower elevations and **longer distance views of the backing Campsie Fells**.	The LLA forms part of the boundary of Lennox Forest but the LLA designation does not cover Lennox Forest itself. The southern edge of Lennox Forest is largely screened from the south by localized undulating drumlin topography. There are some limited views of the southern edge of Lennox Forest from Tower Road. Viewed from Tower Road, Lenox Forest sits within a context of a farmed landscape with mixed woodland, shelter belts and field boundary trees.	No changes to what was proposed in the previous LMP. Woodland to be retained next to neighbouring Glenwynd Wood.
Conclusion: • Conifer plantation remains as main characteristic of the higher ground especially when viewed in longer distance views.		

Table 8 - Assessment of potential impact of woodland management on the **Landscape Character of Lennox Forest**

Key Characteristic considered	**Existing Contribution**	**Proposal/Concept** **How the special quality is affected** **Maintained and how?**
Type 211 *Drumlin Foothills* • Combination of semi-natural woodlands along incised burns, farm woodlands, small conifer plantations and, along the northern edge of the hills, **more extensive areas of mixed and coniferous woodland**	Lennox Forest and Lennox Castle together form part of the an extensive area of woodland to the northern edge of the hills.	Despite two planned felling coupes in Drum Plantation within the life of the LMP woodland cover will be maintained and the impact screened by surrounding woodland. Both pure conifer and conifer mixtures are proposed in restocking as well as some judicious planting of beech which will ensure the designed landscape character is retained.
Conclusion: • There will be no significant changes to current landscape character within the lifetime of the LMP.		

Summary of key Landscape issues

In terms of landscape and visual issues, and taking into account good design principles, the key change to the landscape is likely to be:

- Minimal within the lifetime of this plan
- Small changes will create further visual diversity and increase MB component.

Key issues to be addressed by the LMP are:

- Strengthen the interface between Lennox Castle and Lennox Forest.
- Review historic setting of Drum and Bladow Plantations.
- Enhance interface with mixed woodland on southern edge of Lennox Forest.

3.3.3 Local Geodiversity Site (LGS)

The **Baldow Glen LGS** of is found within the LMP area to the north east of the site which currently has low impact management along its southern edge and clearfell management along the north of the glen however upon restocking this area would be lined with native broadleaves and move toward a low impact system of management. The **Glenwynd LGS** overlaps the southern edge of the site which is an area of biological retention and therefore our management will have minimal impact on this area.

3.3.3 Visibility

Due to a combination of topography and urban development the forest is generally only partially viewed at the medium scale locking south from limited locations in Haughhead, Clachan of Campsie & Lennoxtown and the Crow Road across the Glazert Valley and looking north from Boclair Road between Bearsden and Bardowie. Views from transport corridors are generally fleeting.

3.3.4 Neighbouring land use

The surrounding land-use predominantly consists of a matrix of upland plateau moor/farm land and other private woodland such as Clochcore Wood, Craigend and Bank Wood which are managed under the Lennox Castle Forest Plan, Baldow Plantation and Langshot Farm. There are also several small rural properties and farmhouses in the vicinity as well as Celtic Football Club's Training facility to the north in what were the grounds of the former Lennox Castle Hospital. The larger settlements of Haughhead, Clachan of Campsie & Lennoxtown are also situated to the north.

3.4 Biodiversity & Environment

3.4.1 Priority Habitat & Species

Priority Habitat & Species are protected under the UK Biodiversity Action Plan, and FLS policy is to protect, enhance and expand these habitats where appropriate. There are a broad range of habitat and species types within the plan area which are listed in the table below.

Table 9 – Lennox Priority Habitat & Species

Category	Associated Scottish Biodiversity List Habitat
UKBAP - Upland Flushes, Fens and Swamps	
LBAP Habitat - Woodland	Lowland mixed deciduous Woodland, wet woodland, Upland birchwoods Scrub Veteran trees
LBAP Habitat - Ponds, Lochs and Reservoirs	Ponds
UKBAP & LBAP Habitat - Blanket bog	Blanket bog
UKBAP & LBAP Species - Pine marten, Bats (all species) LBAP Species Badger	
UKBAP & LBAP Species - Black grouse	
UKBAP & LBAP Species - Great crested newt	
UKBAP & LBAP Species - Small pearl-bordered fritillary LBAP Species - Green hairstreak	

Local Nature Conservation Site

Lennox Forest LMP area falls with the Lennox Forest LNCS. The grassland, woodland and core path are aspects which characterise the LNCS along with the following notable species - Brown Hare, Skylark, Yellowhammer, Small Pearl-Bordered Fritillary Butterfly, Crossbill, Great Crested Newt

The site borders the following 4 other LNCS's:

- Craigmaddie Muir/Craigend Muir/Blairskaith Muir
- Barraston Quarry Grasslands
- Finniescroft
- South Brae Marsh

Sites of Special Scientific Interest (SSSI)

There are no SSSI's within the Lennox Forest LMP area however it is bordered by the South Braes SSSI. The part of Lennox Forest which marches with the SSSI to the west is an area of minimum intervention meaning that the crops here will be retained due to their significant diversity and maturity and will receive minimum management input to allow natural processes to prevail. This management type should benefit the SSSI by reducing disturbance to Baldow Glen and maintaining protection from exposure were it removed.

Scottish Wildlife Trust Area (SWTA)

There are no SWTA's within the Lennox Forest LMP area however it is bordered by the Loch Ardinning Wildlife Reserve which encompasses the neighbouring Muirhouse Moor to the west. As part of the most recent operations immediately east of the reserve the conifer crop was felled and not restocked leaving an unplanted buffer along the moor edge in order to prevent unwanted non-native conifer seeding into the moor enhancing the habitat.

3.4.2 Ancient Woodland

Lennox Forest contains areas of woodland which are Long Established of Plantation Origin (LEPO).

3.4.3 Other notable habitat and species

A variety of important species have been observed across the various sites and recorded in our Conservation layer with various sites used by some also recorded. Examples of significant species include:

Table 10 – Lennox other notable habitat & species

Habitat	Species
LEPO, semi natural woodland	palmate newt, smooth newt, common frog
	Juniper
	Song thrush, Green Woodpecker, Great Spotted Woodpecker

3.4.4 Invasive Non-Native Species

Surveyed in 2012/13 where several isolated bushes were found in the NE of the forest along the boundary with Lennox Castle and Celtic FC training ground. No bushes were found in other areas of the forest.

3.4.5 Wildlife (Deer Management)

Lennox Forest has healthy populations of Roe deer which are kept at sustainable levels by the culling of around 55 each year by one of our wildlife rangers.

3.5 Heritage

FLS maintains extensive archaeological records for the NFE within our heritage database. Important historic environment features are surveyed, recorded, mapped and monitored by Central Region to ensure and demonstrate Forestry and Land Scotland compliance with the UK Forestry Standard. This ensures that undiscovered historic environment features are mapped and recorded prior to forestry management operations and ensures the continued comprehensive protection of the known archaeological resource. In the case of this plan area, whilst not identifying what each feature is, **Map 4a - Key Features Opportunities and Constraints Map** shows the various heritage feature locations within the block. There are various features within the plan area which are unscheduled and generally already afforested.

3.5.1 Cultural Heritage

Bordering or nearby (within 1km) to Lennox Forest are 3 locally important **Gardens and Designed Landscapes** as assessed by "The Survey of Historic Gardens and Designed Landscapes in East Dunbartonshire (Peter McGowan Associates, 2006)."

1. **Lennox Castle** borders the north of Lennox Forest (with a slight overlap at Baldow plantation) and
2. **Craigmaddie** (300m)
3. **Whitefield Dam** (1km)

Lennox Castle

Reason for inclusion includes the extensive woodlands with a significant contribution to the local scenery.

The site has been given a high regional value due to its scale and importance of the designed landscape in the local scenery, the principal buildings and extensive woodlands. The Lennox Forest LMP will review how the Forest sits with the woodlands of Lennox Castle, the suggested viewpoint from the Crow Road gives the best vantage for assessing the two sites of Lennox Castle and Lennox Forest together.

Features of noted within the Supplementary Guidance produced by East Dunbartonshire Council relevant to Lennox Forest are:

- **Northern edge of Clochcore Wood and southern boundary of Lennox Forest**, the beech trees from original 1817 planting still standing (This was noted in 2006, check this is still the case)
- **Drum Plantation (South) and Baldow plantation** (south east) The SPG notes that this is more commercial forestry plantation in character (1930s Sitka Spruce), but may be considered part of the wider designed landscape and was Lennox Castle policy planting at least as far back as 1865 https://maps.nls.uk/view/74430876 & https://maps.nls.uk/view/74969187

Craigmaddie

Most of this site is managed coniferous woodland which sits on the hill north of Craigmaddie House. Within the survey it is noted that *"Craigmaddie woods are prominent in views from several locations to the south"* and given that the site has been given a high scenic value, it would be worth exploring how Lennox Forest sits in this context.

- There are limited views of both Craigmaddie & Lennox in the landscape however in terms of landscape character there is are common features of conifer forest on a low lying medium scale ridge with the Campsie fells as a background.

Whitefield Dam

Reason for inclusion, a high quality local open space with some local historical interest which is made special by its broad expanse of water and its setting overlooked by the Campsie Fells.

Impressive views across to the Campsies to the north are noted as the important views and vistas from the site. Lennox Forest is visible to the south of Lennoxtown rising to Drum Plantation within the Lennox Forest.

Table 11 - Assessment of potential impact of woodland management on the **locally designated designed landscapes of Lennox Forest**

Key Characteristic considered	**Existing Contribution**	**Proposal/Concept How the special quality is affected Maintained and how?**
Lennox Castle		
Southern edge of Clochcore Wood and northern boundary of Lennox Forest, the beech trees from original 1817 planting still standing.	The historic beech planting boundary interface between Clochcore Wood and Lennox Forest remains. What remains of this historic planting? Boundary between the two sites	Interface at Clochcore Wood, no changes proposed. The beech are out with the Lennox Forest Management area and we know of no plans for any change in management for these by our neighbour. We propose to incorporate a beech component to surrounding restocking coupes to enhance and link to the surrounding character.
Drum Plantation (South) and Baldow plantation (south east) considered part of the wider designed landscape and was Lennox Castle policy planting at least as far back as 1865.	Of note are the parts of Lennox Forest which have historically been part of the policy woodland planting for Lennox Castle and/or surrounding farms. Baldow and Drum Plantations being of note (also inc planting in Glenwhapple and Baldow Glen.)	The proposed restocking of the coupes within Drum Plantation will be of mixed species including a small proportion of beech to enhance the connection to the wider designed landscape. It is also hoped that in future this area might be managed by alternative to clearfell methods such as LISS of CCF.
Craigmaddie		
A managed coniferous woodland which sits on the hill north of Craigmaddie House. Within the survey it is noted that “Craigmaddie woods are prominent in views from several locations to the south”	There are limited views of both Craigmaddie + Lennox in the landscape (but in terms of landscape character there are common features of conifer forest on a low lying medium scale ridge with the Campsie fells as a background). Are there any reasons to consider the integration of the upper edge	There are limited views of both Craigmaddie + Lennox in the landscape. No changes proposed.

Key Characteristic considered	Existing Contribution	Proposal/Concept How the special quality is affected Maintained and how?
	of Craigmaddie to Lennox even with the close proximity there is little interaction between the two sites? (because of the ridge).	
Whitefield Dam		
A high quality local open space … made special by its broad expanse of water and its setting overlooked by the Campsie Fells.	Impressive views across to the Campsies to the north are noted as the important views and vistas from the site. Lennox Forest is only partially visible to the south of Lennoxtown rising to Drum Plantation within the Lennox Forest as they are restricted by nearby buildings and trees.	View of Baldow and Drum Plantations. No significant changes to previous LMP felling coupe shapes and these have considered future management and impact on views from Lennoxtown.
Conclusion: • There will be no significant changes to historic/designed landscape features within the lifetime of the LMP. Changes to Drum Plantation considered		

3.6 Social factors

Lennox Forest is a strategic green network asset because it contains a large Local Nature Conservation Area with a variety of habitats and extensive network of core paths. There has been a history of issues with commercial dog walking companies using the site to exercise multiple dogs at once with inadequate supervision and control of the animals with incidents of conflict with other users of the forest including individual dog walkers.

3.6.1 Recreation

At the time of producing this plan there is interest from a community group in a community asset transfer (CAT) of an area of the forest to the north with the proposed function to provide a Mountain Biking facility for the local area (see **Map 4a – Key Features, Opportunities and Constraints**) Whilst FLS will continue to work with the community group this plan assumes continued forest management by FLS in this area.

3.6.2 Community

At the time of producing this plan there is interest from a community group in a community asset transfer (CAT) of an area of the forest to the north with the proposed function to provide a

Mountain Biking facility for the local area (see **Map 4a – Key Features, Opportunities and Constraints**) Whilst FLS will continue to work with the community group this plan assumes continued forest management by FLS in this area.

3.7 Statutory requirements and key external policies

In addition to those already referenced within the main text the following key policy or guidance documents which have influenced this plan are listed here:

- UK Woodland Assurance Standard 4, 2018
- Scottish Lowlands Forest District Strategic Plan 2014 – 2017
- Central Scotland Forest Strategy 1995
- Central Scotland Green Network Vision
- Glasgow and Clyde Valley Forestry and Woodland Strategy 2012
- The Glasgow and the Clyde Valley Strategic Development Plan (SDP) 2017
- East Dunbartonshire Local Development Plan (LDP) 2017
- East Dunbartonshire Green Network Strategy 2017
- East Dunbartonshire Green Infrastructure & Green Network 2018
- SNH Landscape Character Assessments for 'Glasgow and Clyde Valley' 1999
- East Dunbartonshire Natural Environment Planning Guidance 2017
- The Survey of Historic Gardens and Designed Landscapes in East Dunbartonshire (Peter McGowan Associates, 2006)
- Scottish Lowlands Forest District – Great Crested Newt Management Plan 2015-2020
- Forestry Commission Scotland Guidance Note 35b: Forest operations and great crested newts in Scotland
- Scottish Lowlands Forest District – Black Grouse Strategy 2015-2019
- Black Grouse and Forestry: Habitat Requirements and Management
- The Vincent Wildlife Trust - Managing forest and woodlands for pine martens
- SEPA Flood Risk Management Maps
- SEPA Water Environment Hub
- Forestry Commission Bulletin 62 – Silviculture of Broadleaved Woodland
- Forestry Commission Bulletin 119 – Cultivation of Soils for Forestry
- Forestry Commission Practice Guide – Deciding Future Management Options for Afforested Deep Peatland.
- Forestry Commission Practice Guide – Managing Open Habitats in Upland Forests
- Forestry Commission Practice Guide 3 – The management of semi-natural upland mixed ashwoods.
- Forestry Commission Practice Guide 8 – The management of semi-natural wet woodlands
- Forestry Commission Practice Guide 14 – Restoration of Native Woodland on Ancient Woodland Sites

- Forestry Commission Practice Guide 21 – Choosing stand management methods for restoring planted ancient woodland sites
- Natural Reserves - Guidance for their selection and management on the NFE in Scotland
- Minimum Intervention Areas - Guidance for their selection and management on the NFE in Scotland
- Long-Term Retentions - Guidance for their selection and management on the NFE in Scotland

Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Appendix II: Land Management Plan Brief

Contents

Key Background Information

Introduction

- Lennox Forest comprises a little over 300ha, and lies on the low ridge between the southern escarpment of the Campsie Fells and the northern outskirts of Glasgow, adjacent to Lennoxtown village. Along with neighbouring private forestry, together the woodlands form a highly visible backdrop to the village.

- This design plan is a revision of the previous plan created in 2006, and aims to continue to diversify the age structure and species makeup of the forest, as well as creating and working towards management objectives that relate to the Scottish Lowlands Forest District Strategic Plan.

Silvicultural Potential

- Elevation rises from around 120m in the most sheltered gullies to 230m at the highest point. The majority of the site sits on a gently undulating plateau, with slightly more pronounced slopes to the northeast and south. Soils in the main block of the forest are largely glacial till overlying limestone, primarily resulting in fertile surface water gleys and brown earths with some areas of peaty surface water gley or juncus bog. Poorer quality soils (primarily bog, peaty surface water gleys and iron pans) predominate within the 'arm' to the west.

- The climate is predominantly classified as cool/wet across much of the more elevated areas, although this transitions to more of a warm/moist climate as one moves down the slopes. Although such a climate is conducive to good conifer tree growth, generally poor drainage and relatively high exposure act as a potential limiter on the available silvicultural options. Climate change predictions suggest that the climate will become generally warmer, with drier summers and wetter winters.

Current Management Approach

- Approximately 74% of the site is under woodland cover, with a further 3% having been felled awaiting restocking and the remainder given over to open ground concentrated primarily in several large pockets across the site. Sitka spruce makes up roughly ½ of the overall site area, and accounts for 68% of the woodland. There are also some areas of Norway spruce, pine and larch along with a few small pockets of other conifer species. Broadleaves currently account for approx. 13% of the woodland area.

- The current split in terms of age classes structure is approximately 59% establishing crop (0-10 years), 1% thicket (11-20 years), 14% pole stage (21-40 years), 19% mature (41-60 years) and 7% old forest (61+ years). Age diversification is therefore reasonably good, although there is a noticeable absence of thicket-stage crops

currently. Given the current areas felled awaiting restock or with establishment age crops this gap in the age class profile should resolve itself over the next 5-10 years.

- None of the existing crops have been thinned, and DAMS scores suggest that most of the forest is too exposed to undertake thinning. However some of the lower slopes at the northern and southern boundaries may be sheltered enough to allow thinning of the recently planted crops in due course.

- The forest has a well-developed internal road network totaling approx. 7.5km, allowing economic operational access (i.e. 500m or less) for most of the site – two small areas in the north-east and north-western corners fall out with this. Although access can be taken into the forest from both the north and east, in practice the latter tends to be for light vehicle usage only and heavy operational access is via the north entrance. A quarry on site at Mounthuillie provides a local source of roading material.

Main Considerations

- Several Rights of Way and Core Paths run through the site, and there is a small informal parking area at the Newlands entrance. The site is used extensively by commercial dog walkers which can be an issue whereby some operators are walking excessive numbers of dogs under poor supervision. Although some unauthorised mountain bike trails have been created in the stands on the northeastern slopes, there have also been more constructive expressions of interest from local groups about the potential to create formal riding facilities in the form of trails and/or a skills park.

- Important species present include Great Crested Newt and Pine marten. In addition to the area around the ponds holding the newts, there are one or two other areas of interest in terms of priority open habitats. The area around Drum Plantation, and the gulley running along the southeastern boundary, are both classed as LEPO and the main management focus in these areas remains the ongoing clearance of invasive rhododendron. South Braes SSSI is situated immediately adjacent to the site to the east of Baldow Glen, and is designated for its species rich grassland. Loch Ardinning Nature Reserve, which is managed by the Scottish Wildlife Trust, is situated immediately adjacent to the western ‘arm’ of the forest.

- There are no designated archaeological features within the forest; however there are a variety of remnant features including boundary stones, mine shafts & spoil heaps, building remnants, lime kilns, tracks and walls which have been recorded in the heritage layer.

- Due to its situation on the plateau, and the presence of woodland on some of the immediately adjacent ground (particularly on the lower slopes to the north), the visual impact of the forest in the wider landscape is relatively low key; however, there are several areas (e.g. the northwest section of the 'arm' to the west) where the forest is more prominent in the wider landscape.

- There are several minor watercourses present, which ultimately drain via a series of intermediary burns into the River Kelvin.

- Roe deer are the primary herbivore species present, with Red deer seen very occasionally. Brown hares are also known to inhabit the site, but in low density. The wood holds a moderate population of Roe deer with high recruitment from neighbouring land. Conifers have generally freely grown without browsing in the past although damage has occurred on soft conifer and broadleaves.

2. Strategic Drivers

To succeed in realising the vision as set out in the Scottish Forestry Strategy 2019-2029, 6 priorities for action been identified for implementation:

- ***Ensuring forests and woodlands are sustainably managed***
- ***Expanding the area of forests and woodlands, recognising wider land-use objectives***
- ***Improving efficiency and productivity, and developing markets***
- ***Increasing the adaptability and resilience of forests and woodlands***
- ***Enhancing the environmental benefits provided by forests and woodlands***
- ***Engaging more people, communities and businesses in the creation, management and use of forests and woodlands***

Allied to these priorities Forestry and Land Scotland have six aspirations: that the land we manage is:

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

In lieu of a future Regional Strategic Plan the former Scottish Lowlands Forest District Strategic Plan (2014-2017), drew on the six aspirations and set out the key national commitments and what district specific actions are to be taken to achieve them.

In preparing the Brief and Objectives for this Land Management Plan (LMP), issues were considered against these 'Key Commitments' and assessed for their importance. Those most relevant to Lennox Forest are set out below.

Table 12 – Relevant National & District Considerations

Aspiration	Relevant National Commitment	Relevant District Priorities	Relevant District Strategic Plan Actions
Healthy	• We are committed to high quality silviculture and to increasingly using alternatives to clear-felling • We will help the Estate to adapt to climate change and become more resilient to pressure • We are committed to dealing with invasive plants and animals that threaten habitats and biodiversity	• The climate and soils in the District will facilitate greater use of lower impact silvicultural systems, providing opportunities for a wider choice of tree species (including productive broadleaves) as well as a wider choice of silvicultural practices. • We have seen an increasing impact from pests and disease in the trees we manage and the District has a particular issue with *Chalara fraxinea*, and with Dothistroma Needle Blight (DNB) affecting our new planting and restock sites.	• Where local climate and soils allow, we will maximise the area under lower impact silvicultural regimes. • We will increase where practical the diversity of species choices, including productive broadleaves and minor conifer species. • We will improve our silvicultural practices, including the planting of productive broadleaves. • We will ensure that national and research guidance, Ecological Site Classification (ESC) and Establishment Management Information System (EMIS) decision support tools will be used to inform our selection of new planting and restocking species. • In response to an increasing threat from pests and diseases we will alter felling programmes and vary our choice of new planting and restocking species to more tolerant species. • We will produce and implement a District plan to combat invasive species, based on existing data and work underway.
Productive	• We aim to increase the contribution of the NFE to the economy of Scotland and its regions and recognise the potential of the Estate to assist transition to a low carbon economy • We aim to provide at least three million cubic metres of softwood timber every year on a	• Timber transport time and 'costs to market' are low in the central belt due to many timber using industries and good road networks. Because of a generally milder climate than other parts of Scotland, there are also fewer winter interruptions to supply.	• Central Region will maintain a harvesting output of 150,00m^3 annually. • We will increase the volume of wood going to niche markets

Aspiration	Relevant National Commitment	Relevant District Priorities	Relevant District Strategic Plan Actions
	sustainable basis • We will market timber in ways that encourage value adding and additional jobs in manufacturing and processing.		
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 • We want to encourage local people to get involved in using and managing local Estate woodlands, so we will actively engage with local communities and be open to work in partnership.	• All our staff, particularly the Communities Recreation & Tourism team, have a vital, visible and empowered woodland presence and one of our priorities in working with communities is to encourage people to value their local green place. We aim to make our woodlands attractive and accessible visitor locations to a diverse range of people of all ages and all abilities and our outreach work actively encourages and facilitates communities to use the NFE.	• Through Land Management Plans and careful implementation of our work programmes in visitor zones we will deliver improvements for peoples' aesthetic appreciation and security, especially in the most visited parts of the Estate in the Central Scotland Green Network (CSGN.) • We will continue our lead role in delivering Woods in and Around Towns (WIAT) and place making to high standards within the CSGN. • We will continue to deliver improvements for people and the environment in the woodlands we manage within the WIAT programme, and seek to extend and add value where resources allow. • We will deliver the WIAT Central Scotland Engagement Programme, with continued outreach by community rangers.
Accessible	• Through our WIAT programme we aim to provide more opportunities for more of Scotland's people to enjoy high-quality countryside and find health, education, skills and community involvement benefits. • We will continue to encourage the use of the Estate for health benefits and outdoor learning.	• We have a lead role encouraging greater use of the Estate, through developing accessible paths and track networks, making people feel welcome, and our staff providing a local presence and generating community engagement, especially near to where people live and work and delivery of the 'visitor zone' work.	• We will seek to continue to improve the standard of visitor experience at all Woods In and Around Towns we manage within the Central Scotland Green Network, so they meet the WIAT standard determined by Scottish Forestry by 2020. • We will continue to engage with Scottish Government, local authorities and other partners to champion the Estate's contribution to the CSGN.

Aspiration	Relevant National Commitment	Relevant District Priorities	Relevant District Strategic Plan Actions
		• We are involved in outreach activity and host a range of events designed to highlight the relevance and the appeal of the Estate to a diverse audience. The District area includes the largest communities and most of Scotland's health deprived council wards. Therefore, we have the greatest potential to communicate the benefits of the Estate to the biggest and most relevant audiences, and to be a lead provider of health improving programmes.	
Cared for	• Across Scotland, we plan to increase broadleaved tree cover from the current 8% woodland cover to around 20% • Across Scotland, we are committed to maintaining the best open habitats in good ecological condition • Across Scotland, we will identify particularly vulnerable species for which the National Forest Estate is important and take specific conservation action • We safeguard archaeological sites through our planning and management and recognise special places and features with local cultural meaning	• The larger community base means we have a lead role engaging the public in natural, cultural, and historical values of the NFE, providing opportunities for better understanding and volunteering in the natural environment. •	• We will be more proactive in engaging with communities on the natural, cultural and historic values of the NFE, informing them of local things of note and encouraging involvement through volunteering. • We will use the Native Woodland Survey of Scotland (NWSS) to inform our Land Management Plan work, which will result in expanding native woodland creating where possible habitat links between land ownerships in the CSGN area. • We will ensure the continuity of our open habitats by moving an increasing area into monitored and managed status.

Key Drivers & Draft Management Objectives

On the basis of the key information, and given the considerations outlined above, a series of drivers have been identified in order to produce the management objectives proposed for Lennox Forest.

Key Aspiration – Healthy

Climate change brings threats and uncertainty to the future management of the forest. Changes in storm frequency and intensity may increase the risk of windblow, while drier and warmer summers might increase the risk of drought. There is also likely to be an increased risk of damaging pests and pathogens. Where appropriate, a broader range of tree species well suited to the site (in terms of both soil and climate), and a more diverse forest structure, will increase its ability to cope with climate change.

A Low Impact Silvicultural Systems (LISS) approach is not appropriate for much of the site, due to the wet ground, exposed topography and relatively low visual impact, and clear-felling will remain the preferred management approach for the majority of productive crops.

Management Objectives:

- *Sequester carbon in woodland and timber products, whilst developing a forest resilient to the impacts of climate change.*
- *Where climate and soils are suitable on the more sheltered lower slopes, consider managing the forest under lower impact silvicultural regimes and/or conventional thinning regimes.*

Key Aspiration – Productive

Current forecasts indicate that the forest will continue to produce substantial volumes of timber throughout the duration of the next plan (primarily spruce, but also some pine). Whilst the ground conditions and climate on the upper plateau restricts the range of suitable restock species, the more benign conditions on the sheltered lower slopes offers some potential to diversify the species grown to include a wider range of conifers and productive broadleaves.

The primary focus will be to maintain the productive potential of the forest through continuation of conifer crops best suited to the site, with Sitka spruce expected to continue as the most appropriate primary species choice.

Management Objectives:

- *Produce construction grade timber, quality pulpwood and other timber products for local and national markets.*
- *Optimise the proportion of timber suitable for niche markets where feasible through diversification of productive species and management of stands beyond the normal rotation age.*
- *Sustainably manage the deer population in order to minimize leader browsing on new crops.*

Key Aspirations – Treasured and Accessible

Although the site is generally not prominent in the wider landscape, care should be taken to ensure that felling coupe shapes and future species choices sit well within the surrounding landscape.

Management Objectives:

- *Develop contacts within, and involvement of, the local communities.*
- *Preserve the most important views to, and within, the site and enhance where possible through careful design of new woodland shapes, species diversification and judicious use of open space.*

Key Aspiration – Cared for

Some areas in the south-east of the site are managed for the benefit of Great crested newt. There has been some development of riparian woodland within the site, although several watercourses still have conifers planted hard up to their edges. In addition several areas of woodland adjacent to the site could be used to form the basis for developing semi-natural forest habitat networks which link with the wider area.

There are a number of sites of archaeological interest which will be managed in accordance with guidelines on Forestry and the Historic Environment.

Management Objectives:

- *Continue to manage open and native woodland habitats to benefit important existing species such as great crested newt and pine marten.*
- *Maintain Long Term Retentions and Minimum Intervention areas to create future veteran trees for the benefit of pine marten and the deadwood network.*
- *Protect known historic features, including unscheduled archaeological remnants.*
- *Increase the semi-natural Forest Habitat Networks within the site, primarily through development of riparian woodland.*

Appendix III: Land Management Plan Consultation Record

Table 13

Consultee	Date contacted	Date response received	Consultee Comment/Issue Raised	Region Response

Appendix IV: Objective Appraisal, Monitoring & Evaluation

Table 14

Key Aspiration	Objective	Assessable Criteria	Appraisal Method	Monitoring Method	Monitor Where	Monitor When	Monitor Who	Record Monitoring Where	**Evaluation.** *How does the Appraisal and Monitoring method inform current & future proposals? If you cannot answer this question then the methods may not be appropriate.*
Healthy	Sequester carbon in woodland and timber products, whilst developing a forest resilient to the impacts of climate change.	Biomass	Forester Web Query against LMP	Production Forecast SCDB Query	Onsite SCDB	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester	Against the LMP	Monitoring biomass will inform the planning forester as to whether the plan is working and whether adjustments are required allowing the district to adjust expectations and business plan for alternative management methods.
Healthy	Where climate and soils are suitable on the more sheltered lower slopes, consider managing the forest under lower impact silvicultural regimes and/or conventional thinning regimes.	Management Type Thinning interventions	Forester Web Query against LMP	Production Forecast Thinning Application Manager	Forester Design Plan Module	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester	Against the LMP	Monitoring the management type and thinning interventions will allow the Planning Forester to gauge the quality of conditions and whether the prescribed management is still appropriate.
Productive	Produce construction grade timber, quality pulpwood and other timber products for local and national markets.	Timber volumes	Forester Web Query against LMP	Production Forecast SPR	SRP	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Programme Manager Harvesting Forester	Against the LMP	Monitoring the volumes and quality of timber produced and levels of income received will allow the Programme Manager & Harvesting Manager to gauge what returns might be expected from future interventions and which customers would most likely be interested. This monitoring also allows the Planning Forester to gauge the quality of conditions and whether future crops might fetch improved revenues if managed differently.

Key Aspiration	Objective	Assessable Criteria	Appraisal Method	Monitoring Method	Monitor Where	Monitor When	Monitor Who	Record Monitoring Where	**Evaluation.** *How does the Appraisal and Monitoring method inform current & future proposals? If you cannot answer this question then the methods may not be appropriate.*
Productive	Optimise the proportion of timber suitable for niche markets where feasible through diversification of productive species and management of stands beyond the normal rotation age.	Crop quality	Evaluate stem straightness, branchiness, DBH, branch free bole length	Visual	Onsite	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester, Programme Manager, FM Forester	Against the LMP	Monitoring the tree quality will allow the Region to gauge whether the prescribed management is still appropriate.
Productive	Sustainably manage the deer population in order to minimize leader browsing on new crops.	Establishment Deer Population	Leader Browsing	Site survey SCDB Query Deer Pop Survey Thermal Imaging Survey	Onsite SCDB Impact monitoring form	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	FM Forester Wildlife Manager	SLFD Deer Overview Map Thermal Imaging Po Spread-sheet NNR Survey by SCL Impact monitoring form	Monitoring leader browsing by deer allows the FM Forester and Wildlife Manager to establish whether establishment is likely to be successful or whether further methods of protection are required and therefore factored in to business planning.
Treasured & Accessible	Develop contacts within, and involvement of, the local communities.	Local community involvement	Contact lists numbers. Event & Project activity	Contact list check, number of events / projects progressing	Within the local community	On-going engagement with local stakeholders	Recreation Manager	Against the LMP & Site contact list	By monitoring when and who we have contacted as well as what events and projects are being progressed the VS Manager can evaluate how active we have been in engaging with local community as well as being better able to plan budgets for upcoming events/projects.

Key Aspiration	Objective	Assessable Criteria	Appraisal Method	Monitoring Method	Monitor Where	Monitor When	Monitor Who	Record Monitoring Where	**Evaluation.** *How does the Appraisal and Monitoring method inform current & future proposals? If you cannot answer this question then the methods may not be appropriate.*
Treasured & Accessible	Preserve the most important views to, and within, the site and enhance where possible through careful design of new woodland shapes, species diversification and judicious use of open space.	Landscape	Visual reference	Site evaluation	Onsite	At mid-term and 10 year review	Landscape Architect	Against the LMP	By evaluating changes in roadside corridors the landscape architect can evaluate what affect over time the development of the crop has on the motorist experience and also learn where further improvements can be made and if necessary factored in to future business plans.
Cared for	Continue to manage open and native woodland habitats to benefit important existing species such as great crested newt, black grouse and pine marten.	Tree species & Landuse	Changes in species types, ages, proportions & distributions	Site survey SCDB Query	Onsite SCDB	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester Against	Against the LMP	Monitoring the diversity of species and structure of the canopy will allow for comparisons to be made overtime which will inform the planning forester as to whether the plan is working and whether adjustments are required allowing the district to adjust expectations and business plan for alternative management methods.
Cared for	Maintain Long Term Retentions and Minimum Intervention areas to create future veteran trees for the benefit of pine marten and the deadwood network.	Tree species & Landuse	Changes in species types, ages, proportions & distributions	Site survey SCDB Query	Onsite SCDB	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester	Against the LMP	Monitoring the diversity of species, structure of the canopy and land use will allow for comparisons to be made overtime which will inform the planning forester as to whether the plan is working and whether adjustments are required allowing the district to adjust expectations and business plan for alternative management methods.

Key Aspiration	Objective	Assessable Criteria	Appraisal Method	Monitoring Method	Monitor Where	Monitor When	Monitor Who	Record Monitoring Where	**Evaluation.** *How does the Appraisal and Monitoring method inform current & future proposals? If you cannot answer this question then the methods may not be appropriate.*
Cared for	Protect known historic features, including unscheduled archaeological remnants.	Historic features	Changes in condition	Site survey	Onsite Aerial photos	At mid-term and 10 year review	Environment Advisor	Forester Heritage Module	Monitoring the condition of heritage features allows the Environment Advisor and Visitor Services Area Manager to evaluate whether implementation of the plan has adversely affected any features e.g. has increased visitor numbers increased pressure on features or have operations damaged features? Any issues can be captured and mitigated against in future.
Cared for	Increase the semi-natural Forest Habitat Networks within the site, primarily through development of riparian woodland..	Tree species	Changes in species types, ages, proportions & distributions	Site survey SCDB Query	Onsite SCDB	After operations and at appropriate intervals e.g. mid-term and 10 year reviews	Planning Forester Against	Against the LMP	Monitoring the diversity of species and structure of the canopy will allow for comparisons to be made overtime which will inform the planning forester as to whether the plan is working and whether adjustments are required allowing the district to adjust expectations and business plan for alternative management methods.

Appendix V: List of maps

The table below lists the maps which support and form part of this Land Management Plan.

1 – Location

2 - Context

3a – Soils

3b – Climate

3c – Existing Forest Stock

4a – Key Feature Opportunities & Constraints

4b – Initial Outline Draft Concept

5a – Management

5b – Future Habitat & Species

5c – Public Access and Core Path Management