

APPENDIX 1 BRIEF AND THEMES

Forest Design Plan Brief Lochaber Forest District FDP Unit: Sunart Date: 29th May 2013.	 Coimisean na Coilltearachd Alba Forestry Commission Scotland
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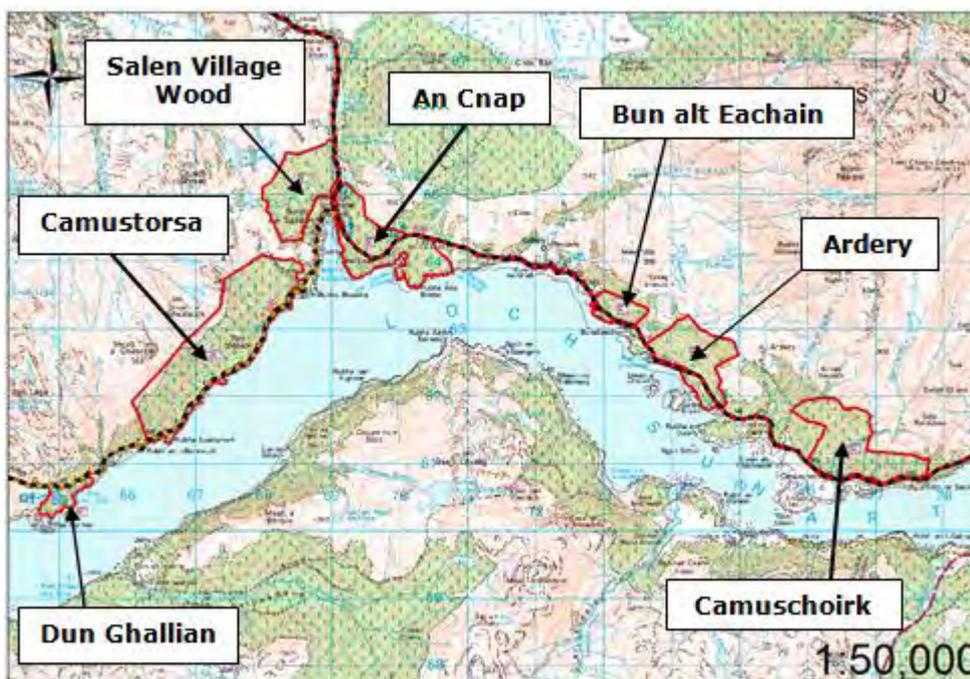
Description

The new Sunart Forest Design Plan comprises 7 distinct woodlands on the northern shore of Loch Sunart, from the east at Camuschoirk to Salen in the west which is a distance of some 14 km. Extending to 533.0 Ha, the woodlands from east to west are as follows; Drimnatorran (which includes the areas known as Camuschoirk, Ardery, Bun allt Eachain, An Cnap, Salen Village Woods, Camustorsa and Dun Ghallain. All the woodlands can be accessed from the A861 or from minor roads that join with the main road.

The area covered by this forest design plan can be seen externally from numerous points locally; public roads, Strontian and Salen Villages, the crofting townships of Anaheilt and Scotstown and from the surrounding hills and sailing vessels on Loch Sunart.

The bulk of new planting took place during the 1950s but continued through the 60s, 70s, 80s and into the 1990s as new land was acquired. The dominant species was Sitka spruce followed by Lodgepole pine with smaller areas of Norway spruce, Scots pine and Larch. The first clear felling and restocking took place during the 1980s and has continued to the present day. Within the FDP area there are substantial areas of native woodland and open ground.

Location Map



Objectives of Management

- Maintaining a small but productive commercial forest core.
- The restoration of native woodland on a landscape scale.
- The continuing consolidation and rationalisation of the recreational potential of the area, capitalising on the multi purpose aspects of productivity and environmental benefit.
- Key species management including Otter, Chequered skipper and Upland Oak woods.
- The enhancement of the external landscape values.
- To promote in partnership the heritage and history of the woodlands.
- While there will be a gradual shift in emphasis from commercial forestry to a more naturalistic structure on a wider scale, it will still be possible to keep a productive core.
- A more fluid approach to tree density and establishment will be required away from the core productive area.
- Grazing with cattle may be considered within the context of the management plan.
- Consult with local communities

Social Factors

The woodlands of Loch Sunart FDP are very much part of the larger 'Sunart Oakwood Initiative' which is a flagship project, not only in UK terms but also recognised internationally.

The current design plan played an important part in ensuring the delivery of various outputs that attracted funding from 'Millennium Forest Scotland Trust' and the 'European Life Project'. Other funding from 'Leader', 'ESF' and 'Lochaber Ltd' also contributed to the successful delivery of training, the setting up of a local contractor base and opportunities for employment.

The future management of the plan will be heavily influenced by the needs of the local community. They have expressed the desire to be active participants in working and managing the woodland resource.

The forest landscape viewed from sections of the A861 and the A884 on the south side of Loch Sunart is important and the use of natural regeneration and coupes that follow the landform will continue to complement and enhance external and internal views

Environmental Factors

Within the FDP area there are approximately 368.3 Ha designated as Ancient Woodland Sites (AWS) The gradual restoration of these areas to native woodland will signify the largest shift in priorities within the FDP area.

Within the FDP area or adjacent to it there are two designated sites Sunart SSSI, and Sunart SAC. These sites will have a significant effect on the management of the Sunart FDP area.

Economic Factors

Due to the high number of individual blocks and the lack of harvesting operations the area is not well served by forest roads. This will be a major economic factor during the life of the FDP.

There are likely to be significant costs associated with native woodland expansion by way of deer fencing and increased inputs for deer management.

Achieving National Priorities Locally

District Priorities and Actions

The following sections follow the themes introduced in the National Strategic Directions document to ensure clear linkages through the planning framework. Lochaber Forest District will apply an approach based on a strategic assessment of national and regional priorities with the overall aspiration of the estate being:

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

See Annex 1

Stakeholders & Consultation

There are a number of key groups and organizations that will be able to contribute to the project through support and advocacy: -

Highland Council
Scottish Natural Heritage
Strontian Community Council
Historic Scotland
Lochaber Fishery Board
Forestry Commission
Peter Sinclair Resipole Farm
Butterfly Conservation
BSW Sawmills

Scottish & Southern Electricity
Marine Harvest
Acharacle Community Council
Sunart Oakwood Initiative
Various neighbours and land owners
Local Deer Management Group
North Sunart Woodland Group.

Themes	Relevant Issues Identified for Loch Sunart
<p>Healthy <i>Achieving good environmental and silvicultural condition in a changing climate.</i></p> 	<p>The medium term objective for the Loch Sunart LMP is the removal of non-native conifers and the restoration of the native woodland in each of the 7 woodland areas. This will also require the on-going control of rhododendron.</p> <p>The removal of the remaining non-native conifers from the designated areas is the priority for the next 10 years and the complete removal of non-native conifers from all the woodlands over the next 15-20 years.</p> <p>The plan seeks to enhance the structure and species diversity of the native woodlands to increase their resilience in a changing climate. In the short term work will be focused on the areas where conifer has been removed to encourage natural regeneration and manage the regeneration to encourage species diversity</p> <p>In the long term it is proposed to manage some of the native woodland areas under a low impact silvicultural system to encourage on going diversification using natural regeneration as the primary mean. Where timber can be removed with minimal impact of the woodlands this will be undertaken to help offset the costs of management.</p> <p>Active deer management in conjunction with neighbours will be essential to achieve the diversification objectives.</p>
<p>Productive <i>Providing sustainable economic benefits from the land.</i></p> 	<p>The remaining conifer crop will be harvested and the timber extracted. Some of the timber will be made available as small parcels more suitable for small scale working. Harvesting plans will be agree with Scottish Natural Heritage (SNH) to minimise the impact on the qualifying feature.</p> <p>The conversion to, and expansion of native woodlands also offers the production of fuel wood from the thinning of regeneration and in the longer term opportunity for some sawlogs.</p> <p>The Sunart oakwoods are an important asset for local tourism providing the scenic backdrop to the loch and road, walking and wildlife viewing opportunities. The Sunart Oakwoods Initiative developed a number of these opportunities along with visitor information and interpretation.</p>

<p>Treasured <i>As a multi-purpose resource that sustains livelihoods, improves quality of life, and offers involvement and enjoyment.</i></p> 	<p>The restoration of the Sunart oakwoods will further enhance a highly valued landscape and natural resource.</p> <p>The Sunart Oakwoods Initiative was very active until around 2010 when changing circumstances for the agencies meant a lower level of involvement. The foundations remain in place and the Initiative could be re-invigorated with a more sustainable management structure.</p>
<p>Accessible <i>Local woodlands and natural treasures that are well promoted, welcoming and open to all.</i></p> 	<p>The car parks, picnic sites, formal and informal forest trails and the Ardery wildlife hide will continue to provide recreation facilities throughout the woods.</p> <p>The community run a wood school project with a purpose built facility in An Cnap wood above Salen village.</p>
<p>Cared For <i>Working with nature and respecting landscapes natural and cultural heritage.</i></p> 	<p>The restoration of the native woodlands is the primary objective of this LMP. Significant progress has already been made with the non-native conifer removed from Dun Ghallain and Salen village wood and only small areas remaining in Bun Allt Eachain and Ardery (inaccessible without power shut down on the line)</p> <p>This plan continues the work and at the end of 10 years the above small areas and Camas a' Choirc will be cleared of non-native and significant progress made in the felling of An Cnap and Camastorsa focused on the highest priority areas for the designation.</p> <p>Low impact management will also take place in the native woods to encourage a greater woodland structural and species diversity.</p> <p>Although predominantly woodland these are other qualifying habitats within the National Forest Estate holding on Loch Sunart. Protection of these will be incorporated into the LMP. Similarly species such as otter and chequered skipper both well represented in the area will also be protected along with their habitats.</p> <p>A number of archaeological sites have been identified with the oakwoods, thanks to a local survey. Some of these are associated with previous woodland management. These will be protected and access maintained.</p>

Good Value
*Exemplary,
effective and
efficient delivery of
public benefits*



The removal of the conifer crop will be undertaken as a commercial operation but there will be additional costs associated with the extraction to minimise the impact on the designated site. In some areas, this may result in a net financial loss to gain the wider environmental benefits.

Initial management of the natural regeneration – either through respacing or enrichment planting - will be a cost operation and will need to be undertaken as cost effectively as possible.

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APPENDIX 2 HISTORY OF WOODLAND MANAGEMENT

Pre Forestry Commission management.

Evidence of woodland management in previous centuries are still evident within the SSSI. Pasture woodland beneath pollarded oak was probably common practice until the late 17th century. This provided grazing land and shelter for stock throughout the year, along with a repeated timber crop for which fencing **was not needed. There is evidence that by the late 18th century 'coppice with oak standards' was being practised, with hags being felled on a 20-30 year rotation, acorns or young trees being planted, and a wattle fence or stone and turf dyke being required to last for at least 4 years after cutting to exclude stock and allow regeneration.** There was a sawmill in Salen using the local timber to making bobbins for the mills of Paisley until 1854 when it was destroyed by fire. The wood crop was used principally for timber for houses and boats; bark for tanning leather; charcoal for iron smelting; fencing and pit props. (Refs : SORG, Tittensor).

Forestry Commission early management

The NFE land on the northern shores of Loch Sunart which is now within the Sunart SSSI was acquired by FC in two phases. The land to the east of Salen was acquired as a number of holdings from the Board of Agriculture in 1951 while the land to the west was bought from the estate of C.B.Holman between 1954 and 1967. These were fenced to exclude deer and sheep. Between 1954 and 1963 ploughing and planting with non-native trees, principally Sitka spruce and Lodgepole pine with some Larch and Norway spruce, was undertaken and much of the semi-natural oak and birch woodlands were cleared or underplanted. This continued through to the 1970s. However a significant proportion of the native woodland remained intact. These areas which were not planted were subsequently designated as the Salen to Woodend SSSI in 1990. Dun Ghallain was included in the Ben Hiant & Ardnamurchan SSSI.

Exclusion of deer and sheep encouraged patches of native broadleaf and woodland ground flora regeneration until most fences gradually deteriorated. This allowed heavy grazing by deer and sheep (from neighbouring land) which prevented further regeneration. The area known as Salen Oakwood (17ha) was heavily grazed until a new fence was erected in 1986 allowing natural regeneration of trees to become established. Rhododendron ponticum also began to expand in the woodland.

Native woodland restoration

In 1995 a Millennium Forest for Scotland Trust (MFST) project was launched covering all the NFE land on the northern shores of Loch Sunart, together with **neighbouring woodland holdings. Through this project FES's primary aim was to convert its entire holdings of 734ha on the northern shores of Loch Sunart, into native woodlands in the medium term, thus changing the main direction of these woodlands from producing commercial conifer crops to native woodland conservation and restoration.**

For the MFST project a survey was made of native and conifer woodlands and Rhododendron ponticum in 1995. The principle threats to the native woodlands at the time were identified as R.ponticum infestation; fragmentation by conifer

plantations, including non-native species regeneration; and over-grazing by deer – and to a lesser extent domestic stock. These were preventing natural tree regeneration and expansion at woodland edges; degrading the ground flora **and biodiversity; and reducing the woodlands' structural diversity.**

It was concluded that 116 ha oakwood and 100 ha mixed broadleaf remnants were under threat from conifers, or *R.ponticum*, or required other management and that 510 ha of existing commercial conifers could be cleared and allowed to regenerate to broadleaf woodlands through appropriate management.

The MFST project led to the LIFE Sunart Oakwood Project, in April 1997, which encompassed almost 3000 ha of woodland (732 ha owned by FE). The main aims were to conserve and restore the Atlantic oakwoods and to maximise rural development benefits provided by the woodlands to the fragile local rural communities. Success came through strong working partnerships developed amongst the owners, community and agencies. This helped to secure substantial funding (£4m), particularly from Europe, to implement woodland restoration, encourage community participation, and recreation and tourism aspects. Carrying out positive conservation work and maximising rural development opportunities, including the potential for using wood products locally, resulted in considerable local involvement, with a widening of the project objectives and local economic benefits.

The project continued the conservation work begun by the MFST, undertook baseline condition monitoring in 2000/2001.

Restoration began with felling conifers around existing native woodland remnants and removal of the invasive *R. ponticum*. The original plans had felling coupes identified up until c.2020 allowing for the phased removal of the non-native conifers and the retention of some until an economic normal felling age 50 - 55 yrs old for conservation or timber reasons,. These felled areas were left for natural regeneration, or sparsely replanted with local tree species seeds. The larger scale removal of conifers through a system of phased felling of clearfell coupes began in the 1990s and is ongoing. Subsequent restocking with native species, principally by natural regeneration from local seed sources has had variable success with some areas now established but others where the regeneration has been slow and the ground vegetation now creating a dense sward.

A Deer Management Strategy was prepared to tackle the impact on the natural regeneration across land ownership boundaries. Three large ring-fenced woodland areas have been created which surround the FE woodland in this SSSI. This has involving shared fencing in co-operation with neighbours – with stock / deer grids on roads. Deer management partnerships are excluding stock and deer, also allowing management of the deer populations within the woodlands at levels aimed at reaching compatibility with woodland regeneration.

In the 20th century local people used the woodlands mainly for fuel, livestock shelter and visual amenity. Another aspect of the project was to promote public awareness through ranger services, on site interpretation, schools projects, leaflets etc. Access provision and information for locals and visitors was

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improved through the development of car parks, interpretation boards featuring the biological and cultural heritage of the woodlands, and forest walk networks.

The project also supported a small group of enthusiasts to research into the history and archaeology of the Sunart Oakwoods. The Sunart Oakwoods Research Group (SORG) **produced "The Sunart Oakwoods" which provides** much relevant history for the present Sunart woodlands management decisions as well as being of interest to a wider audience.

APPENDIX 3 Aims of Previous Plans (LMP and SSSI) and Achievements

(The aims of the 2 plans have been combined under the main headings for the purpose of the analysis)

AIMS OF PREVIOUS PLANS	ACHIEVEMENTS	RELEVANCE TO CURRENT PLAN
<p><u>Statutory Designations SSSI/SAC</u> To protect the designated and scheduled areas within and adjacent to the woodlands</p>	<p>All felling coupes are surveyed prior to felling to ensure the protection of key features, species and archaeological sites. The phased removal of non-native conifers has progressed. The natural regeneration of the native woodlands is developing to various degrees in the felled areas.</p>	<p>Lochaber Forest District will continue to manage the woodlands within the designated areas agreed with SNH as set out in this LMP.</p>
<p><u>Options</u> Management options appraisal for each woodland using an Ecological Site Classification (ESC) for key areas.</p>	<p>Conservation management options for in each woodland PAWS/ASNW area have been identified. Recorded in the PAWS layer of GIS.</p>	<p>Review long term objectives for each wood and revise medium term plans to achieve these.</p>
<p><u>Felling of non-native conifers</u> 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 2020 unless there are stated reasons for their retention. Production of wood and marketable timber</p>	<p>The phased felling of coupes has continued through the plan period in accordance with the FDP. The presence of the powerline has impacted on the removal of some small pockets of conifer which are "trapped" between the line and the public road.</p>	<p>To complete the removal</p> <ol style="list-style-type: none"> 1. Main stream harvesting coupes (Camastorsa, Camus a Choirce, An Cnap) 2. Small parcels of timber (An Cnap, Bun Allt Eachain) 3. Remnants between powerline and road (Bun Allt Eachain, Ardery) <p>A balance is needed between removal of conifer from the remaining woodland and avoiding too much land awaiting natural regeneration. There is also a</p>

		<p>desire to make smaller parcels of timber available for local markets. This may extend the timescale for the complete removal of non-native conifers. This is now anticipated to be by 2035.</p> <p>The production of wood and marketable softwood timber will still be a priority throughout the life of the new plan to help offset management costs of re-establishment of the native woodland habitats.</p>
<p><u>Regeneration of native woodland</u> Encourage the regeneration of native broadleaves, primarily through natural regeneration, by providing suitable conditions for regeneration following removal of non-native trees. Supplementary planting may be carried out where the seed source is insufficient for the anticipated tree species.</p>	<p>Re-establishment by natural regeneration of native woodlands from local seed sources has been the primary method to date. There have been varying degrees of success. The presence of a good seed source and a low herbivore grazing pressure are 2 key requirements for success. Monitoring has been undertaken on the progress of the regeneration and changes in the site condition e.g. vegetation competition, to inform future management decisions.</p>	<p>Continue the restoration of native woodland through encouraging natural regeneration from local seed sources. Review the progress of the current felled sites and identify areas where some enrichment planting of local seed source material is necessary. On the older regeneration sites a programme of respacing of the natural regeneration will be required to favour the native species of good form.</p>
<p><u>Non-native invasive spp</u> Continued control of Rhododendron from the woodlands for restoration. Removal of non-native conifer regeneration</p>	<p>Considerable investment made in clearance of rhododendron with the whole LMP area covered at least twice over the previous plan period. Removal on natural regen of non-native conifers has also been undertaken on a</p>	<p>Ongoing removal and follow up treatment. Management of Japanese knotweed is also ongoing. Respond to new reports of non-native invasive species.</p>

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	small scale	
<p><u>Herbivore impact</u> Regulate the grazing pressures by deer fencing and culling deer to levels compatible with the natural regeneration of the woodland and other semi-natural habitats.</p>	<p>Successful natural regeneration has occurred in the earlier fellings but the grazing pressure is increasing again and impacting on the establishment of trees. Perimeter deer fencing has been erected around both NFE and private woodlands.</p>	<p>Review the deer management strategy with a view to reducing the herbivore impact and targeting the regeneration sites. NB light grazing will benefit some of the qualifying features</p>
<p><u>Surveys and monitoring</u> Undertake baseline survey & ongoing conservation monitoring. Monitor the success of restoration of native woodlands on plantations cleared of non-native conifers</p>	<p>A baseline PAWS survey has been undertaken for all PAWS within LMP area. Repeat monitoring visits have been made for woodland classed as threatened and for areas regenerating following removal of non-native conifers. Data is held in the FES national PAWS GIS dataset.</p>	<p>The FES national PAWS GIS dataset includes resumption dates for monitoring visits, prioritising threatened areas and regenerating areas not yet established.</p>
<p><u>Landscape</u> Ensure that felling impacts are not detrimental to the long term enjoyment of the landscape.</p>	<p>The felling coupes have followed the shapes designed and agreed in the FDP to fit into the landscape. The near view of some of the felling coupes is less attractive in the short term.</p>	<p>Review of the design of the felling coupes for Camastorsa to balance landscaping with issues of crop stability, infrastructure requirements and rhododendron removal. Remedial work required on harvesting routes and some access points following completion of conifer harvesting.</p>
<p><u>Archaeology</u> Protect significant archaeological remains through adherence to FC guidelines.</p>	<p>Sites identified through the Sunart Oakwoods initiative have been recorded in GIS to aid identification and protection on the ground</p>	<p>Ongoing</p>
<p><u>Recreation</u> Maintain and develop the recreational</p>	<p>Recreation played an important role within the plan area with investment in</p>	<p>The priority during the period of this plan is to maintain the current facilities</p>

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<p>/educational facilities for locals and tourists e.g. car parks, picnic sites, forest walks and interpretation whilst avoiding disturbing vulnerable habitats and species.</p>	<p>the existing car parks and forest trails. The wildlife hide and interpretation boards on NFE were set up as part of the wider Sunart Oakwoods initiative.</p>	<p>to a high standard including the management of the woodland surrounding them. No new facilities or interpretation is proposed by FES</p>
<p><u>Neighbours and stakeholders</u> Continue to work in a partnership management approach, incorporating the objectives of the local community, local landowners, public consultees and funding agencies. Promote good relations with neighbours and assist where appropriate in joint management of adjacent oakwood resources.</p>	<p>The SOI delivered on some large projects through partnership working between the local community and landowners and public agencies. The level of activity has declined as the funding has been moved elsewhere but the North Sunart Woodland Group has continued to bring the various landowners together.</p>	<p>FES will continue to consult local communities to help inform the plans and remains committed to managing the woodlands to enhance their value as a natural resource for local enjoyment, tourism and a sustainable source of timber into the future. FES will also continue to work with neighbouring landowners on matters such as the management of herbivore impact which cross ownership boundaries.</p>
<p><u>Community</u> Providing opportunities for local people to benefit from the woodland resource. Continue to promotion of the Sunart oakwood initiative to further the objective and aims to as wide as audience as possible.</p>	<p>Through attracting some £4m of funding the SOI was able to employ a seasonal ranger and a forester to contribute to community development through involvement in conservation, the sustainable use of wood, recreation and tourism. The regeneration of local native woodlands was assisted through local native tree nurseries and the local primary schools raising and planting trees from local seed.</p>	<p>SOI has had to change as the funding sources have dried up. The oakwoods, however, are the lasting legacy and this plan aims to continue the work begun by the initiative for the long term restoring the native woodlands. The management of the woodlands will continue to provide opportunities for local benefit through tourism, access and timber production.</p>

Appendix 4 Current Species and age tables

Species	Area (Ha)	% woodland	% of total
Broadleaves			
Mixed	93.1	20%	13%
Birch	80.3	18%	11%
Oak	41.5	9 %	6%
Total broadleaf	214.9	47%	29%
Conifers			
Sitka spruce	104.3	23%	14%
Norway spruce	1.6		0%
Scots pine	43.6	10%	6%
Lodgepole pine	48.4	11%	7%
Corsican and maritime pine	7.6	2%	1%
Larch species	29.4	6%	4%
Douglas and grand fir	2.4	1%	0%
Mixed conifers	4.7	1%	1%
Western hemlock	1.4		0%
Total conifer	243.4	53%	33%
Total Woodland	458.3		62%
Open			
Open	193.2		26%
Water	0.9		0%
Felled	81.1		11%
Total open	275.2		38%

Age of the broadleaf components

Planting year	Area	
No age	14.8	7%
Pre 1900	89.4	42%
1950s	22	10%
1960s	16.5	8%
1970s	28.3	13%
1980s		
1990s	8.2	4%
2000s	35.6	17%
2010s		
Total	214.8	

Age of conifer components

Planting year	Area	
No age		
pre 1900	14.1	6%
1950s	116.5	48%
1960s	80.3	33%
1970s	16.8	7%
1980s	15.7	6%
1990s		
2000s		
2010s		
Total	243.4	

Appendix 5 Rugged Coastal Hills

From Scottish Natural Heritage, Publication Number 97, Lochaber Landscape Character Assessment 1998

The **'Rugged Coastal Hills'** are found near to the west coast of Lochaber and typically reach to 500m. The areas are underlain by the same Moinian metasediments which extend throughout west Lochaber, with older Lewisian metamorphic rock within the Morar peninsula. Subject to the same glacial erosion, it forms part of the transition between Interlocking Sweeping Peaks to the east and low lying Rocky Coastland to the west. The Rugged Coastal Hills are similar in outline to Rugged Massif but the landscape type derives its distinctive character from a lower, more rounded relief and a greater exposure of rocks. Vertically tilted strata are apparent within the mica-flecked schists, presenting a stepped edge profile and steep sides.

This is one of the rockiest landscapes types; on the upper slopes grass is the only vegetation to gain a foothold, settling on horizontal exposures and creating a striated or marbled pattern with the rocks. On lower slopes and within the rocky glens between the hills, rough grass and heather moorland has become established on peaty podzols and gleys. Small gnarled, lichen covered oaks nestle between boulders and around small lochans and, with small rounded hills, present a more intimate and enclosed landscape than occurs in the Massif and Peaks to the east. On transition with the Rocky Coastland the landscape 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. For example along the edge of Loch Sunart such woodland creates a sheltered micro landscape within the surrounding rocky relief.

Key Characteristics

- Low Rounded hills with relative steep sides and a rugged ice-scoured rocky surface.
- **Transitional, between 'Sweeping Interlocking Peaks' to the east and 'Rocky Coastland' to the west.**
- Predominance of eroded and exposed rock surfaces, giving a consistent pattern of colours and textures.
- Native oak and ash woodlands on lower slopes and in sheltered glens, contrasting with exposed faces.
- Small pockets of native Scots pine.
- Settlement on flat loch side fringes.
- Generally wild and in some parts inaccessible.
- Roads follow coastal and loch side fringe

Pressures and Sensitivities

Forestry is a relatively minor pressure as there is more favourable land on the adjacent fertile basaltic soils or further east where land is less remote. However, conifer plantations around Loch Sunart dominate the natural woodland pattern in scale and size.

Specific Guidance

- Aim to retain clarity of landform and distinctive wild and rugged character of the ice scoured rounded hills.
- Aim to conserve and expand the native oak and ash woodlands which are characteristic of this landscape in both ecological and visual terms.
- Replanting of native oak, pine and ash within existing woodland pockets in sheltered glens will help to reinforce the wooded character of this landscape.
- Restriction of grazing (deer) in existing native woods will encourage natural regeneration and the strengthening of the wooded character of this landscape.
- Where appropriate, improved facilities for access, such as car parks, signed trails, etc., will help to accommodate visitor pressure and lessen the impacts of erosion and footpath proliferation, **but will need 'low key' design** in order to maintain wild character.
- The natural head of water which rivers and burns in this rugged landscape tend to have, and the screening afforded by the varied landform and woodland, means that small scale hydro projects may be an appropriate form of development.
- Many of the Sunart LMP Woodland blocks within the landscape characterised as Rugged Coastal Hills are designated as PAWS sites and the remaining blocks have large areas of PAWS within their boundaries. All these blocks will gradually be changed from woodlands of commercial conifers to native woodlands through the phased felling of clearfell coupes and natural regeneration of native species from local seed sources.
- New road build will be kept to a minimum and designed to have a minimal impact on the landscape.

Prescription	Description	Management Objective	Typical location	Species	Establishment	Density	Protection requirement	Management system	Other
Productive Broadleaves High value	Small but accessible areas planted specifically for sawlog production	Timber Production. Restoration to PAWS targets.	Better soils and close to access tracks for harvesting. Limited areas	Birch , Sessile Oak, sycamore, Beech Consider improved stock for sawlog potential Ash - acceptable as a component if arising from nat regen.	Planting. Supplemented by natural generation. High protection	High Density 3000-5000 per ha	High	Clearfell with interventions to respace/prune and thin Possible shelterwood	Untried in Lochaber – both for sites and also management experience Scope of some of the PAWS sites where ecological potential is low. Care in the use of sycamore due to invasive nature and avoid sycamore and beech on or adjacent to PAWS and ASNW sites.
Productive Broadleaves fuelwood	Natural regen or planted for fuel wood.	Fuelwood production Restoration to PAWS targets. Forest resilience and bio-diversity.	As above but could be on less fertile sites still need to be relatively dry for harvesting	Birch likely to be dominant but native woodlands W11 and W17 also potential	Natural regenerations supplemented by planting	High Density 3000-5000 per ha	Moderate	Clearfell Possible shelterwood	Could be widespread on PAWS sites in particular
Productive Pinewoods	Even aged regular stands of scots pine with proportion of other pinewood spp.	Timber Production. Restoration to PAWS. Bio –diversity	On suitable sites as an option for increasing diversity	Scots Pine Birch component	Planting. Supplemented by natural regeneration.	High density 2500 per ha	High	Clearfell at age MMAI or group selection system	Scope for increasing this type of woodland to add diversity to the productive conifer area in particular on or adjacent to suitable PAWS sites (low ecological value and the right site type)
Low Input Native Woodland	Semi-natural woodland with management using natural processes	Bio-diversity.	Native species to NVC site type 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, Native pinewood (W18): Scots pine, downy/silver* birch, rowan, aspen, juniper, holly, goat/grey/eared willow, hazel* Transition/upper margin(W19?): Eared willow, juniper, downy birch Montane woodland(W20): Salix myrsinites, S. Lapponum, dwarf birch *better soil fertility	Natural regeneration Supplemented by planting	Low density 600-1200 per ha Up to 15% open space	Depends on age and spp. Generally high	Interventions limited to removal of non-native spp, respacing of nat regen and enrichment planting	Widespread on different soil types. Significant area of existing mature semi-natural woodland as well as scope for restoration on PAWS, conversion and woodland expansion. Increasingly favoured on steep slopes with difficult access for timber management. Woodland expansion on upper margins of existing forest	

Prescription	Description	Management Objective	Typical location	Species	Establishment	Density	Protection requirement	Management system	Other
Riparian Woodland	Burnside woodland	Bio –diversity, soil and water management. Managed under minimal intervention	In all areas along burn sides and loch shores	Native woodland matched to NVC site type usually W7 and W9	Natural regeneration Supplemented by planting	Low density 600-1200 per ha up to 50% open space	moderate	Minimum intervention necessary to ensure establishment	Important woodland for water quality regulation and for habitat networks
Slope protection/ stability woodland	Native woodland with minimum intervention	Slope stabilisation	Steep slopes above vulnerable infrastructure	Spp with a range of rooting types* e.g. Hazel, holly, eared willow, juniper, Scots pine, oak, birch, rowan	Planting with natural regeneration	Moderate to high density 2000 – 3000 per ha	High	Minimum intervention necessary to ensure establishment	Sites will vary in requirements but rapid re-establishment is likely to be required due to vulnerable infrastructure. Some planting will also be desirable to achieve species diversity with variable rooting depths. *See Guidance notes for details Long Term Management Steep Slopes (LTMSS) Tech Guidance in T:\LOCHABER FILING SYSTEM\FORESTRY\Operations\Steep Ground Working

APPENDIX 7 Loch Sunart Deer Management Units (DMU)

Five deer management units covering c850ha including the area of the Sunart LMP.

DMU number	Woodland
51925	Ardery
51926	Camustorsa
51927	Dun Ghallain
51928	Strontian Village (includes area out with the Sunart LMP)
51929	Salen

Objective of woodland management

To protect and enhance the qualifying features of the SSSI and SAC designated woodland areas.

To restore the Sunart oakwoods to native woodland by the removal of the remaining non-native conifer stands by 2030 and encouraging the natural regeneration of site suitable native species.

Current Forest Structure

The LMP provides full details of the current structure.

30% broadleaf woodland
33% conifer
26% open
11% felled awaiting regeneration

The majority of the conifer element is mature and has either been planted into the existing broadleaf woodland or in larger continuous stands on open or cleared ground adjacent to the broadleaf woodland.

The broadleaf woodland is a mixture of mature oak woodland and regenerating birch and oak up to c20years of age.

The harvesting of the remaining conifer is due over the next 15-20 years. In Camastorsa the average coupe is 56ha due to the limitations of access for harvesting. In **Ardery and Camus a'Choirce the coupes have been and will** continue to be c25ha. While An Cnap and Bun Allt Echain where access and crop conditions are more favourable, the average coupe size will be smaller c10ha. With the intention of restoring all the woodland within the Sunart LMP to native woodland, predominately broadleaf, with some Scots pine in Camastorsa where the ground is suitable. Natural regeneration will be the preferred method to establish the future woodland. Birch has regenerated freely over many of the

current felled areas but some enrichment with oak is also planned. This oak is of high value as it has been collected locally and there is a limited supply.

Biodiversity and recreation value

All the individual woodlands are either wholly or partially within the Sunart SSSI and SAC.

All the woodlands are open to public access with formal provision made in Ardery and An Cnap while Salen wood is also a popular walk from the village. Wildlife viewing is one of the attractions of the area with a wildlife hide set up overlooking the loch in Ardery.

Neighbouring land use

Shielbridge and Resipole Farm both have sporting interests. The NFE adjoins neighbouring broadleaf woodland along the length of the part of Loch Sunart with no boundary fences between the woodland ownerships. Livestock farmers above the woodlands as well as some woodland grazing at Ardery.

With different deer management objectives on the neighbouring land there is population pressure on the NFE woodlands.

There is currently a strategic deer fence protecting all the woodland, including the private , from Salen village to Strontian and a second fence protecting Salen wood and Camastorsa to the west of Salen.

Deer Management Groups

Ardnamurchan deer group includes Camastorsa and Salen. Deer count by SNH by helicopter in February 2016 showed 1803 deer within the whole area. East Loch Shiel deer group includes all the woodlands east of Salen village. Deer count on foot in 2016 showed 3800 deer for the whole area.

Habitat assessment

Formal herbivore impact assessments were undertaken through Sunart in 2013 and 2014 using the Woodland Grazing Toolbox method. Primarily, surveyed areas consisted of felled plantation areas with a management prescription for establishing native woodland through regeneration. While the level of impact from browsing varied through the surveyed area, in general browsing levels were recorded to be at a level that would allow the gradual establishment of less browse sensitive tree species such as birch. Opportunities for the establishment of more browse sensitive species such as oak, hazel, holly and rowan were more limited. The next assessment is programmed for 2019 in areas that will have had new ranger tracks built in early 2018. This will have enabled a targeted management effort to reduce browsing impact in areas with the greatest potential for establishing browse sensitive tree species. The habitat assessment will be used to measure the success of this manamement.

Recent culls on NFE

One full time wildlife ranger is responsible for deer management within the Sunart woodlands as part of a wider beat.

There have been no separate population assessments carried out in the Sunart woodlands. The following culls have been achieved recently.

2015/16 18 Red deer and 3 Roe deer.

2016/17 16 Red Deer and 3 Roe deer.

There are some ATV access tracks into some of the woodlands to aid in access and the recovery of carcasses.

Deer management strategy for Sunart Woodlands

The current strategy of maintaining the perimeter deer fence and to cull inside the woodlands will be continued as the principle means of managing the deer populations and impacts.

The habitat impact assessment suggests that the deer pressure is still too high for the full range of desired species but woodland is still developing satisfactorily.

As further areas of conifer are felled this will increase the area of woodland awaiting regeneration and vulnerable to grazing pressure. The following specific measures will be taken

- Culling will be targeted to the most vulnerable sites to increase species diversity.
- Night shooting and out of season authorisation will be applied for where this is required to protect sites.
- To aid the cull additional ATV access tracks will be made by re-profiling the harvesting extraction tracks.

Monitoring of damage levels on native trees and impacts on qualifying features will be undertaken every five years to help decision making. Adjustments to culls, target sites and resources will be made during the course of the plan implementation as required.

Appendix 8: Tolerance Table

	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Wind throw or environmental response	Adjustment to road lines
FC Approval not normally required (record and notify FC)	<10% of coupe size	Up to 5 planting seasons after felling (allowing fallow periods for Hylobius).	Change within species group E.g. Scots pine to birch, Non-native conifers e.g Sitka spruce to Douglas fir, Non-native to native species (allowing for changes to facilitate Ancient Woodland policy).	Low sensitivity area The affected area where wind throw, disease or other environmental factors represents more than 60% of the crop, the area including standing trees within the affected area may be felled.	Low Sensitivity Area <ul style="list-style-type: none"> • Creation of turning points/ loading bays. • Deviation of less than 50m either side of the predicted centre line of the road/ track in low sensitivity areas. High Sensitivity Area Deviation less than 25m in either direction from the predicted centre of track
Approval by exchange of letters and map	10-15% of coupe size	5 years +	Change of coupe objective likely to be consistent with current policy (e.g. from productive to open, open to native species).	Low sensitivity area <ul style="list-style-type: none"> • As above to include up to 3ha of healthy crop beyond the affected area to a wind firm or reasonable edge. • The affected area where wind throw or disease is less than 60% of the crop. High Sensitivity Areas The affected area where wind throw or disease is more than 60% of the crop.	Low Sensitivity Area Deviation of 50 - 100m metres either side of the predicted centre of road in areas of low sensitivity. High Sensitivity Area Deviation of 25-50m in either direction from the predicted centre line of road or track
Approval by formal plan amendment	>15% of coupe size		Major change of objective likely to be contrary to policy, E.g. native to non-native species, open to non-native,	Low sensitivity area Greater than 3Ha of healthy crop required to reach a wind firm or reasonable edge beyond the affected area. High sensitivity area <ul style="list-style-type: none"> • The affected area where wind throw or disease is less than 60% of the crop. • Felling of standing trees or healthy crop beyond the affected area. 	Deviations exceeding the above.

APPENDIX 9 CONSULTATION RECORD

Consultee Type	Consultee	Date Contacted	Reply Received	Issues Raised	FD Response to Issue
Statutory Consultees	SNH	09/08/13	Ongoing	Ongoing and working together to produce the tables included in the LMP	Working with Lorraine Servant to agree the protection of the key features and interests
	SEPA	07/08/13	27/8/13	<p>Wide ranging response which included a number of generic issues not applicable to the Loch Sunart plan. The main issues of relevance</p> <p>RBMP – maintain good status, remove any redundant structures, monitor and remove INNS.</p> <p>Felling, roads and restocking proposals – adhere to UK Forestry Standard Guidelines and comply with the requirements of the Water Environment (controlled activities) (Scotland) Regulations 2011 (as amended)</p> <p>Avoid planting peat over 50cm in depth and wetland habitats</p> <p>Adhere to the SEPA guidance on Management of Forest Waste.</p>	<p>RBMP information in the plan (River Tarbet not part of the area)</p> <p>No known redundant structures.</p> <p>District wide programme of INNS monitoring and management.</p> <p>Reference made to the UKFS and regulations in relation to harvesting, road and track construction.</p> <p>No large areas in the plan and reliance on natural processes will help to develop a mosaic of habitats. Monitoring for non-native regeneration will be part of the ongoing management.</p> <p>Standard forest operations proposed</p>
	Historic Scotland	07/08/13	4/9/13	3 scheduled sites noted in or adjacent to the LMP area	The sites are recorded on our database and subject to a management plan. They will be specifically identified in the LMP.
	Highland Council (Planning & Transport)				
	North Sunart woodland owners (Jamie MacIntyre)	10/10/15	27/10/15	<p>Asked to be included in the consultation list. General concern over lack of FES involvement since the end of the funding for SOI</p> <p>Said had further comments to make but not seen any.</p>	Included FES attended CC meetings
Others	Strontian CC	08/05/2014 CC Meeting	On the day	<p>The main area of concern was the poor condition of the Ariundle road from the Strontian Centre to the forest car park.</p> <p>There was also great concern regarding future operations in the Longrigg block and the impact that would have on the already fragile public road which is the access to</p>	These areas are now out with this LMP area but will be addressed when the relevant plans are revised

				the forest block.	
	Acharacle Community council	7/10/14 2/12/14	On the day	Requested information on the NFE woodlands in the area No requests for change received	Information passed to community
Internal Consultation Discussion Forum	Initiated environment	16/7/14	On-going	Ongoing liaison and working together on the LMP/SSSI plan	LMP and SSSI mgt plans combined into a single document
	Renate Jephcott Landscape architect	20&21/8/14	At the time	Revision to the felling coupes for Camastorsa provided	Changes incorporated
	Recreation	14/01/15	15/01/15	Info provided on recreation facilities and maintenance	General principles included and in the SSSI operational tables
Members of the Public. External Discussion Forum Advertised in Lochaber Life Feb 2013.		01/02/2013		There were no issues brought to the districts attention through this channel.	
Poster in Acharacle		20/11/2014			Attempt to promote the plan in the local paper De tha Dol was unsuccessful

APPENDIX 10 GLOSSARY

ASNW	Ancient Semi-natural Woodland
AWS	Ancient Woodland Site
CAR	Controlled Activities Regulations
CCF	Continuous Cover Forest (management system)
EIA	Environmental Impact Assessment
FCS	Forestry Commission Scotland (Conservancy – regulatory branch)
FDP	Forest Design Plan (previous term for LMP)
FES	Forest Enterprise Scotland
FSC	Forest Stewardship Council
LISS	Low impact silvicultural system
LMP	Land Management Plan
MFST	Millennium Forest for Scotland Trust
NFE	National Forest Estate (land managed by FES)
NSA	National Scenic Area
PAWS	Plantation on Ancient Woodland Site
PEFC	Protocol for Endorsement of Forest Certification
RBMP	River Basin Management Plan
SAC	Special Area of Conservation (European designation)
SNH	Scottish Natural Heritage
SOI	Sunart Oakwoods Initiative
SPA	Special Protection Area (European designation for birds)
SSSI	Site of Special Scientific Interest
UKFS	UK Forest Standard
UKWAS	UK Woodland Assurance Standard