Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Lochaber Forest District

Forest Design Plan

Loch Sunart

2018-2028

UKWAS Summary

Description	% of LMP Area[1]	Location of Data
Restock main conifer spp	0%	Forester Restock Layer
Restock other conifer - Scots Pine	10%	Forester Restock Layer
Open Space[2]	10%	Forester Restock Layer
Native broadleaves[3]	80%	Forester Restock Layer
Management for biodiversity as primary objective (incl NR and MI area)	100% (15%)	Forester Management Layer
LISS	40%	Forester Management Layer
Natural reserves	1%	Forester Management Layer

Notes

1. The % will total more than 100% as the species and management categories overlap.
2. Only the larger areas of open space area recorded here. There many more small areas of open space within the broadleaf woodland.
3. The native broadleaves will be at variable stocking densities.

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

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

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Lochaber Forest District

Application for Land Management Plan Approvals

Forest Enterprise Scotland– Loch Sunart

Forest District:	Lochaber FD
Property name:	Loch Sunart
Reference Number:	030/519/197
Nearest town, village or locality:	Salen
OS Grid reference:	NM690647
Local Authority:	Highland Council
Plan Area	**734ha**
Conifer Felling	**173ha**
Broadleaved Felling	0

1. I apply for Land Management Plan approval for the property described above and in the enclosed Land Management Plan.

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

3. I confirm that the initial scoping of the plan was carried out with FC staff on 11/07/2012
Updated scoping carried out during March 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 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. We have reminded them of the opportunity to make further comment during the public consultation process.

7. I undertake to obtain any permission necessary for the implementation of the approved plan.

Signed.....
Forest District Manager

Signed.....
Conservator

Date 14/5/18

Date.....

Date of Approval.....

Date Approval Ends.....

Plan Reference no. 030/519/197

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Environmental Impact Assessment
Screening Opinion Request Form

Please complete this form to find out if you need consent from Forestry Commission Scotland, under the **Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017**, to carry out your proposed forestry project. Please refer to Schedule 2 Selection Criteria for Screening Forestry Projects under Applying for an opinion. If you are not sure about what information to include on this form please contact your local Conservancy office.

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	select	Area in hectares	% Conifer	% Broad-leaves	Proposed work	select	Area in hectares
Afforestation	☐				Forest roads	☒	1.8
Deforestation	☐				Forest quarry	☐	
Location of work		Sunart Woodlands					

Description of Forestry Project and Location

Provide details of the forestry project (size, design, use of natural resources such as soil, and the cumulative effect if relevant).

Please attach map(s) showing the boundary of the proposed work and other known details.

Construction of 1,800m of category 1 roads in the Sunart Woodlands to remove conifer woodland for restoration to native oak and birch woodland. The running surface will be 3.5m wide and the overal footprint (including ditches and verges) will be apporoximately 8m wide. Stone will be from the road line itself.

Roads are required in the following individual woods

An Cnap - SU33 c120m NM70066436
- SU3 c260m NM69136489

Camastorsa - SU21 c560m NM68356379
- SU10 c630m NM66996204
- SU11 c1350m NM67086211

Bun Allt Eachain - SU51 c100m NM73406304

Camus a Choirce - SU81 c130m NM76736083

See map for road locations

Provide details on the existing land use and the environmental sensitivity of the area that is likely to be affected by the forestry project.

Apart from SU21 all the roads are within or partly within the SSSI and SAC. They all

need to pass through some native woodland in order to reach the conifer stands.

Description of Likely Significant Effects

Provide details on any likely significant effects that the project will have on the environment (resulting from the project itself or the use of natural resources) and the extent of the information available to assist you with this assessment.

The construction of the roads may impact on the qualifying features of the SSSI and SAC in particular on the lower plants. Discussions have been held with SNH on the method of surveying the roadline to identify and avoid wherever possible these features.

Include details of any consultees or stakeholders that you have contacted in order to make this assessment. Please include any relevant correspondence you have received from them.

Construction corridors will be surveyed by an FES ecologist ahead of construction to ensure that qualifying habitat will not be affected by road construction. This includes the planned road crossing of mixed woodland habitat at Camastorsa. Further advice from SNH will be sought where it is not possible to avoid qualifying habitat.

Mitigation of Likely Significant Effects

If you believe there are likely significant effects that the project will have on the environment, provide information on the opportunities you have taken to mitigate these effects.

Surveying of the road lines prior to construction to avoid as far as is possible the qualifying features. SNH accept that the benefit of removing the non-native conifer species from within and adjacent to the SSSI is likely to out weighs the loss of features provided the routes are carefully selected.

Sensitive Areas

Please indicate if any of the proposed forestry project is within a sensitive area. Choose the sensitive area from the drop down below and give the area of the proposal within it.

Sensitive Area	Area
Sites of Special Scientific Interest (SSSI)	1.06ha
Special Area of Conservation (SAC)	1.06ha
Select...	
Select...	
Select...	

Property Details

Property Name:	Sunart Woodlands		
Business Reference Number:	030/519/197	Main Location Code:	
Grid Reference: (e.g. NH 234 567)	NM690647	Nearest town or locality:	Strontian
Local Authority:		Highland	

Owner's Details			
Title:	Ms	Forename:	Christina
Surname:	Tracey		
Organisation:	Forest Enterprise Scotland	Position:	Planning and Environment District Forester
Primary Contact Number:	07767251380	Alternative Contact Number:	
Email:	christina.tracey@forstry.gsi.gov.uk		
Address:	Lochaber FD, Torlundy, Fort William, Inverness-Shire		
Postcode:	PH33 6SW	Country:	SCotland
Is this the correspondence address?		Yes	

Agent's Details			
Title:		Forename:	
Surname:			
Organisation:		Position:	
Primary Contact Number:		Alternative Contact Number:	
Email:			
Address:			
Postcode:		Country:	
Is this the correspondence address?		Select...	

Office Use Only	
GLS Ref number:	

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Individual Woodland Areas:

Dun Ghallain
Camastorsa
Salen Wood (An Sailean)
An Cnap
Bun Allt Eachain
Ardery (Ard Airigh)
Camus a'Choirce

For each woodland area there is a description of the key features and the management proposals and the following maps

Current species
Conservation and heritage features
Long term management models
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Felling and restocking maps (where required)

ACKNOWLEDGEMENTS

The original SSSI management plan for Sunart was prepared by Dr Mary Elliott in 2002. Much of the material she prepared is still valid, in particular the descriptions of the biodiversity features of the individual forest areas. This work has been incorporated into the new LMP along with some of her original photographs.

We are also grateful for the detailed advice and ongoing support provided by Lorraine Stewart of SNH during the preparation of the plan.

Summary of Proposals

There has been a long history of woodland cover and of management in the woodlands of Sunart, initially for domestic use and grazing of stock. By the C19th, however, the woods were being managed more intensely for bobbins and charcoal leaving a legacy of more even aged and less diverse woodland. During the C20th, the drive to increase productivity of woodlands across the country led to some native woodlands being either felled & replanting or under planting with non-native conifers. By the turn of the C21st views had changed and native woodlands were valued for their biodiversity. The Millennium forest initiative brought energy and resources to combine with strong community interest and involvement in the renewed management of the woodlands both for traditional woodland products and as a tourism resource. The process of removal of the planted non-native conifers began along with the creation of a tourism infrastructure and delivered much change over the next 10 years. The progress of changed slowed in recent years and funding declined and other priorities came to the fore.

The focus of the earlier Forest Design Plan and SSSI management plan was, rightly, on the removal of non-native conifers and the re-establishment of native woodland throughout the National Forest Estate (NFE) woodlands of Loch Sunart. With significant progress made on this priority objective and a clear plan for completion of the work, it is an appropriate time to review the longer term management of the existing and the regenerating native woodlands.

The revision of this land management plan provides an opportunity to review in detail the progress on native woodland restoration and identify what interventions are required in the next 10 years. Most of the area covered by the original 2005 – 2015 Loch Sunart Forest Design Plan (FDP) was also covered by a separate the Sunart oakwoods SSSI management plan 2003-2013. It has been decided to combine the two plans into a single document to reflect the biodiversity priority in the management of the woodlands.

The purpose of this Land Management Plan (LMP) is, therefore, to describe management objectives and prescriptions for the forest over the period 2017 – 2027 in detail, and in more general terms for the following twenty years in order deliver favourable conditions of the notified features of the SSSI and to fulfil the requirements of the UK Forest Standard (UKFS) and the Woodland Assurance Standard (UKWAS).

The management Forestry Commissions Scotland's national forest estate in Sunart is also guided by the six themes of its Strategic Directions:-

- Healthy
- Productive
- Treasured
- Accessible
- Cared For
- Good Value

The analysis of data from surveys of soils, climate, plantations on ancient woodland sites (PAWS), woodland stand structures and open habitats, has aided the production of a more robust forest plan. The proposals also take into account climate change, timber, business development, community development and access & health.

The overarching aim is the gradual transformation of all the NFE woodlands at a landscape scale back to native woodland through the continuation of phased clearfell of non-native conifers followed by re- establishment of native trees ideally through natural regeneration but where this is unsuccessful enrichment using plants grown from local seed sources.

Within this aim the objectives are to:-

- Restore and maintain the SSSI/SAC to favourable condition, protecting and enhancing its notified features and qualifying habitats.

- Continue to support of local tourism through the provision of formal and informal recreation facilities and the enhancement of the landscape of the woodlands along the shore and road sides.

- Introduce low impact silvicultural management of some of the native woodland to increase its diversity and generate some timber, predominately of fire wood grade but with some future sawlog production possible.

1.0 Introduction

1.1 Setting and Context;

The area covered by the **Loch Sunart Land Management Plan,** comprises of 7 separate woodlands on the north shore of Loch Sunart, from Camus a Choirce 5.5Km west of Strontian village to Dun Ghallain 4km west of Salen village, covering an area of 734Ha. All the woodlands are accessed from the A861 or the B8007. See Map 1.
FES holds the shooting rights on its land.

Table 1. The National Forest Estate (NFE) woodlands within the boundaries of the Loch Sunart SSSI and the Loch Sunart SAC, with the main access point OS Grid Ref.

Woodland	Total NFE (ha)	FE land in SSSI (ha)	AWS (ha)	Access Point OS Grid Ref.
Dun Ghallain	20	20	11	NM 650 607
Camastorsa	257	57	122	NM 681 632
Salen Woods	97	80	62	NM 686 645
An Cnap	118	85	79	NM 690 649
Bun allt Eachain	27	27	25	NM 728 635
Ardery	91	91	77	NM 747 618
Camus a'Choirce	124	124	121	NM 768 608
TOTAL	734	484	497	

The land was purchased in separate transactions during the 1950's and 1960's
The first conifer plantings took place in 1954 and continued through to 1974 with some felling of the broadleaf trees taking place to accommodate more conifers.

The first phased coupe clearfell took place in the 1990's and this process of clearfell has continued through to the present day. With 497 Ha (68%) of the total area designated as Ancient Woodland Sites, the areas that have been cleared of commercial conifers are being allowed to return to native woodland by natural regeneration from local seed sources. This will contribute to improving the condition of the SSSI as a whole and create a more natural habitat transition from loch shore to open hill.

The various woodlands comprising the Loch Sunart LMP area are highly visible from Salen village, the various public roads, adjacent hills and Loch Sunart itself. The gradual restoration of native woodland will also allow the LMP area to sit more comfortably within the landscape.

The NFE woodlands in the SSSI are readily accessible as they are adjacent to the A861 or the B8007. Car parks, forest paths and interpretation have been provided to encourage public access, recreation and awareness.

1.2 History of the plan and woodland management

Prior to the Forestry Commission's management the mid C20th the woodlands on Loch Sunart were managed for local wood products and for grazing. A sawmill in Salen saw a period of more commercial management in the first half of the C19th.
The early years of FC management coincided with the drive to make woodlands more productive through the introduction of non-native conifer species. This was successful in its objective but by the end of the C20th the value of native woodlands was recognised and the policy changed to one of restoration and expansion. In Sunart the Millennium Forest for Scotland Trust (MFST) project begun in 1995, leading to the Sunart Oakwoods Initiative provided a focus, funding and momentum to begin the process of restoration and develop local socio-economic benefits from the management of the native woodlands.

Loch Sunart is subject to an existing 10 year Forest Design Plan: Reference Number 030/519/197 which is signed 18 June 2003. This has been extended to 31 March 2018. The majority of the Loch Sunart LMP is also within the designated Sunart SSSI and the Sunart SAC. Lochaber Forest District had agreed a Management Plan for Sunart SSSI with Scottish Natural Heritage (SNH) from 2003 - 2013.

See Appendix 2 for a more detailed summary of the woodland history

1.3 Planning Context

The proposals outlined in the Loch Sunart LMP relates directly to the Lochaber District Strategic Plan which translates the key themes of FES Strategic Directions into a district context.

The key themes are:-

- Healthy
- Productive
- Treasured
- Accessible
- Cared For
- Good Value

See Appendix 1 for details

2. Analysis of Previous Plans (LMP and SSSI)

The focus of the earlier Forest Design Plan and SSSI management plan was rightly on the removal of the non-native conifers and the re-establishment of native woodland throughout the NFE woodlands of Loch Sunart. With significant progress made on this priority objective and a clear plan for completing this work it is an appropriate time to review the longer term management of the existing and the regenerating native woodlands.

See Appendix 3 for the achievements of the previous plan and how these relate to this plan revision.

3. Background Information

3.1 Physical Site Factors

3.1.1 Geology, soils and landform

Geology
Moine: - The Moine rocks of Ardnamurchan form part of the most westerly exposure of the Moine Assemblage on the Scottish mainland and contain some of the coarsest sediments within the Moine succession. The Upper Morar Psammites here have retained much of their original structure and character despite the metamorphism during major crustal upheavals (which have totally metamorphosed similar-aged rocks in other parts of Scotland).

Caledonian Igneous :- The Strontian Complex, an igneous intrusion created just before the Great Glen Fault was formed, occurs in a section at the eastern end of Loch Sunart, and on the south side of Glen Tarbert. This is composed of varieties of intermediate and acid plutonic igneous rocks injected up into the earth's crust around 400 million years ago.

Tertiary Igneous: – is represented in Basalt dykes, often aligned NW/SE, which were formed about 65million years ago when a large volcano erupted in what is now West Ardnamurchan.

Soils
A detailed soil map is not available for the Sunart woodlands.
The soils of Sunart are closely related to the topography.

- Ridges and knolls with rocky outcrops – soils tend to be peaty rankers and peaty gleys with a loamy sand texture. They are often shallow <50cm for rooting and can be wet.
- Short, steep but non-rocky slopes – these are dominated by peaty podzols, deeper soils of a loamy sand texture. These tend to be better drained areas.
- Hollows and flats – this is where the deeper peat can accumulate. There are no extensive areas of deep peat within the NFE woodlands
- Rocky, steep wooded slopes below 200m – here forest brown earths and humus-iron podzols occur of a coarse sandy soils but can still be relatively shallow <50cm.

A preference for using natural regeneration to achieve the re-establishment of native woodland means that species will establish in the areas most suited to their requirements, provided there is a seed source nearby. Some enrichment planting will be required to achieve a woodland cover and to reintroduce site native species where the seed source is absent. The rocky topography and shallow soils will create natural open spaces with the woodland area.

Landform
The woodlands range from sea level to 230m in Camastorsa but the majority of the areas on the NFE are below 100m in altitude.

The land form is of small scale ridges, knolls and hollows with the underlying rock not far from the surface.

The steepest areas are in Camastorsa where care will be needed in harvesting to protect the slopes from erosion.

The water courses are relatively short and form some incised gullies supporting assemblages of lower plants.

Access for future management of native trees will be restricted by the terrain.

3.1.2 Water

The main water body associated with the Sunart LMP is Loch Sunart, which currently has an overall ecological status of **Good** and an overall chemical status of **Pass** in the River Basin Management Plan (RBMP) classification. In addition there are numerous streams that run down the hills directly into the loch.

The UK Forestry Standard identifies that forest management should contribute towards achieving the objectives of the RBMP to protect and improve the water environment, and ensure that any forestry pressures in the aquatic environment are addressed.

See Map 7 Hydrology

3.1.3 Climate

The Sunart LMP area has an oceanic climate and is mild, wet and windy. The mean annual rainfall is c2150mm. The accumulated temperature is generally above 1200 degree days and suitable for a range of tree species. Mean annual temperatures in this area are about 8 degrees centigrade with a relatively narrow annual temperature range. See Map 8.

The forests are moderately exposed to wind with some sheltered area at lower levels. The higher altitude of Camastorsa means that some of the upper forest is highly exposed and more prone to wind damage. See Map 9.

As with the soils the preference for natural regeneration as the means to re-establish the native woodland will encourage climate adapted species.

3.2 Biodiversity & Environmental Designations

Within and adjacent to the Sunart LMP area there are several environmental designations. These include;

- Sunart Site Of Special Scientific Interest (SSSI).
- Sunart Special Area of Conservation (SAC).

See Map 10

3.2.1 Sunart Special Area of Conservation

Sunart SSSI is part of Sunart Special Area of Conservation (SAC) which is designated for the European habitats and Species listed below (relevant to the Plan area).

Annex I habitats that are a primary reason for selection of this site

91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles

Sunart on the west coast of Scotland contains the richest complex of Atlantic bryophyte-rich old sessile oak woods in the UK and is representative of the mid-west Highlands bryophyte zone. The site is also characterised by one of the UK's most extensive areas of ancient semi-natural woodland, much of which is oak-dominated. However, the woodland canopy is varied, with areas of birch *Betula* spp., ash *Fraxinus excelsior* and hazel *Corylus avellana*, and alder *Alnus glutinosa* on wet ground. Typically, oak-dominated woodland on lower slopes gives way to birch woodland at higher altitudes, and uninterrupted transitions to marine habitats are found along the shore, a rare situation in British woodlands. The woods support a rich fern flora and an impressive range of lichens, including well-developed lungwort *Lobarion* spp. communities and many rarities. The rare chequered skipper butterfly *Carterocephalus palaemon* has a strong population within these woods.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

1170 Reefs

4010 Northern Atlantic wet heaths with Erica tetralix

4030 European dry heaths

9180 Tilio-Acerion forests of slopes, screes and ravines ***** Priority feature

Annex II species that are a primary reason for selection of this site

1355 Otter *Lutra lutra*

Sunart supports a relatively high density of otter *Lutra lutra.* Records show that the site has supported consistently strong populations, indicating that the habitat is suitable for the species. The site is representative of coastal otter populations on the west coast of Scotland, which is a stronghold for the species. The otters mainly forage in the extensive wrack and kelp beds that occur throughout shallow areas of Loch Sunart and which serve as habitat for important prey species. Over 1400 otter holts, typically in areas of dense vegetation and rock boulder cover, have been recorded in the terrestrial areas bordering the edge of the loch and on the main islands. There is also a large influx of freshwater from numerous streams and rivers around the site which are important to the otter for washing.

Other features

Bryphyte assemblages (SSSI)
Lichen assemblages (SSSI)

3.2.2 SSSI

The Sunart SSSI is an extensive area centred on Loch Sunart, to the south of the Ardnamurchan peninsula. It stretches for over 20 miles along both the northern and southern shores of Loch Sunart and includes the Isles of Risga, Carna and Oronsay, as well as adjoining land in Ariundle and Glen Tarbert. In the native woodlands variations in geology, altitude and aspect, are reflected in the composition and dominance of different species both in the tree canopy and ground flora.

The Sunart SSSI contains one of the most extensive areas of ancient semi-natural woodland in the UK. It is important in European terms for north-west Atlantic fringe characters found in the woodland including the rich bryophyte and lichen communities and was designated a Special Area of Conservation in 1995.
It also encompasses a range of upland habitats and assemblages of both vascular and non-vascular plants and three invertebrate groups.
The site illustrates the varied coastline characteristic of west coast sea lochs, including rock shores interspersed with saltmarshes and other intertidal marine habitats. There are intact transitions from coastal marine to woodland habitats, which is uncommon in Britain nowadays.

A range of notable plant and animal species occur, including good otter population and small red squirrel population (N of Salen). There are a number of sensitive conservation sites that have been identified within the area. These include osprey nests, otter holts, badger setts, chequered skipper habitat and wood ant nests.

Several geological features are of national significance.

3.2.3 Woodland on NFE

Much of the present NFE woodlands in the Sunart SSSI reflect transitional management stages to restore native woodland, with a full range from native cover, through restored, to partially restored, and conifer plantation.

Table 2. The 483ha of the SSSI managed by FES consists of:

Area	Habitats	Further Detail
56ha	ASNW	Native woodland that has not been historically under planted with conifers.
274ha	Restored Woodlands	Includes PAWS which is at an early restoration stage such as felled areas with naturally regenerating native trees.
84ha	Conifer Plantations	Restoration planned as per this LMP.
49ha	Open Land	Including heaths, bogs, grasslands and flushes.

Deciduous woodland tends to be dominated by oak and birch, with ash on richer soils. There is a patchy distribution of understorey rowan, holly and hazel. Willow and alder grow in wetter areas, and clusters of alder and aspen fringe parts of the shore. Fine ravine and gorge woodland composed of ash, birch and wych elm, with hazel, rowan, gean and bird cherry, grow up to 300 metres altitude up some burns. The characteristic pattern is oak-dominated woodland on lower slopes grading upwards into birch woodland.

Most of the native deciduous and Scots pine woodlands are on Moine rocks and the resultant acidic soils support heath and grassy ground floras. Under continuous conifer canopies the ground flora is distinctly poorer, with far fewer species which show limited growth where there is restricted light and inhibiting effects of the conifer needle carpet.

There is just under 500ha within the LMP identified as AWS with 52ha recorded as ancient semi-natural woodland.

Table 3 Designated areas and AWS within each NFE woodland

All in Ha	**Dun Ghallain**	**Camas torsa**	**Salen**	**An Cnap**	**Bun Allt Eachain**	**Ardery**	**Camas a Choirce**
Total area of wood (733.4ha)	19.5	257.3	97.2	117.6	27.2	90.7	123.9
Designated area							
SSSI /SAC Area (483.5ha)	19.5	56.6	80.6	85	27.2	90.7	123.9
AWS							
ASNW (52.0ha)	11.1	5.8	0	18.3	2.5	14.3	0.0
Open Ground (11.7ha)	0.0	8.1	0.0	2.1	0.0	0.0	1.5
PAWS (433.5ha)	0.0	107.9	62.2	59.0	22.3	63.0	119.1
Non ASNW w Veteran (4ha)	0.0	0.0	4.0	0.0	0.0	0.0	0.0

The conifers planted in these woodlands since the 1950s consisted of about 50% Sitka spruce, 20% Lodgepole pine, around 10% larch and 10% Scots pine, with the balance made up of a few firs and Norway spruce. Since 1995 the management of these plantations has changed radically, with the emphasis being to restore native woodlands. 314Ha of non-native conifer has been removed or felled to recycle from the Sunart oakwoods since 1995. The areas have been allowed to regenerate naturally. The regeneration has been variable across the woodland area. Some areas achieved rapid and complete cover of natural regeneration of native species and are approaching the stage for respacing to allow selected trees to develop and maintain their crowns. In other sites, further from a seed source regeneration has been slower and more variable. These sites need to be reviewed individually for intervention now to improve the stocking or to wait for a few more years to see if the regeneration will establish itself.

Other plant communities associated with the woodlands
Glades are often dominated by heather *Calluna vulgaris*, blaeberry *Vaccinium myrtillus,* wavy hair grass *Deschampsia flexuosa* and bracken *Pteridium aquilinum*; and under deciduous canopy wood sorrel *Oxalis acetosella*, heath bedstraw *Galium saxatile* and cow-wheat *Melampyrum pratense* are abundant. Where the soils have formed over basalt, often as intruded dykes, and in gorges, with more nutrients the resultant richer ground flora includes dog's mercury *Mercurialis perennis*, enchanter's nightshade *Circaea lutetiana* and sanicle *Sanicula europaea*. In flushes near the shore, tall herbs such as meadow sweet *Filipendula ulmaria*, valerian *Valerian officinalis* and Iris *Iris pseudacorus*, along with brookweed *Samolus valerandi*, occur. Notable plants include narrow-leaved helleborine *Cephalanthera longifolia* found near Woodend.

Within, between and above the woods the ground vegetation comprises community mosaics of dry and wet heaths, blanket bogs, acidic and herb-rich grasslands, and flushes. Dry heath often grows on rocky outcrops and knolls, on the coast crowberry *Empetrum nigrum* and bearberry *Actostaphylos uva-ursi* abound in this habitat. Wet heath and blanket bog as well as acidic and calcicolous (calcium seeking) grasslands, often in mosaics with dry heath, occur extensively through the site. There are acidic and base-rich flushes. Plants characteristic of an oceanic climate, such as white-beaked sedge *Rhynchospora alba*, black bog rush *Schoenus nigricans*, pale butterwort *Pinguicula lusitanica*, and intermediate sundew *Drosera intermedia*, are found. Whorled caraway *Carum verticillatum* is locally abundant in wet areas between Resipole and Camus a'Choirce.

The oceanic influence and continuity of ancient woodland has enabled the development of rich and diverse communities of epiphytic ferns, mosses and liverworts, and lichens including many 'Atlantic' species, such as the hay-scented buckler fern *Dryopteris aemula*, Tunbridge filmy fern *Hymenophyllum tunbrigense* and the moss *Dicranum scottianum*.

Camas Torsa, An Cnap, Bun Allt Eachain, Ardery and Camas A Choirce all contain gullies and ravines protecting important communities of lower plants. See individual woodland maps.

3.2.4 Coastal

The Loch Sunart coast is mainly rocky, with small patches of saltmarsh in bays. Thrift *Armeria maritima* grows in crevices on the rocks. The saltmarsh vegetation consists mostly of sea plantain *Plantago maritima*, red fescue *Festuca rubra*, saltmarsh rush *Juncus gerardii* and sea milkwort *Glaux maritima*. Around freshwater sources saltmarsh flat-sedge *Blysmus rufus* and slender spike-rush *Eleocharis uniglumis* are locally abundant. There are uninterrupted transitions from the shore through saltmarsh and Iris beds into woodland and heath, for example at An Cnap around the bay - Sailean nan Cuileag.

3.2.5 Invertebrates

A diverse range of terrestrial, freshwater and marine invertebrates are found. Strong populations of the nationally scarce chequered skipper butterfly

Carterocephalus palaemon use suitable woodland glade and edge habitats. The juxtaposition of scrub, heath and grassland habitats on south-facing slopes sustain nationally important populations of several moth species. Several rare and scarce craneflies and hoverflies have been recorded. The hairy wood ant *Formica lugubris* recorded in every Sunart block but the nationally scarce Scottish wood ant *F. aquilonia* is only recorded in Ardery.
The site supports a notable dragonfly and damselfly fauna particularly in Salen Village woood, around the lochan na Dunaich (An Cnap) and in Ardery.
Chequered skipper is found in Ardery.

3.2.6 Vertebrates - Mammals and Birds

A healthy otter *Lutra lutra* population lives in this coastal loch and woodland, with signs of their feeding, use of shelter, and paths, apparent along parts of the shore and by burns. Also present on the site are badger *Meles meles*, pine marten *Martes martes*, and pipistrelle bat *Pipistrellus sp*. Red squirrels *Sciurus vulgaris* occur in very low numbers in the NFE woodlands but in greater numbers in the private woodlands to the north of Salen. Wild cats *Felis sylvestris* are found on the Ardnamurchan peninsular and there are indications that they come into some of the woods of Sunart. Common seals *Phoca vitulina* haul up on islands and skerries in the loch.

3.2.7 Deer Management

The Sunart woodlands are home to Red, Roe and Sika deer. Red are the predominate species with Roe and then Sika following. All species are capable of causing significant damage to productive forests and woodlands as well as reducing species diversity in the ground flora, resulting in the prevention of natural regeneration of native tree species.
The herbivore impact is one of the main pressures on the whole of the Sunart SSSI and SAC resulting in the unfavourable condition of the designated features.

The main objective of deer management within the Sunart LMP area is to regulate deer populations at a level that is compatible with their environment and the protection, enhancement and restoration of the native woodlands.

A strategic deer fence was erected separating the private and NFE woodlands from the open hill. See map 11. Working with neighbours to manage the deer population within the fence as deer can still access via the public road as well as occasional break-ins through damage to the fence.

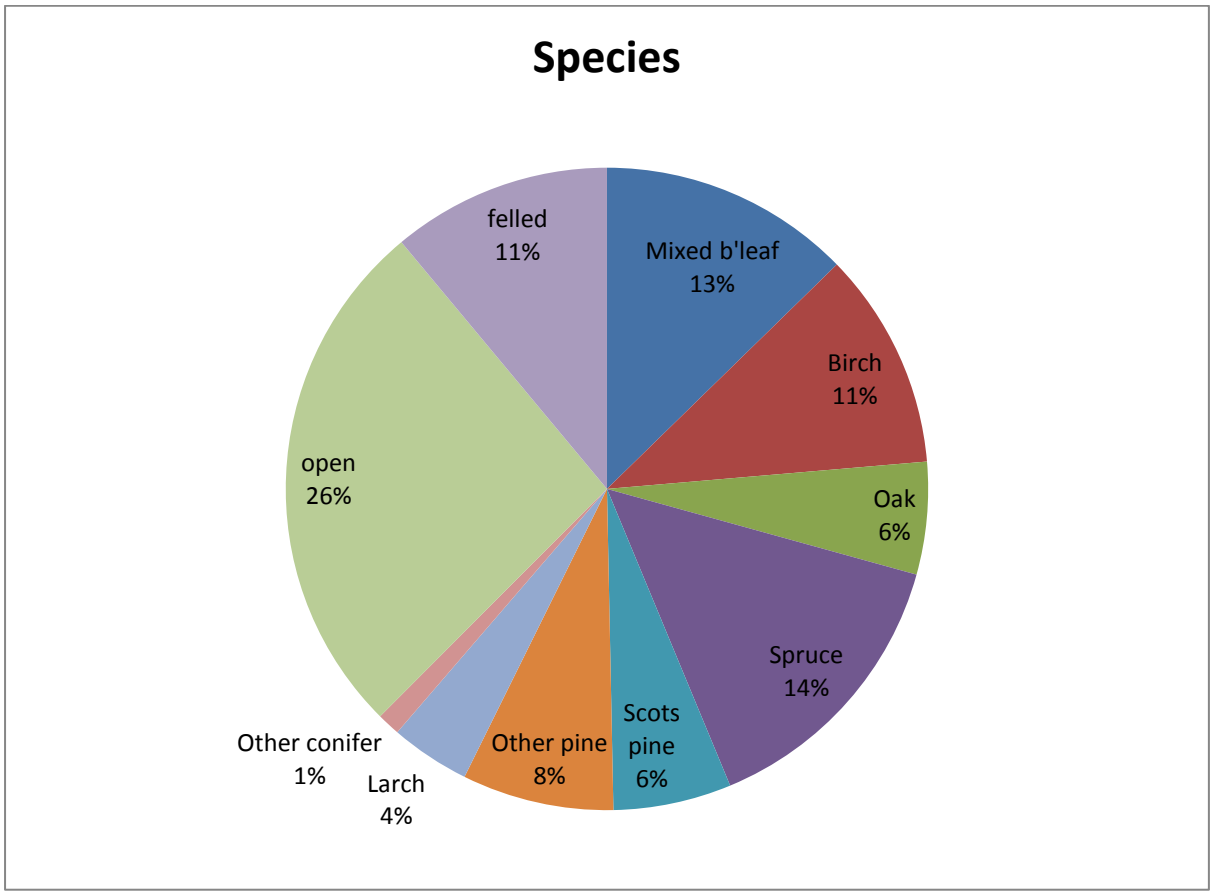
3.3 The existing Forest

3.3.1 Species and age structure

Current species

Within the LMP area 62% is currently woodland with a further 11% felled awaiting natural regeneration. Of the woodland area 47% is broadleaf, predominantly oak and birch. The removal of the conifer element has been

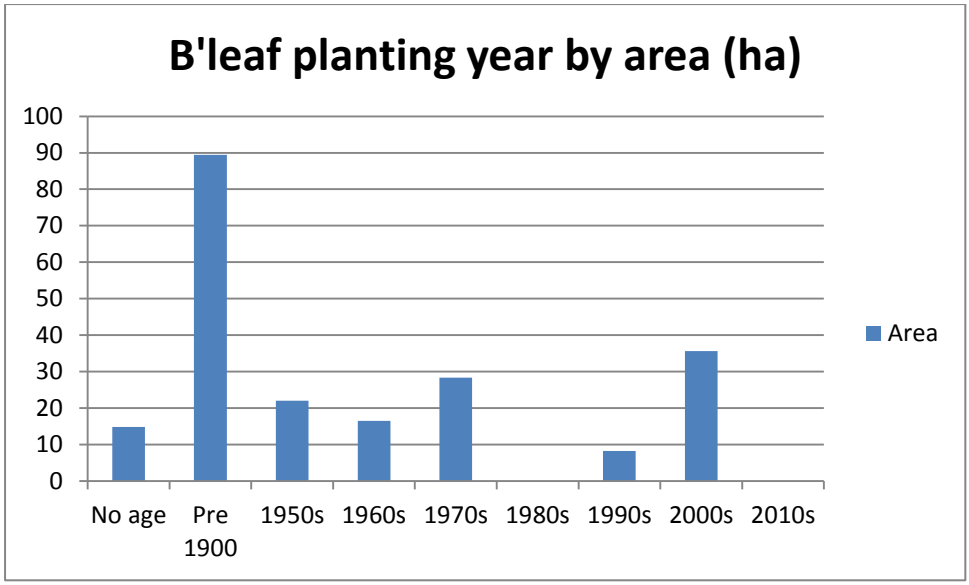
ongoing since the late 1990s. The composition of the remaining 242ha is 43% Sitka spruce, 20% Lodgepole pine, 18% Scots pine and 12% larch species. With the exception of some of the Scots pine and Norway spruce all the conifer area will eventually be restored to native broadleaf woodland, providing income in the interim to contribute to the management of the woodland. Around 100ha of the remaining conifer area is PAWS.

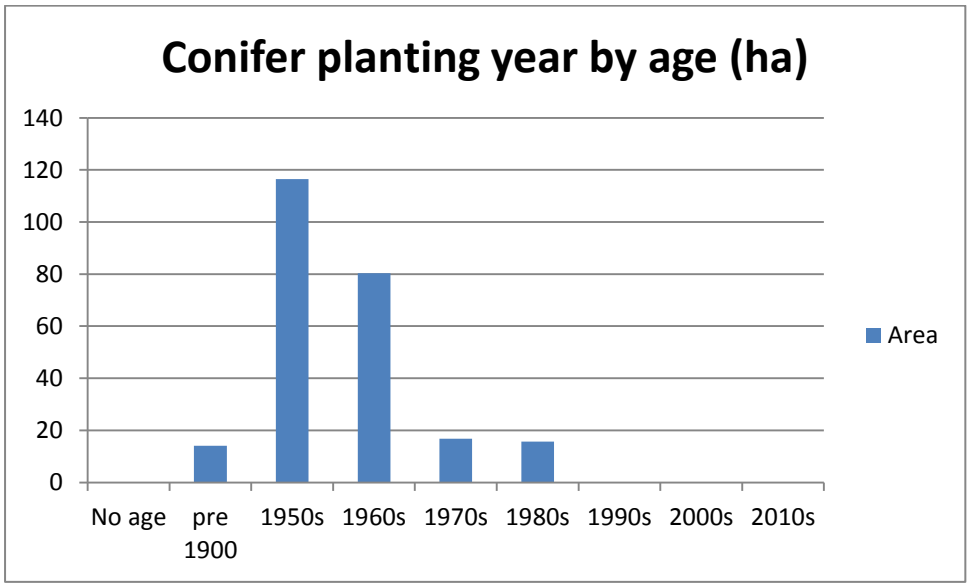


Age Structure

The majority (81%) of the conifer was established in the 10 years between 1954 and 1963. Most of this is now suitable for harvesting at a positive return.

The age of the broadleaves is less reliable due to a lack of older records and more recently the development of natural regeneration. The table below gives an indication of the estimated age range with 42% recorded as pre1900. The method of formally recording natural regeneration required it to have reached a certain height and density before being included in the data sets. There are areas of currently regenerating broadleaf which will form a cohort of the 2010s awaiting a final assessment.





See Appendix 4 for detailed tables.

3.3.2 Access

The woodlands are accessed from the B8007 or the A 861. Both these roads are classified as consultation routes by the Timber Transport forum agreed routes maps. Harvesting of timber will require consultation with Highland council roads engineers to agree the method of haulage.

Due to the extensive area covered by the Sunart LMP and its fragmented nature there is no single access point.

Table 4 Individual woodland's access

Woodland	Road number	Grid Ref of access	Internal roads
Dun Ghallain	B8007 layby only	NM649606	None
Camastorsa	B8007	NM685635 NM671620	150m (B class) plus 500m track to mast 170m (transfer and entrance)
Salen Village Wood	B8807 to forest edge only	NM687645	None
An Cnap	A861	NM701643 NM692643 NM690650	300m (B Class)
Bun allt Eachain	A861	NM728634	60m (B class)
Ardery	A861	NM743623	200m (B class)
Camus a'Choirce	A861	NM775607 NM762608 NM755612	230m (class B) and transfer point

The maintenance of the existing roads and bridges will be ongoing. As the first rotation commercial conifer crops mature some of these tracks will require upgrading along with extensions to existing forest roads and additional transfer points will be required to access harvestable crops.

3.3.3 Plantations on Ancient Woodland Sites (PAWS)

FES policy is to restore 85% of its PAWS sites to native woodland. Within the Sunart LMP area, the plan objective has been to restore all 371 Ha of PAWS to native woodland with an initial target date of 2020 to remove all the non-native conifer. To date, 274ha of conifer have been felled. The felling of the remaining stands will not be complete by 2020 as this would create too great a disruption to the woodlands and the infrastructure. It is likely to be a further 15 years before almost all the conifer is felled. There will be some retention of small areas of Norway spruce and other conifer for red squirrel.
There are a few areas which may prove difficult to fell and extract some material due to its proximity to both a powerline and a road which will require traffic control and power outage at the same time

3.3.4 Low Impact Silvicultural Systems (LISS) Potential

Currently there are no areas within the LMP that are managed on a LISS basis. However, with the expansion of native woodlands associated with PAWS there will be an opportunity to increase the area of woodland managed as continuous cover forest for biodiversity and for small scale timber production.

3.4 Landscape and Land Use

3.4.1 Landscape Character and Value

Rugged Coastal Hills
The woods of the Plan area lie within a broader landscape consists of rugged coastal hills typically reaching to 500m which derives its distinctive character from a lower more rounded relief and a greater exposure of rocks.

The woodlands themselves are in the transition with the Rocky Coastland where the landscape naturally has a more wooded character; native oak and ash establishes a stronger presence and the glen roads to the coast wind through thick woodland with a lush understory.
Restoration to native woodland will enhance the natural character of the landscape.

See Appendix 5 for full description of the Landscape Character Type.

3.4.2 Visibility

The various woodlands of the Loch Sunart LMP area are highly visible from Salen village, the various public roads, adjacent hills and Loch Sunart. There are some visually unsympathetic straight edges along the upper margins of the forest e.g. Camastorsa, which need to be addressed once the conifer crop is removed.

The gradual restoration of native woodland will create more natural forest edges in the landscape. Care is needed over the shape and timing of the felling coupes to avoid creating new hard edges as far as possible within the constraints of wind stability.

The location map shows the view points used for Camastorsa and An Cnap photographs and analysis.

3.4.3 Neighbouring Land Use

The main neighbouring land uses are sheep farming, deer stalking and forestry.

The NFE holding in Sunart is mostly contiguous with privately owner native woodland. These owners including FES have formed the North Sunart Woodland Group to encourage a common approach to maintaining and enhancing the native woodland resource. The NFE woods are protected by two strategic deer fences which encompass some of the private woodland holdings. See Infrastructure map 11. Deer management has been undertaken across the woodlands within the fence.

There are several recorded water supplies which will be protected during any operations. See hydrology map 7.

Sheep incursion has occurred from time to time through breaches in the fence e.g. into Ardery. This is now more sensitive as the woodland enters a regeneration phase

3.5 Social Factors

3.5.1 Recreation

There are several popular recreational sites within the Sunart LMP area which encourage people to enjoy the woods and the coast. Ongoing maintenance of the paths is necessary and some work to open up the young regeneration has been carried out in the last few years in the vicinity of the paths in Ardery. This will be an ongoing requirement.

The main FCS recreation facilities are:

Ard Airigh Car Park & Trails; A gentle stroll through native birch and Oak woodlands as well as Larch and Scots pine that is bright and open as it skirts Loch Sunart to eventually reach the Garbh Eilean Wildlife Hide. This facility caters for 15K day visits annually.
Garbh Eilean Car Park & Wildlife Hide; A gentle path down to the remarkable wildlife hide looking over Loch Sunart.
Sailean nan Cuileag Car Park & Trail; A short charming trail descends through mature, open woodland to a lochside bay before climbing back through birch and oak woods. Caters for up to 10K day visits per year,
Lochan na Dunaich Car park & Trail; A gentle all abilities trail close to the village of Salen, around a loch that broods among the trees and reeds, popular with dragonflies.
Camastorsa; small picnic site.

See individual woodland maps.

In addition there are a number of walks and tracks throughout the area which provide informal access to the other woodlands.

3.5.2 Community

The local communities of Acharacle/Salen and Strontian are represented by their respective Community Councils and the North Sunart Woodland Group which is an organisation representing neighbouring land and woodland owners.

The woodland fall within the boundaries of 3 community councils
West Ardnamurchan CC – Dun Ghallain
Acharacle CC – An Cnap, Salen Village and Camastorsa
Sunart CC – Bun allt Eachain, Ardery and Camus a'Choirce

A local community company currently have a lease for a woodland shelter and compositing toilets used for Sgoil na Coille (forest school) and for events. There is a community composting site a short distance up the forest road.

In 1995, the Sunart Oakwoods Initiative was set up as a partnership of agencies and the communities. Its aim was to re-establishment of native woodlands on the shores of Loch Sunart as a rich natural habitat and local resource for locals and visitors. Over 10 years the Initiative attracted some £4 million in funding delivering a programme of economic, environmental and cultural projects. The removal of non-native conifers and collaboration over reducing herbivore impact provided and continues to provide the basis for other projects such as the enhancement of visitor facilities and interpretation and woodland management training.

FCS remains committed to continuing the process of conifer removal and the restoration of native woodland for both biodiversity and economic benefits, to the maintenance of the current recreation facilities and to consulting with communites over the plans.

In the wider area there are also the RSPB reserve at Glenborrodale on the Ardnamurchan peninsular and the native woodlands of SNH Glencripesdale nature reserve on the south side of Loch Sunart.

3.5.3 Heritage

There are many sites of heritage value currently identified within the LMP area. They come in a variety of forms ranging from charcoal platforms to the remains of buildings and settlements.

There are two scheduled monuments within the LMP area.
An Cnap - Prehistoric cairn (SM07802) at NM7024 6422
Salen wood – Prehistoric cairn (SM07818) at NM6860 6523

There is a scheduled area between Ardery and Camus a Choirce
Camus a'Choirce - A group of recessed platforms and small free-standing foundations of prehistoric to early medieval date (SM07806) at NM 75606205

See individual woodland descriptions for details of sites.

3.6 Statutory Requirements & Key External Policies

3.6.1 SSSI/SAC

See under 3.2.1 and 3.2.2 Biodiversity and Environmental Designations

This LMP includes the details of operations which require consent from SNH. The proposals in this plan have been prepared in consultation with SNH to ensure that the integrity of the designated sites and their qualifying features are protected.

3.6.2 Scheduled monuments

See under 3.5.3

3.6.3 Water and River Basin Management Plan

See under 3 .1.2

3.6.4 Invasive Non-Native Species (INNS)

The spread of Rhododendron and the regeneration of non-native conifers is one of the main pressures on the native woodlands. Lochaber Forest District has a rolling programme to identify and monitor the species and scale of INNS within its boundaries and to deal with these species in the recommended manner this includes a programme to eradicate Rhododendron ponticum and to deal with Japanese Knotweed.
There are other potential invasive species of plant and animal e.g.
Himalayan Balsam, Giant Hogweed and North American Signal Crayfish. Should any of these species be identified within the Loch Sunart LMP area, the FES will initiate a programme of eradication based on consultation with SNH and SEPA.
Mink are present in the area in low numbers and have been controlled in the past. Areas such as the common tern colony on the island off Ardery are more vulnerable to predation.
New Zealand flat worm is thought to be present in the community composting area in An Cnap

3.6.5 Tree health

Changes in the climate and an increase in imported diseases require constant vigilance to spot changes in tree health. The following diseases could impact or are already impacting on the Sunart woods.
Chalara – this is a very virulent disease of ash trees. It is present in the area and experience from other countries and parts of Britain suggest that large scale death of ash trees will occur within the period of this plan. No ash is being planted now. The main hope for the long term future of ash is that there will be some resistant individuals which can be used to breed replacement stock.
Phytophthora ramorum – this disease is currently affecting larch and infected trees are subject to Statutory Plant Health Notices requiring the clearing of susceptible spp (Larch, Rhododendron and *Vacinium*) from a 250m buffer area around the infection. The disease is confirmed in Lochaline and suspected in Glen Tarbet by Strontian. No larch is being planted now.
Dothistroma needle blight – this disease affects pine trees with Lodgepole pine being the most susceptible but Scots Pine also being affected. DNB is suspected in Drimnatorran above Strontian. Out with the Caledonian Pinewood Inventory sites Scot pine is still an option for planting.

NB there are potentially hazardous trees in An Cnap where halo thinning has protected the oak but created areas of large dead conifer trees. These are recorded on a GIS layer and monitored through the District's tree safety programme.

4. Analysis and Concept

See Table 5 below for opportunities and constraints
See the Analysis map 3 and Constraints map 4.

The protection and enhancement of the qualifying features of the designated sites is a further driver in the development of the plan.

The vision of the first forest design plan to transform the NFE woodlands of Loch Sunart from a mix of non-native conifer and native broadleaves and pine to native woodlands of semi-natural oak/birch and wet woodland with Scots pine in selected areas continues with this plan revision.

Since the mid-1990s there has been a gradual removal of commercial conifer from the Sunart LMP area and native woodland allowed to regenerate naturally in its place. This process will continue through the period of this plan with the aim to removing all the non-native conifer by 2035 apart from some limited retentions of Norway spruce. Some intervention to encourage the regeneration of appropriate species is proposed in the next 10 year period through respacing of the dense regeneration and enrichment planting. The natural regeneration is of variable stocking and the intervention will also be directed to allowing space for trees to develop healthy canopies.

Where management is appropriate for either for native timber production or to enhance biodiversity, low impact silvicultural systems will be adopted. Natural regeneration will be the principle means of establishing the native woodland with planting or enrichment used only where the density of desirable species is not being achieved by the natural processes.

The native woodlands, while a valuable semi-natural habitat, also have a long cultural history of management. There is a desire to achieve a balance between the development of the native woodlands on the NFE as a natural habitat of high biodiversity value and as a resource for local economic benefit.

For the majority of the woodland area protection and enhancement of biodiversity will be the dominant objective of management. However, where access is not a constraint some of the re-establishing native woodland on former conifer plantations has the potential to be managed for timber production in the future.

Table 5 Analysis and Concept

Issues	Opportunities	Constraints	Concept
To protect the designated and scheduled areas within and adjacent to the woodlands	Enhance the biodiversity value of the woodlands over the long term	Balance some short term damage with the benefits of longer term gains through the removal of the non-native conifers	Identify and protect the qualifying features within the woodland Work closely with SNH to identify the qualifying features that are at risk or which may be impacted by felling operations and to develop measures to minimise any negative impact.
To restore all the woodland to site native woodland and to manage the stands to enhance their biodiversity value.	Continuing landscape scale restoration of native woodland, including associated open and wetland habitats, in an area of high conservation value Revenue from sale of conifer timber to help fund operations	Limited harvesting infrastructure in place Unthinned conifer stands have to be clearfelled rather than gradually thinned which would have allowed a less dramatic change in microclimate Common challenge of native woodlands restoration i.e. variable seed source, competing vegetation, herbivore impact.	Continued commitment to landscape scale restoration of native woodland in Sunart Rate of progress will depend on ability to fund timber harvesting infrastructure and on the rate of regeneration of the native woodland (avoid too much land awaiting regeneration at any one time)
Remove all non-native conifers and shrubs from SSSI, prioritising the most at risk native habitat area first and aim to complete removal of conifers by 2035 unless there are stated reasons for their retention.	Production of wood and marketable timber from the non-native conifer stands to provide a surplus to contribute to the future cost of management of the oakwoods. (subject to protecting the qualifying features) Scope for creating smaller parcels of timber for sale which may be of interest for local markets <u>Remaining areas</u>	Access to some of the remaining stands of timber is constrained and requires - built forwarder tracks - haulage roads or loading bays - powerline shut down and traffic management Previous halo thinning has left some unstable trees A balance is needed between the removal of conifer from the remaining woodland and avoiding too much land awaiting	Schedule the felling of all the remaining stands of conifers, aiming to create a surplus where possible. Where practical create smaller parcels for sale for local markets Target the most threated native woodlands areas first Design coupes to fit into the landscape as far as possible Avoid creating any further hanging coupes

	- Main harvesting coupes (Camastorsa, Camus a Choirce, An Cnap) - Small parcels of timber (An Cnap, Bun Allt Eachain) - Remnants between powerline and road (Bun Allt Eachain, Ardery)	natural regeneration along with the smaller parcels of timber. This will extend the timescale for the complete removal of non-native conifers. Change in micro climate of gullies and riparian and open areas by rapid removal of woodland cover. Cost of Rhododendron removal and long term commitment	Construct the minimum road/track necessary for extraction of timber Avoid fell to recycle except for small area and/or small trees
Impact of current woodlands in the landscape and future felling coupes	Restoration of a more natural woodland landscape within the setting of Loch Sunart Phased felling of conifers is desirable to avoid large scale clear felling Plan coupes to minimise windthrow risk	The remaining conifer crops cannot be thinned without a high risk of the remaining trees falling – clearfell is the best option. The wind may also have other ideas about the sequence of clearfelling and the timescale over which it is possible	Landscape architect input into the design of the felling of Camastorsa, the most prominent of the remaining conifer woodlands. Felling of Camastorsa from east to west instead of distributing the felling coupes over the forest, to try to minimise wind damage to the standing trees. Restructuring of the age structure is less important with the restocking of the forest is with native species.
Encourage the regeneration of native broadleaves, primarily through natural regeneration, by providing suitable conditions for regeneration following removal of non-native trees.	Re-creation of an extensive area of native woodlands along the shore of Loch Sunart through relying on natural processes. Establish site suitable native woodland Allow the development of a more natural mosaic of habitats from shore to open hill. Natural regeneration now	Some of the former conifer areas have little or no native seed source Some of the species that would naturally occur in the woodlands of this area are in very limited supply due to earlier management favouring the oak. Herbivore impact has slowed re-colonisation in some of the more recent coupes	Natural regeneration will remain the preferred option but further assessment will be carried out on a site by site basis to assess the likelihood of success as well as monitoring of colonisation of desired species. Enrichment planting of local material may be carried out where the seed source is insufficient for the anticipated

	established in some of the earlier felling areas.	The rate of competing vegetation recolonisation varies but can outpace the establishment of the desired species. Impatience of foresters!	tree species. Focus deer management to permit satisfactory natural regeneration of native tree species to occur and to maintain habitats in favourable condition. On the older regeneration sites a programme of respacing of the natural regeneration is required to favour native species of good form.
Monitor the success of restoration of native woodlands on plantations cleared of non-native conifers Ongoing conservation monitoring	Monitoring has been undertaken for a number of years and a large body of data is being built up. Allow for targeted intervention to ensure woodland is re-establishing and early intervention is habitat deterioration is detected	Costly both to collect and to analyse Needs to be set up to agreed and repeatable standards Storage of data so that it can be easily retrieved and used	Include a monitoring plan as part of the LMP.
Promote the development of a more diverse natural structure in the native woodlands	To encourage a fuller range of native tree species appropriate to the woodland type To encourage a greater structural diversity of field, shrub and different canopy layer as well as ages of trees. To increase the amount of deadwood in the woodland	Some of the lower plant communities in particular may have developed in the woodland in the absence of disturbance. Safety in relation to deadwood in recreation areas	Low impact silvicultural intervention in small areas agreed with SNH for the purpose of improving the biodiversity of the woodland. Management will need to be adaptive to the woodland and the way it responds to intervention. Detailed prescriptions can only be prepared for the next planned intervention at a time.
To encourage the development of site native woodland with timber production potential	The native woodlands have a long history of management and could be managed again for local economic benefit and to	To achieve a balance between the development of the native woodland as a natural habitat of high biodiversity value and as a	There is opportunity on the re-establishing native woodland on former conifer plantations where the current ecological potential

	provide some income to offset the costs of management. Especially outside the SSSI boundaries and on areas where little native woodland features	resource for local economic benefit. Access limitations due to rough terrain and previous harvesting operations combined with lower volumes/ha and preference for smaller machinery to minimise any damage to the ground.	is low and access is not a constraint. (Management for timber) As above management will need to be adaptive.
Protect significant archaeological remains	Good records of the archaeological interest of the area through the Sunart Oakwoods Initiative Create/maintain access to best sites	Cost of access and interpretation	Recognise the importance of both the physical archaeology and the cultural history of the woodlands
Neighbours and stakeholders Continue membership of N. Sunart Woodland Owners and assist where appropriate with join woodland management.	Public and private woodlands within the strategic deer fence and overarching SSSI. Close working with SNH on protecting the designated features	Need to work within Government procurement procedures	Be open to opportunities for joint working to deliver woodland, conservation and social benefits.
Community Providing opportunities for local people to benefit from the woodland resource.	Good recreation infrastructure for public access and wildlife viewing. Ongoing woodland management at different scales of working from standard clear fell to small scale felling, respacing and enrichment planting.	Limited time and cash resources for significant new initiatives	Focus on continuing the woodland restoration programmes with opportunities for small scale working. Maintain existing recreation facilities and their environs to a high standard. Consult communities and stakeholders to help inform the plan.
Recreation provision	Existing facilities in good condition Car parks/picnic sites, forest trails, wildlife viewing hide 15k visits/year to the hide	Cost of maintenance of facilities Cost of creating new facilities and their on-going maintenance	Maintain what we have now. No expansion planning within the period of the plan.

5 Land Management Plan Proposals

Proposals for the restoration of the native woodlands involves

The phased removal of non-native conifers
Natural regeneration of site native species
Management of young stands of native trees
Management of the mature and maturing stands of native trees

The following sets out the details for each of the phases and associated management requirements.
Tables 8 and 9 relate address the specific requirements for approval of operations within the SSSI.

The environment forester must be consulted early in the planning process for any operation within the designated area to allow time for surveying of qualifying features and monitoring/iterative management to ensure that the favourable status of designated sites is maintained.

5.1 Clear Felling of Non-Native Conifers

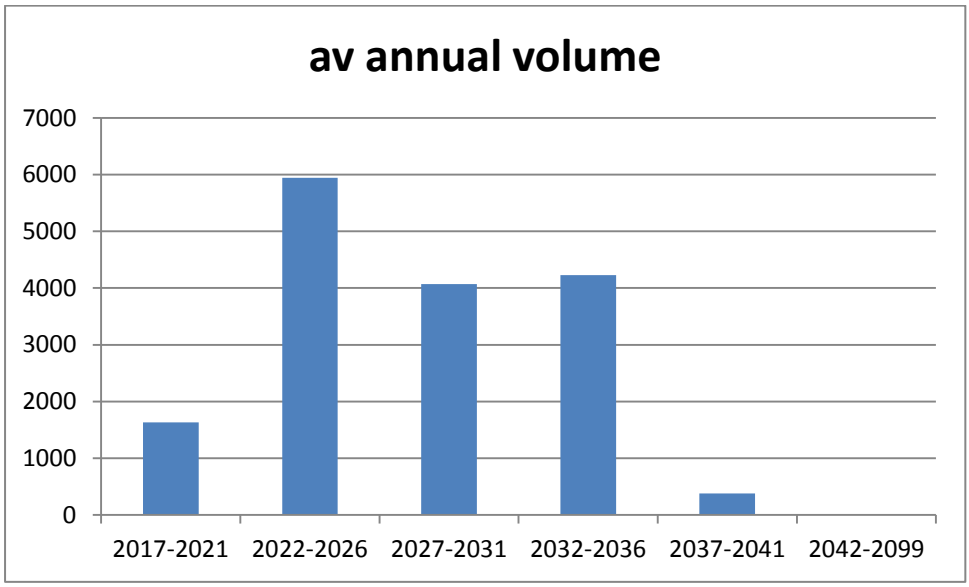
The removal of the remaining stands of conifers is planned to take place over the next 15-20 years.

Table 6 Individual woodland felling

Woodland	Area of conifer.	Target phase	Notes
Dun Ghallain	11ha	N/A	Scots pine to be retained
Camastorsa	149ha	Phases 1,2 & 3	Camastorsa is the largest area of conifer forest in the plan area. It is proposed to remove the conifer in 3 phases beginning with the mature crop in the east and then the western most coupe. Road construction will be required.
Salen Woods	1ha	N/A	Scattered mixed conifers
An Cnap	43ha	Phases 1,2 & 3	The proposal is to create smaller felling coupes above the village which may be more suitable for local contracts. Loading facilities required C1.5ha of NS and SP to be retained Restoration of high ecological value PAWS under critical threat around Salen Wood School.
Bun allt Eachain	5ha	Phase 2	Remaining area will require some constructed access. Too large an area to leave. Also some behind powerline
Ardery	3ha	Phase 1 if possible	Just small area adjacent to powerline.
Camus a'Choirce	30ha	Phase 2	Final coupe to be removed in single operations. New road access required. Reinstate the original access to small entrance for vehicle to pull off road. Some SP retained
TOTAL	243ha		

Volume production

Graph showing the average annual timber production from the LMP area in m3/year over a five year period.



Timber Production – conifer stands – While there will be a long term change from commercial conifer forests to site native woodland, the existing stands of conifers will the harvested for timber production. Smaller parcels of timber will be offered on the open market where the crop conditions allow. Where this is not possible, usually due to access and a lack of windfirm boundaries, the parcels will be of a larger size that could attract the larger processors and merchants.

The long term priority is for native woodland restoration and the harvesting operations must take this into account in preparing operational site plans.

a. Need to determine the harvesting methods including any road/track construction required. See below 5.2
b. Within the SSSI construction will need a detailed description of the impact on the qualifying habitats (Structure, function and supporting processes), on key species and on site integrity, of the road and the ditches, whether this is temporary or permanent loss. There will also be the balance of the long term benefits to the overall habitats.
c. Harvesting operations need to identify and protect any remnant or special features.
d. Harvesting operations must also take into account the regeneration methods for the site and manage the brash etc. accordingly.

A number of the woodlands have timber trapped between the powerline and the road which will require co-ordination of road traffic management and powerline outage.

Once the first rotation conifers are removed clearfell will no longer be used in the plan area. All future management will be through some form of LISS.

5.2 Roads and Tracks

Road construction is particularly sensitive in the SSSI/SAC due the risk of the permanent loss of qualifying habitat and features. However, the removal of the remaining conifer stands will provide long term benefit to biodiversity of the designated areas. A combination of road construction to allow safe stacking and loading of timber and forwarder track construction will be used. Longer forwarder extraction than normally employed will be the preferred option to reduce the level of impact.

Construction corridors, to allow micro siting or both roads and forwarder tracks, will be surveyed ahead of construction to ensure that qualifying habitat will not be effect by road construction. Further advice from SNH with will be sought where it is not possible to avoid qualifying habitat. The water environment will be protected through adherence to the UK Forestry Standards Guidelines and compliance with the requirements of the Water Environment (controlled activities) (Scotland) Regulations 2011 (as amended).

EIA determinations for some of the roads are included in this plan. Prior notification to Highland Council for new forest roads will be required up to 3 years prior to construction along with the request for two new road openings.

Camastorsa is the most challenging of the woodlands to access due to the larger volume of timber to be harvested, the steepness and roughness of the terrain, the qualifying habitat on the lower slopes and its visibility. A detailed survey is necessary to determine the best lines for the access which will be carried out closer to the time of construction. A separate EIA determination will be submitted.

Table 7 Forest road requirements

Woodland	Total new roads	Roads within 10 year plan period
Dun Ghallain	None	
Camastorsa	C2540m	SU21 560m SU10 extension 630m Plus forwarder tracks SU11 1350m (max)
Salen	None	
An Cnap	New accesses C660m	SU3 extension 260m SU33 New access 120m
Bun allt Eachain	New access 100m	SU51 New access 100m SU5 Upgrade existing access Plus forwarder track
Ardery		Temporary loading facility
Camus a Choirce	New access 130m	SU81 Upgrade of old track 130m and creating a stacking area.
Total	3430m	3150m

The roads and forwarder tracks will also provide long term access to the developing native woodlands for management and monitoring. Some additional ranger ATV tracks are also required to enable access for deer control which is essential if the natural regeneration of native species is to be successful.

These will be formed on the forwarder extraction routes by some re-profiling to allow access by a quad.

There is currently no quarry within the woodland at Sunart. To date stone has been won locally for the road construction.

5.3 Regeneration of Site Native Species

Within the LMP area there are 371 Ha (51%) designated as PAWS. It is anticipated that the restoration of this area will be through the phased felling of clear-fell coupes and natural regeneration.

The principle woodland types and their species for Sunart are

Upland oak/birchwood (W11/W17/W4): Sessile oak*, silver*/downy birch, rowan, hazel*, holly

Wet/flushed woodland (W7/W9): Alder, hazel*, grey willow, ash*, downy birch, wych elm* rowan, blackthorn

*Better soil fertility

The preferred method of establishment of native woodland is by natural regeneration. However, some of the coupes now being felled are more remote from seed sources than has been the case in earlier operations. Each site, therefore, needs to be reviewed following felling to determine the likelihood of successful regeneration.

If there is no suitable seed source nearby, the site will be considered for planting using site native species from local seed sources. Any ground preparation within the SSSI should be no more invasive than machine screefing.

All other felled areas will be left for 5 years after felling to regenerate naturally with indigenous species from local seed sources. At the end of the 5 year period they will be monitored for signs of natural regeneration which corresponds to the site objectives. A stocking of 800 − 1000 trees/ha across the site is considered sufficient stocking to declare a site regenerated for biodiversity objectives. Where timber production is also an objective the stocking needs to be higher − 5,000 trees/ha and more evenly distributed over the area to be managed.
If there is no sign of natural regeneration the reason for the lack of regeneration should be identified before deciding whether to wait for a further 5 years or to intervene by planting.
Where natural regeneration is present it is unlikely that it will be secured i.e. at the right stocking density and 1.5m in height, by year 5 and a second monitoring year should be allocated, but not more than 10 years from the felling date.

5.4 Management of Young Stands of Native Species

At the second monitoring stage stands should be confirmed as
a) established,
b) identified for enrichment by planting or
c) established but needing respacing

Enrichment planting
Where natural regeneration has been patchy or dominated by a single species e.g. birch, then consideration will be given to enriching the coupe with site appropriate native species from local seed sources. Mechanised ground screefing will take place where necessary to limit vegetation competition with the planted trees. Consent was issued by SNH on 22 November 2017 for works at Ardery and Camus a' choirce to level the surface of existing forwarder tracks created for previous conifer extraction, to enable ongoing access by ATV for deer extraction. Consent was also granted to plant oak trees on felled conifer plantation areas. The trees were grown from acorns collected adjacent to Ariundle NNR. The density of planting was to at 800 stems/ha. Screefing by excavator was to be carried out where necessary to limit vegetation competition with the planted trees.

Respacing
Where the natural regeneration is dense, consideration needs to be given to respacing the stems to give space for crown development, particular for the light demanding species such as birch. Intervention will ideally be at 4-6m in height, felling by hand and left on site. Where oak is being grown for timber then intervention should not start until at least 8m in height as this species benefits from early tighter spacing to create a clean bole.

On the upper slopes of Camastorsa, away from the SSSI, there is potential for planting Scots pine at commercial stocking. This does depend on the soils suitability which has not been investigated. This would provide a source of softwood timber in the future and provide potential habitat for red squirrel expansion from north of Salen.

5.5 Herbivore Impact and Deer Management

Effective management of the resident roe and red deer population has produced some biodiversity and silvicultural benefits over the period of the last plan. The main objective is to regulate deer populations to a level that will allow for the successful natural regeneration of native woodlands and to protect the qualifying features. FES will continue to work in conjunction with neighbours and the local Deer Management Groups.
This will be done in a professional and humane way, ensuring the physical well-being of the remaining deer populations within the forest boundaries. Access tracks are necessary to allow the rangers to extract the deer and improve the efficiency of control. Access tracks have been included in the restocking plans following the lines of harvesting extraction routes.
The strategic deer fences will be maintained with neighbours in good condition for the duration of the plan which will also help to prevent sheep incursion.
See appendix 7.

5.6 Management of the mature and maturing stands of native trees - Low impact silvicultural system (LISS)/Continuous Cover

Four types of LISS intervention have been identified for the native woodland areas

LISS for timber production
LISS for biodiversity
Min intervention
Natural reserve

See also tables 8 and 9 for details on pre-operational surveys for lichens and other designated features.

5.6.1 LISS for native woodland timber production

The Sunart Oakwoods have had a history of past management and there could be scope for some selective harvesting of woodfuel and the occasional parcel of sawlog in the future, partly to offset some of the costs of managing the woods.
Selection criteria include areas that

a) have or will have some harvesting infrastructure as a result of the removal of conifers,
b) are of lower ecological value, generally area that have had a crop of conifers on them previously

Over time the removal of some stems from the current mature woodlands will be beneficial to create opportunities for natural regeneration and for increasing the species diversity of the canopy and shrub layers. Where this is proposed trees will be assessed for lower plants and bats etc prior to selection for felling and the impact of any extraction will also be taken into account.

Where timber production is one of the objectives from the management of the native woodlands the priority is for regular thinning of the woodland to maintain effective canopy height and to focus management onto the best form trees.

In the long term, the preferred silvicultural system of future regeneration is likely to be by small group felling, taking advantage of any windblow that occurs, due to the low shade tolerance of the principal species.

5.6.2 LISS for native woodland biodiversity

The majority of the woodland will be managed with biodiversity as the primary objective. Due to previous management, in particular the introduction and then removal of non-native conifers, these areas will continue to require some intervention to encourage a wider range of site native woodland species and a more diverse age structure as well as to protect the qualifying features. The rate of change will be slow. The basic systems identified for LISS for timber production above will be used but favoured biodiversity features over timber form.

5.6.3 Minimum intervention

These areas are already in good ecological condition and require only the removal of some non-native regeneration. They are focused on the main watercourses and gullies. The priority watercourses for bryophytes are shown on the individual woodland maps.
Part of An Cnap has been largely unaffected by conifer underplanting and no interventions are proposed at least for the duration of the plan. Similarly no intervention is proposed in Salen Village wood where the woodland is developing through natural processes. This will be monitored for any changes in development.

5.6.4 Natural reserve

There is an area of natural reserve identified within the western burn/gully of Ardochy. No intervention will take place here other than the removal of rhododendron if necessary.

5.7 INNS

A programme of rhododendron eradication has been started in Sunart and will continue during this plan period. This includes both cutting and burning of bushes and the follow up chemical treatment.
Eradication of Japanese knotweed with follow up treatment will also continue.
FCS will work with others to control other invasive non-natives where a need is identified.

5.8 Management of Open Land

The importance of open habitats is recognised with designated site features Upland assemblage (SSSI), Dry heaths (SAC) and Wet heathland with cross-leaved heath (SAC). Open habitats, particularly wet heath, will initially increase as non-native conifer areas are removed. Natural habitat succession will progress to a woodland stage where conditions allow. It is likely that the long term habitats will comprise a greater extent of open ground than currently as native woodland is not expected to establish over all the area currently under non-native coniferous woodland. Woodland habitats will include a transition through lower density cover at the upper margins to open ground above the woodland. Open areas within the forest will persist where conditions are less suitable for tree regeneration, such as bogs. The extent of open ground relative to native woodland will be dynamic over long-term time periods, primarily in response to changes in herbivore populations. These natural processes will be allowed to define the element of open habitat within the woodland, with herbivore populations being managed at a level to allow phases of regeneration of the more browse-sensitive tree species such as oak, hazel and rowan. Ongoing creation of open habitat through active management will also occur as part of LISS management and management to maintain chequered skipper and dragonfly habitat.

5.9 Water environment

The continuing conversion of the conifer plantation areas to native woodland will generally enhance the water environment in the longer term. The intention is to remove virtually all the non-native conifer by 2035 and replace this with naturally regenerated native broadleaves. As part of this process riparian and wet woodland will develop. Many of the burns as they pass through the plan area are narrow and steep sided creating habitats for important Atlantic bryophytes and lichens.

There are no large areas of deep peat or wetland habitat within the plan area. Over time the natural processes will create a mosaic of habitats with open wet flushes and small areas of low density bog woodland. Ongoing monitoring and, where necessary, intervention will be required to remove non-native regeneration.

The harvesting operations to remove the remaining conifers will require some road construction and the use of standard harvesting machinery. Harvesting and engineering operations will follow UK Forestry Standard Guidelines and comply with the requirements of the Water Environment (controlled activities) (Scotland) Regulations 2011 (as amended) to protect the water and wider environment.

The creation of some new ATV access tracks is required to manage the natural regeneration and the small areas of oak planting in Ardery and Camus a Choirce. These have been laid out on the existing harvesting extraction routes. The tracks will be formed by levelling the extraction routes and ensuring good long term water management.

There are no known redundant structures within the plan area which could be removed or altered to improve the water courses. Culverts replacement will comply with the controlled activity regulations.

5.10 Recreation

There will be a rolling programme of maintenance on all the current recreation facilities. See Section 3.5.

- Maintenance and drainage of existing trails, picnic sites and vegetation control, associated with keeping the trails safe and fit for purpose.
- We will manage the forest surrounding the facilities in such a way that it enhances both the visitor experience and improves the forest environment.

In addition to the managed sites, there are a number of Public Rights of Way (PROW) historical routes and core paths associated with the Sunart LMP area.

Lochaber Forest District will:-

- Be responsive where access is restricted following weather events.
- Liaise with the 'Access Officer' on a case by case basis where stakeholder requests for improved access are made.
- Ensure best practice to provide users with information where these routes are affected by forest operations.

5.11 Heritage

There is a monument management plan in place for both of the scheduled monuments within the NFE. The focus of the plans is monitoring of condition and the management of vegetation.

5.12 Community

The Sunart Oakwood Initiative achieved significant investment in the area, the engagement of communities and a real momentum to the management of the native woodlands. The focus of this plan is on continuing the legacy of the SOI through the restoration of the oakwoods and the maintenance of the recreation facilities on NFE. The restoration of the woodlands is a long term endeavour and this plan is looking to develop and maintain the resource for future generations to use, enjoy and benefit from.

We will continue to consult local communities to help inform the plans for the woodlands. We will build on the achievements of the SOI by supporting the growing community capacity in and around Sunart in line with the new community rights and where community projects are compatible with the management of the designated site.

5.13 Designated site features

Sunart SSSI and SAC are notified for a range of interests:
https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8174
https://gateway.snh.gov.uk/sitelink/siteinfo.jsp?pa_code=8389

Pre-application advice from SNH is that the main features that may be affected by this plan are:

- Upland oak woodland (SSSI)/ Western acidic oak woodland (SAC)
- Mixed woodland on base-rich soils associated with rocky slopes (SAC priority)
- Bryophyte assemblage (SSSI)
- Lichen assemblage (SSSI)
- Otter (SSSI & SAC)

Pre-application advice from SNH is that other features that may need consideration in the plan in specific areas are:

- Chequered skipper (SSSI)
- Dragonfly assemblage (SSSI) (An Cnap)
- Saltmarsh (SSSI) (Sailean nan Cuileag)
- Vascular plant assemblage (SSSI)
- Upland assemblage (SSSI)/Dry heaths (SAC)/Wet heathland with cross-leaved heath (SAC)

The direct and indirect impacts of the proposals on Sunart SSSI and SAC and their qualifying interests/notified features are summarised in table 8 and 9 below in the context of conservation objectives/management statements.

Red squirrel is a FES priority species. The Sunart area will become less suitable for red squirrel as the conifer is removed and the oakwoods re-establish. Currently the main population in the area is to the north of Salen village. If Scots pine can be successfully established in Camustorsa this has the potential to benefit the species but the woodland will not be managed for red squirrel.

Table 8 Pressures and proposed actions

Site Type	Feature description	Pressures	Proposed action
SSSI SAC	Upland Oak Woodland (SSSI) Western acidic oak woodland (SAC)	Deer browsing is currently preventing establishment of browse sensitive species such as oak, rowan, holly, hazel and ash. Establishment of less palatable species such as birch is currently variable.	Maintain browsing impact at low to medium as defined by the Woodland Grazing Toolbox. Deer impact will vary spatially within each of the strategic fence areas. Areas awaiting natural regeneration and any planted areas will be monitored for browsing impact. Culling will be increased if the more browse sensitive species are not establishing successfully. Extensive areas of natural regeneration and enrichment planting are proposed for establishment in this period. The most appropriate browsing impact may change when the LMP is next scheduled for review.
			Maintain existing strategic deer fences through this LMP period.
		Non-native conifers reducing habitat extent through shading.	Removal of plantation non-native conifers is addressed in this LMP. Removal of regenerating non-native conifers to be undertaken through fell-to recycle programme focussing on the areas identified for LISS.
SAC	Mixed woodland on base-rich soils associated with rocky slopes	As for Upland Oak woodland feature above	As for Upland Oak woodland feature above

SSSI	Bryophyte assemblage	Change in humidity associated with key incised watercourses	Important areas for bryophytes, watercourses having scored 4 or above for bryological importance* and the adjacent areas associated topographically with the watercourses, are to be managed as minimum intervention areas. Removal of non-native plant regeneration such as sitka spruce and rhododendron will be undertaken as necessary. * SNH Commissioned Report 449b: Bryological assessment for hydroelectric schemes in the West Highlands.
SSSI	Lichen assemblage	Availability of mature holly, rowan, hazel and willow trees. Existing mature native woodland tend to be dominated by oak with young woodland dominated by birch.	Cohesive areas of existing lichenological importance will be managed as minimum intervention areas. A lichen survey and discussion with SNH will be required in these minimum intervention areas prior to any felling of mature trees. Increased densities of holly, rowan, hazel and willow trees will be promoted through enrichment planting, selective thinning in LISS areas and maintaining deer densities at a level that allows establishment of these more browse-sensitive species.
SSSI SAC	Otter	Disturbance	Adherence to FCS Guidance note 35c: Forest operations and otters in Scotland which requires that sites are surveyed for signs of otters prior to operations commencing

SSSI	Chequered skipper (Carterocephalus palaemon)	Vegetation succession diminishing availability of glades	Proposed felling using LISS in areas of dense tree regeneration ensures continuation of open space within woodland
		Lack of regeneration to create open woodland in felled areas	Deer management and fence maintenance as for 'Upland oak woodland' feature.
SSSI	Dragonfly assemblage	Important areas for dragonflies identified in LMP need to be maintained as open	Felling a component of natural regeneration in these areas will be undertaken as required to maintain sufficient open space.
SSSI	Saltmarsh	No pressures known	SNH will be consulted for any operations in the LMP period that could have an effect of the qualifying feature.
SSSI	Vascular plant assemblage	No pressures known	SNH will be consulted for any operations in the LMP period that could have an effect of the qualifying feature.
SSSI SAC	Upland assemblage (SSSI)/ Dry heaths (SAC)/Wet heathland with cross-leaved heath (SAC)	Regeneration of trees leading to habitat succession.	Herbivore browsing impact within the large fenced units is likely to result in a treeline well below the elevation of the top fence. It is anticipated that future habitats on felled areas will develop as a mosaic of woodland and heath with heath predominating at higher altitude and woodland at lower altitude. The extent of the two broad habitats is likely to be dynamic through time. In the period of this LMP the heath habitats are likely to increase significantly through succession to heath on areas of felled plantation conifer.

Table 9 Operations within the LMP that could impact on the designated features on the NFE

Operation Type	Detailed description of operation and method	Mitigation measures to be applied
Clear felling plantation conifer	This involves removal of trees on designated ground within Sunart SSSI and SAC.	The UK Forest Standard Water guidelines will be strictly adhered to with measures put in place prior to harvesting to ensure sediment and other pollutants do not reach watercourses that feed into Loch Sunart. Pollution control kits will be on site. Deep brash mats will be used to minimise ground disturbance and digging will not be used to facilitate access. A botanical and invertebrate survey will be undertaken pre-harvesting to ensure that qualifying features retain the site features on which they depend, such as mature native trees or chequered skipper glades, are avoided by the operation. If felling of mature native trees cannot be practically avoided, each tree to be felled will be inspected by an FES ecologist to assess the relative importance of the tree in the context of the habitat in the immediate area. If the extent of native tree felling notably reduces the quality of habitat for qualifying features such as lichens and bryophytes, trees will be inspected by an expert species surveyor to ensure no significant effect on the qualifying feature.
Restock and enrichment planting	This involves ground preparation and tree planting on designated ground within	Ground preparation will be minimal and no access tracks will be dug into the site. The UK Forest Standard Water guidelines will be strictly adhered to ensure sediment and other pollutants do

	Sunart SSSI and SAC.	not reach watercourses that feed into the designated sites. Pollution control kits will be on site. Planted species will include hazel, holly, rowan and willows to improve the habitat available for lichens. Oak may also be planted where it is not regenerating sufficiently.
ATV track construction	Levelling the surface of existing forwarder tracks created for previous conifer extraction, to enable ongoing access by ATV for deer extraction.	Mechanised excavator work will only be undertaken on existing extraction routes in felled conifer plantation areas. No material will be brought onto site for surfacing tracks. The work will be to create a sufficiently level surface for ATV access and it is anticipated that the surface will become vegetated.
Respacing of broadleaves	Cutting of broadleaf trees to reduce the stocking density by hand. Removal of any non-native species in same operation.	Respacing to agree density and favoured species. Cut material left on site – trees should be no more that 6-8m in height when cut, ideally smaller
Felling and chemical treatment of non-native plants within the designated site	Felling of patches and individual stems of remaining non-native conifers is required within the designated site boundary outwith specified felling coupes. The main areas of rhododendron within the designated area have been treated but ongoing foliar spray with herbicide will need	Adherence to best practice. Cut material will be dragged off any area of qualifying habitat if burning is required.

	to be continued and isolated bushes will continue to be cut and stump treated with herbicide.	
Maintenance of existing forest roads, ATV trakcs and recreation routes	Vegetation will be mechanically cut within 2m of forest roads and established recreation routes. New rock material will be used for repair work to surfaces. Ditches will periodically be cleaned out.	None required
New forest road construction	Pre-construction survey to ensure no qualifying habitat effected. SNH advice to be sought if qualifying habitat cannot be avoided.	Construction corridors will be surveyed by an FES ecologist ahead of construction to ensure that qualifying habitat will not be effected by road construction. This includes the planned road crossing of mixed woodland habitat at Camastorsa. Further advice from SNH will be sought where it is not possible to avoid qualifying habitat.
LISS for biodiversity	Felling of trees to improve the conservation value of stands. Includes: removal of non-native trees from within native woodland; reducing tree stem density to favour chequered skipper/dragonfly/vascular plant habitat; favouring	The areas proposed will be immature stands in the current plan period and are unlikely to support important lichens or bryophytes. Oak, hazel, holly, rowan and willows will be selected for retention where possible over birch to increase tree species diversity and habitat for important lichen species.

	under-represented native tree species of particular conservation importance for lower plants such as holly and hazel.	
LISS for timber	Felling of trees for direct or indirect economic gain. Includes reducing tree stem density to improve crown development and to favour more economically valuable tree species such as oak.	The areas proposed will be immature stands in the current plan period and are unlikely to support important lichens or bryophytes.
Minimum intervention	No operations are planned in these areas except deer culling and those operations outlined in the LMP in order to fell and extract plantation conifers as part of the habitat restoration process.	Any felling of mature trees will be preceded by expert survey for lichens and bryophytes of conservation importance and by discussion with SNH. For mitigation measures involving road/bridge crossings of areas designated as minimum intervention, see 'New Forest road construction' above.
Deer management	Deer culling to maintain the population at a sustainable level. Extraction using ATV.	Following best practice and local Deer Management Plan (see Appendix 6). Herbivore Impact will need to be maintained at a level of low to medium as defined by the Woodland Grazing Toolbox.
Mink control	Targeted control of mink if shown to be necessary from	Following best practice as part of the Lochaber Mink Taskforce

	mink survey.	
Raptor nesting platform	Installation of raptor nesting platform(s) to encourage nesting in suitable sites with low disturbance risk	Following best practice FES guidance.

6 Critical Success Factors

Conifer removal – The completion of the clear fell coupes identified in the LMP over the life of the plan is critical as failure to achieve this will have a detrimental effect on the other objectives in the plan.

Construction of roads and tracks - both for the removal of timber from the woods and for access for management of deer in particular.

Expertise to survey accurately for qualifying features prior to operations is essential.

Successful regeneration of site native species – essential to realising the long term vision for the woodlands. Early establishment of regeneration is the aim before ground vegetation becomes too rank and some form of intervention becomes necessary.

Deer Control – Will be essential for the establishment of native broadleaved species within the prescribed timescale. Maintenance of the strategic deer fencing, the provision of access tracks and cooperation with neighbours over culls will also be essential.

Early intervention in natural regeneration management – without intervention to ensure the appropriate species and stocking density e.g. respacing or enrichment planting at the correct time aspirations for future timber production from the native woodlands will not be realised. The species diversity and structural development will also be restricted.

INNS management including non-native conifer regeneration removal will need to be continued for many years to prevent the re-establishment of plantation areas.