

West Argyll Forest District

Glen Shira

Land Management Plan

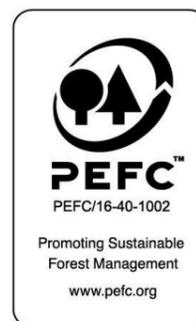
We manage Scotland's National Forest Estate to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

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.



FSC® C123223

The mark of
responsible forestry



Promoting Sustainable
Forest Management
www.pefc.org

Plan Reference No: LMP 12-2016

Plan Approval Date: 02/08/2016

Plan Expiry Date: 02/08/2026

Contents

Summary of Proposals

1.0 Introduction:

- 1.1 Setting and context
- 1.2 History of plan

2.0 Analysis of previous plan

3.0 Background Description

- 3.1 Physical site factors
- 3.2 Biodiversity and environmental designations
- 3.3 The existing forest
- 3.4 Landscape and landuse
- 3.5 Social factors
- 3.6 Statutory requirements and key external policies

4.0 Analysis and Concept

- 4.1 Analysis
- 4.2 Plan concepts

5.0 Management Proposals

- 5.1 Forest stand management proposals
- 5.2 Future habitats and species
- 5.3 Restructuring
- 5.4 Future management
- 5.5 PAWS restoration
- 5.6 Age structure
- 5.7 Management of open land
- 5.8 Deer Management
- 5.9 Access
- 5.10 Critical success factors

Appendices:

- i) Consultation record
- ii) Tolerance table

- iii) LMP brief
- iv) Glossary
- v) Supplementary documentation

List of tables:

Analysis and Concept Tables

Table 4.1 Analysis of Opportunities & Constraints

Management Proposals Tables

Table 5.1 Felling areas analysis (conifers)
 Table 5.2 Felling & Thinning volumes (conifers)
 Table 5.3 Productive Forest Area Statement (Phase 2 felling)
 Table 5.4 Current area summary – Low impact systems
 Table 5.5 LMP species distribution
 Table 5.6 Future forest structure

Support documents: Maps and photos

Location Maps

Map 1.1 Location Map

Key Features Maps

Map 3.1 Soils by largest component
 Map 3.2 Water Features
 Map 3.3 Climatic Data
 Map 3.4 DAMS
 Map 3.5 Conservation features
 Map 3.6 Designations
 Map 3.7 Existing Habitat Networks
 Map 3.8 Ancient Woodland Sites
 Map 3.9 Access and Powerlines
 Map 3.10 Current species by largest component
 Map 3.11 Yield classes by largest component
 Map 3.12 Strategic Planning Zones
 Map 3.13 Stock Map
 Map 3.14 Private Woodland Schemes
 Map 3.15 Heritage
 Map 3.16 Steep ground
 Map 3.17 Fences

Analysis and Concept Maps

- Map 4.1 Viewpoints
- Map 4.2 Opportunities & Constraints Map
- Map 4.3 Concept Map

Management Proposals Maps

- Map 5.1 Management Map
- Map 5.2 Management Approval Map
- Map 5.3 Future Habitats and Species Map
- Map 5.4 Future Habitats and Species Approval Map

Viewpoints

- View 1 View from Drimlee
- View 2 From access track to Drimlee
- View 3 Start of FC property
- View 4 Example of land slippage
- View 5 View from north
- View 6 Powerline corridor
- View 7 View along proposed roadline

Summary of Proposals

The Forest District's Strategic Plan for West Argyll Forest District includes a vision statement, to which each individual Land Management Plan (LMP) will make a contribution. The District Vision Statement states that 'West Argyll FD will be a key land manager in Argyll, producing quality timber for the market, providing sustainable employment in both the public and private rural sectors, and opportunities for renewable energy projects. We will also provide well-managed native woodlands for wildlife and places for enjoyment for visitors and local communities'. The Glen Shira LMP revision contributes to the District Vision by seeking the following outcomes:-

Economic context

- ◆ Approval for 8.1ha of felling, to be completed within the plan period, and 7.6ha of restocking by natural regeneration is being sought, for completion within 10 years of felling.
- ◆ Timber production from felling yielding 5.9km³.

Environmental context

- ◆ Full restoration of PAWS is incorporated for the area to be felled.
- ◆ Protection of sensitive conservation features through appropriate design, notably the Glen Shira Woods SAC, including removal of conifers within the SAC.

1.0 Introduction

1.1 Setting and context

The plan for Glen Shira represents 57.9ha of the former plan area that was not sold off in 2012. The purpose of retaining this part of the larger forest block was to continue to manage a core native woodland area within the Glen Shira Woods SAC. In addition, there was a commitment to the expansion of the native woodland area, which might not otherwise be ensured under different ownership. As such, it contributes to the forest district's native woodland strategy and targets. It also contributes to the percentage of the district area covered under environmental designations.

The surrounding forest area has largely been clearfelled in the last two years following severe windblow, by the owners, Argyll Estates. The commercial forest area occupies much of the eastern side of the glen. Most of the western side is open rough pasture with scattered native woodland, some incorporated in to the SAC, and owned by Argyll Estates. A shared access road crosses the lower part of the site. Most of the solum of this access road is not owned by FCS. The access road's proximity to Inverary, and as a means of accessing the Munro, Beinn Bhuidhe, encourages a limited amount of public access on foot up the glen. A powerline corridor runs through the lower part of the site.

SNH and Argyll & Bute Council are the Forest District's statutory consultees. SEPA is also routinely consulted on plan revisions. The Community Council has been made aware of the plan revision proposals. The Consultation Record provides a summary of all formal correspondence, issues raised and FD responses (see appendix II).

The woodland comprises four distinct sections; existing native woodland, cleared commercial conifers now under native woodland regeneration, mature, partially windblown commercial conifers, and restocking with commercial conifers. The primary objectives of the plan from the design brief can be summarised as follows: -

Timber production – commercial conifer areas.

Full PAWS restoration – part of the area occupied by commercial conifers.

Development of habitat networks by contribution of the entire area to the broader native woodland network in the glen.

Landscape improvement – by conversion to native woodland.

Enhancement and protection of habitats - Glen Shira SAC.

Protection and enhancement of cultural heritage assets - particularly charcoal platforms.

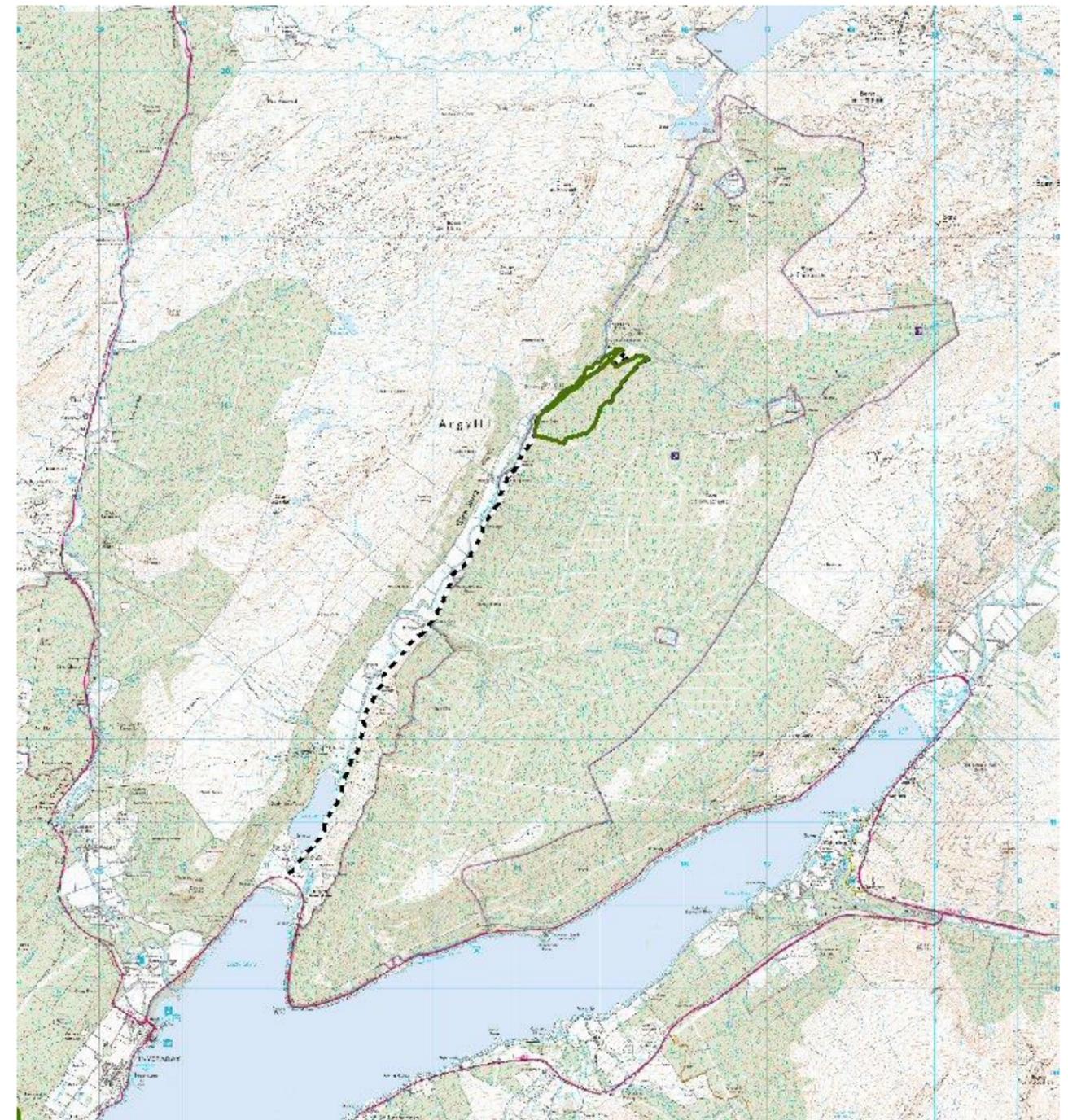
To take account of slope stability issues in the design.

To comply with the Forest and Water Guidelines.

To comply with UKWAS guidance for certification.

To comply with the UKFS.

Map 1.1 - Location Map



1.2 History of the woodlands

The forest area was acquired in 1969. The area available for afforestation was planted mainly with Sitka spruce in 1973. The main access road was tarred, widened and given passing places ahead of harvesting in 2004. Part of the plan area was felled in 2004, a forest road being constructed along the top edge of the block for access. The upper part of this area was restocked with Sitka spruce (SS) in 2006. The remainder was left for native woodland regeneration, as a buffer around the SAC. Both areas were subsequently deer fenced in 2008. At the same time, the P06 conifers were partially cleared to allow native woodland regeneration over the whole area. The majority of the SAC above the main access road was also deer fenced in 2008, in order to encourage natural regeneration. SS regeneration within this area has been routinely removed. The remaining area of mature timber was approved for felling by amendment in the previous plan, but has not been felled owing to access problems. Extensions to the plan have been granted until 31st March 2016.

2.0 Analysis of previous plan

The previous plan covering the original holding of around 2920ha was approved in 2001. The coupe restocked with Sitka spruce was part of a much larger coupe now within the private forest area, restocked at the same time and in accordance with the plan. Deer pressure required deer fencing of the native woodland regeneration area. Inclusion of the area of commercial restocking above the SAC was desirable both from a practical level, along the forest roadside, and to encourage regeneration in the many unplanted stream gullies. All PAWS within the felled area was to be restored. Regeneration of native woodland within areas cleared of conifers has not been assessed, but appears understocked.

Windblow seriously affected the old plan, that adjoining the FCS retention managed by Argyll estates was revised by them to take this into account. Consequently, the remaining area of mature conifers in FCS ownership has become detached from the coupe it was originally a part of, along the former head dyke to the native woodland enclosure. In view of the need to fell this area with the area above the dyke, approval to fell it at the same time was sought and approved. However, disposal of the upper area without any agreement in place to work the retained area in conjunction with felling undertaken by the estate has resulted in its isolation. Consequently, the former plan's road network needs to be adjusted in order to access this area. Approximately 30% of the coupe is windblown.

3.0 Background Description

3.1 Site factors

3.1.1 Geology and soils

The solid geology of the area comprises Dalraidian quartzite and schists. These are vulnerable to surface slippage in Glen Shira. However, no part of the plan area is classed as within FCS's Landslip Hazard Areas dataset, despite one old area of slippage being visible in the native woodland area (see View 4). No geotechnical report has therefore been prepared. The associated soil type (see Map 3.1) for the area is predominantly Surface-water gleys, occurring on the lower two-thirds of the area. The Phase 2 felling coupe is largely on a Brown Earth. The top edge of the plan area is on a Peaty Gley.

3.1.2 Water

- **Soil, water and air quality**

Within the area clearfelled and restocked prior to disposal, immediately above the plan area, issues of soil erodability had been encountered. This primarily affected drainage associated with tracks. Remedial measures were taken at the time and note taken of the need to keep drain angles within the prescribed tolerance.

There are no public or private water supplies within the plan area. Liaison with West of Scotland Water is undertaken if operations are likely to affect them. All operations are planned to follow the Forests and Water guidelines. SEPA is routinely consulted over forest plans.

3.1.3 Climate

- **Adapting to climate change**

Continentality is fairly average, in the ranges 20 -22 and 15 – 20, values that cover most of Scotland. The climate data for the forest is described as either; warm, moist and sheltered, or moderately exposed for the lower two-thirds; and the remainder as cool or warm, wet and moderately exposed (See Map 3.3). Windblow has affected the remaining mature conifers, but the native woodland appears stable. Clearance of extensive windblow in the adjoining private forest is ongoing.

- **Flood and Catchment Management**

No cases of flooding directly attributable to the forest area are known. The hydro scheme on the River Shira affects volumes of water coming down the glen. The solum of the River Shira is outside the plan area. Minor gullied watercourses cross the plan area, rising from the private forestry ground to the east. There is a river gauging station on the River Shira on FC land opposite Drimlee.

◆ Renewable Energy

Clachan Flats windfarm has been built on the Argyll Estate ground outside the former FC plantation boundary. They share use of the access road. FCS have retained certain rights over their former property, should the windfarm being extended into this area.

Scottish Hydro-electric has a dam and hydro scheme on the River Shira. They also use the access road.

3.2 Biodiversity and environmental designations

• Designated sites

Natura sites and SSSI's

Glen Shira Woods SAC (see Map 3.6) is a Western acidic oak woodland, with qualifying interests stated as 'Old sessile oak woods with *Ilex* and *Blechnum*'. [Blechnum - Wikipedia, the free encyclopedia](#) It was designated on 17th March 2005. It is divided into two parts, either side of the River Shira. Only the eastern half is within the plan area. The FC section consists almost entirely of qualifying old sessile oak wood, mainly oak dominated, with alder, ash and hazel also present. The main NVC types representing old sessile oak woods across the site are W11 and W17. The wood supports a rich assemblage of lichens bryophytes, including both oceanic 'Atlantic' types and calcicolous species. This is indicative of a long history of ecological continuity. The Coppins survey recorded *Arctomia delicatula* above Drimlee, classed as very rare, and *Arthonia vinosa* [Arthonia vinosa \(images of British lichens\)](#) in upper Glen Shira, classed as a habitat quality indicator. The site status was classified by SNH in 2008 as 'Unfavourable'. Unfavourable status had been assigned on account of the lack of woodland regeneration due to deer browsing. The SAC designation is not currently underpinned with an SSSI designation at Glen Shira. Consequently there is no statutory requirement for a management plan with SNH. A draft plan for discussion was prepared by the FCS Environment team in 2011, to which comments were added by SNH, but has not been progressed as yet.

Erection of the deer fence around the section above the main access road in 2008 is assisting in improving woodland condition (see Map 3.17). A baseline herbivore impact assessment was carried out prior to the erection of the deer fence. Assessments are carried out on an annual basis. A small handful of deer have been noted within the deer fence. Control is ongoing. Maintenance of the deer fence in a deer-proof condition has

been compromised by windblown spruce falling on the fence from the adjoining mature stand. Some Netlon guards have been placed around a few selected, large saplings to assist growth. Current regeneration is chiefly of oak, with some ash and hazel. The section of the SAC below the main access road is not deer fenced. There is an old redundant deer fence alongside the river. This was not repaired and incorporated into a scheme to protect this area due to the difficulties in ensuring necessary gates across the main access road were kept shut or that cattle grids inserted at these points would be effective.

The lowest fringes of the phase 2 coupe fall within the SAC. About 0.6ha of mature conifers are affected. A scattered of larch trees lie beside the bottom road and below the Phase 2 coupe. The western half of the SAC is on Argyll Estates property and is set within a matrix of scattered broadleaves and open space that connects with larger tracts of open hill to the north and west.

The **Glen Etive and Glen Fyne SPA** borders on the woodland, immediately on the other side of the River Shira, except for a section surrounding Drimlee [Classification of recent SPAs - Scottish Natural Heritage](#).

Ancient Woodland sites:

Ancient Woodland is recorded on the NCCS Inventory maps. Areas of PAWS have been assessed for ecological value and threats (see Map 3.8). Continuous cover policies will be adopted where possible on Ancient Woodland sites. Natural regeneration is the preferred method of establishment on these sites. The FD Strategic Plan makes a commitment to 85% restoration and 15% enhancement, covering all sites. All the mature native woodland above the main access road features on the inventory maps. Ancient Woodland sites extend northwards towards the Shira dam and southwards down the western side of the glen to Loch Shira. There is no continuity of sites down the eastern side, although there are riparian sites extending up some of the watercourses.

• Species and habitats (see Map 3.5)

Birds

- There are 17 Pied flycatcher bird boxes in the SAC. Some of these are derelict. No Pied flycatchers have been recorded using them, but other woodland birds make use of them.

Other wildlife

- One ant nest (not Wood Ant) in an old stump is located at the northern end of the SAC.

- Red squirrels have been seen in the general area, but not recorded in the plan area.
- Pine martins have been seen in the general area, but not recorded in the plan area.
- A badger was sighted in the plan area in 2000. Badger setts are known further down the glen.
- Argyll Fisheries Trust has expressed interest in the Brannie Burn as a spawning river in the past. However, the burn catchment now falls outwith the plan area.

Timings of operations and buffer zones follow specified guidance for key species.

Open land

Open land is limited in the plan area. Types of open land currently present can be summarised as follows:-

- Associated with riparian gullies from which conifers have been removed, but is also expected to regenerate with native woodland and therefore be lost.
- The powerline corridor – mainly grass/rush/bracken swards.
- Forest roads (mainly not FC land but associated with the plan area) and associated edges.

Extensive tracts of open land exist above Drimlee and above the tree line north of the Brannie Burn.

Open Water

There is no open water in the plan area.

Native Woodlands

The only other area of native woodland in addition to that within the SAC, is the area of regeneration immediately above the SAC. This contains a few mature birch trees along the gullies and banks. This area was largely included within the deer fence around the SAC below. Regeneration has not been assessed through SDA plots as yet. Currently, regeneration is poor, which has not been helped by deer within the fenced area.

The FD has identified broad strategic areas with a similar focus for planning purposes, including areas where native woodland is desirable. This exercise was undertaken prior to sale of the remainder of Glen Shira, when two-thirds of the plan area was included within the Native Woodland Strategic Planning Zone. The analysis, if updated, would show the whole of the plan area as within this zone, the sale boundaries of the former FCS property reflecting the intended extent of native woodland establishment. The Strategic Planning Zones are also used as a basis for setting tolerances for particular kinds of operations and associated approvals (See Appendix II)

Deadwood

Deadwood priority has been assigned according to the ecological classification of the site. Nearly all Ancient Woodland sites (AWS) have been classified as 'high'. This has been applied to most of the sites within the plan area. The former PAWS area in the north-eastern part of the plan area is classed as 'medium', as the ecological value was considered to be somewhat less than the adjoining areas. In support of this, there was little deadwood retained on site and few broadleaved remnants from which deadwood might accrue. However, its proximity to the SAC and its associated deadwood resource increased its score. Deadwood is also in short supply within the restocked spruce and non-AWS regeneration areas. Windblow within the Phase 2 coupe will provide a deadwood resource for that part of the woodland.

Invasive Exotic Species

Conifer regeneration may become an issue in native woodland regeneration areas. Some regeneration has already occurred. There are no known rhododendron bushes in the plan area, although there are some further down the glen.

Deer Management

Red, Sika and roe deer are all present in the surrounding forest. The majority of the area has been deer fenced. Areas outside the deer fence include the riverside strip within the SAC and the area of mature conifers which is outside the SAC. No ranger tracks are present in the area. Deer control within the deer fence is undertaken by FCS rangers when deer are detected within. Deer management is shared with the Argyll Estates under concurrent rights.

Broadleaved regeneration

Natural regeneration of broadleaves is fairly certain on most Ancient Woodland sites. Maintenance of some open space within broadleaved woodlands and burn-sides is also desirable. Sycamore is present in the glen, but there are no indications of it regenerating in the plan area.

◆ Landscapes and Ecosystems

Native woodland habitat corridors are fragmented. However, there are linkages across the river around Drimlee, and extending a short way up the river and Brannie Burn. The Creag Bhan woodland, part of the SAC, is also in close proximity on the other side of the river.

Open riparian networks generally exist alongside the River Shira. They connect with larger areas of open land on the west side of the glen. Further south, down the glen,

the landscape starts to retain elements of the designed landscape associated with Inverary Castle.

3.3 The existing forest

3.31 Age class, species and yield class

- **Age class**

Age classes within the SAC are largely limited to original mature oak and gaps infilled by other species, typically birch, some 50 years old. Some limited regeneration has occurred since the deer fence was erected. Conifers date from 1973 and 2006. Regenerated native woodland on restock sites has yet to be assessed.

- **Species Choice (see Map 3.10)**

Native woodland is the intended species objective for areas to be regenerated with broadleaves. Some conifer regeneration or regrowth from the cleared 2006 plantings have recently been removed. A variety of native species are found in the SAC, including oak, hazel and birch.

No cases of *Phytophthora ramorum* or *Chalara fraxinea* are known in the woodland.

- **Yield class (see Map 3.11)**

Pure Sitka spruce has achieved high yield classes in the plan area (18-24). Native broadleaves have not been assessed.

- **Timber supply**

Timber supply has been influenced by access issues and by windblow, gales in 1998 and 2011 causing extensive damage. These factors still affect the small area of mature conifers left in the plan area.

- **Timber Quality**

The forest grows Sitka spruce of good form. Stocking density is reasonably good in the remaining mature crop. No commercial assessment of hardwood timber has been undertaken or is likely given its designation.

3.32 Access

- **Timber transport**

Timber goes by road via the A83 and A82 to markets outwith Argyll. The main access road was upgraded for timber transport prior to the commencement of harvesting operations in 2002. The spur road was constructed about 2003 to facilitate harvesting of a coupe spanning the road. Both the main access road and spur road solum are not on FCS land. Mineral rights were sold with the adjoining forest, so any new road construction and material for maintenance will need to be imported. There are no gates on the access road at present. Road maintenance on the main access road is shared in proportion to usage and includes use for timber haulage.

3.33 LISS Potential

The SAC and broadleaved regeneration areas are currently managed under Minimum Intervention.

3.34 Current and potential markets

- **Hardwood timber**

No hardwood timber is currently felled for commercial use. Woodfuel would be the most likely end use.

- **Timber in construction**

Markets for spruce exist outside the forest district. High spruce yield classes may reduce suitability of use for construction. Its current recorded yield class is 24.

3.4 Landscape and landuse

3.4.1 Landscape character and value

- **Landscape**

None of the area falls within the designed landscape area associated with Inverary Castle. It does fall within the Council's Areas of Panoramic Quality (APQ)(formerly called 'Areas of Great Landscape Value (AGLV)'), covering the hilltops and the upper parts of the glen. In addition, the margins of the River Shira are classed as 'sensitive'. These sensitivities relate primarily to development. [Mid Argyll Kintyre and Islay Local Plan Maps | Argyll and Bute Council](#)

SNH's Landscape Character Assessment (Landscape Assessment of Argyll and the Firth of Clyde, Review No. 78, 1996) puts the area within the 'Steep Ridgeland and Mountains' landscape type. Its key pertinent characteristics include:

- Dramatic mountain ridges with steep, plummeting slopes and numerous rocky outcrops.
- Ribbon lochs and meandering rivers on narrow floodplains form dramatic contrast to surrounding slopes.
- Extensive conifer plantations on lower slopes and open moorland or bare rock faces on upper slopes and summits.
- Scattered birch woodland alongside burns and on upper slopes and oak woodland on sheltered lower slopes.
- Settlement confined to narrow strip along loch edges and concentrated in small bays and at heads of lochs.

3.4.2 Visibility

Landscape Quality

Improving landscape quality is of particular importance along the main tourist routes. However, the area is not visible from the A83, or from Inverary. It is not visible from the watch tower on Dun na Cuaiche. It is visible largely as an edge from the main access road. A wider view is obtained from the farmstead of Drimlee, on the other side of the river. Oblique views are seen from the main access road north of the Brannie Burn and from the path up Beinn Bhuidhe (a Munro). The plan area is not visible from the summit of Beinn Bhuidhe. Distant views within a wide valley landscape are seen from surrounding hilltops and ridges. Quality varies according to the proportions of commercial forestry in any view. The overall visibility of the plan area is therefore low.

3.4.3 Neighbouring landuse

Commercial forestry borders on the eastern side. The western side of the glen is largely rough pasture, with some native woodland and some commercial forestry further down the glen. Aitchesse Ltd has been engaged by Argyll Estates to manage the adjoining land and they have engaged BSW Tilhill Forestry Ltd to undertake the forestry management.

3.5 Social Factors

3.5.1 Recreation

• Tourism

Tourism is important to the Inverary area, centred on the town and castle. The glen itself is not a tourist destination.

• Making access easier

Limited parking exists at the entrance to the glen. The main access road is suitable for pedestrian use. Shared access limits potential for vehicular access up the glen. Gates are provided at various locations in the deer fence, should anyone wish to access the SAC core woodland area.

• Recreation

Walkers use the access road, including the long-distance route into Glen Fyne. Climbers access Beinn Bhuidhe via a ride in the now felled private forestry above the bridge of the Brannie burn. However, the preferred access is via Glen Fyne.

None of the plan area has been given a zonation under the FC's Visitor Zone management policies.

3.5.2 Community

• Community Engagement – Neighbours

The Argyll Estate owns the surrounding property. Isolated dwellings in the glen are tenanted. The Inverary Community Council covers the area.

• Partnerships

There are no existing community partnerships associated with the forest.

• Community Ownership and management

No community interests have arisen to date.

3.5.3 Heritage

• Cultural Heritage (see Map 3.15)

There are no scheduled monuments in the plan area. There are numerous charcoal platforms in the SAC. The existing area of mature conifers has not been surveyed for charcoal platforms. One shieling site exists below the main access road. There is a stone dyke running parallel to the main access road and immediately below it.

There is a head dyke, now mostly an earthwork, along the upper legal boundary, probably an enclosure boundary defining the former extent of the native woodland.

Rob Roy's House lies just to the north of the plan area. The former footpath and bridge over the Brannie Burn are no longer maintained. Other sites in the glen relate to historic farmsteads associated with the Argyll Estate.

Policy - Archaeological features will be protected in accordance with the Forestry Commission's Archaeological Guidelines, and UK Forest Standard guideline 'Forests and the Historic Environment'. Standard prescriptions from the West of Scotland Archaeology Service include; leaving 5 meters either side of walls and linear features unplanted and 20 meter buffers around localized sites. Breaches in linear features will be kept to an absolute minimum. Other buffer zone widths are defined for each monument on the conservation plan and against the overlay key.

3.6 Statutory requirements and key external policies

The following official designations exist in the plan area:-

- Wayleaves – main line running parallel with the access road, with a spur off to Drimlee cottage (see Map 3.9)
- Ancient woodland sites (see Map 3.8)
- Glen Shira Woods SAC (see Map 3.6)
- Area of Panoramic Quality (APQ) (See Map 3.6)

The Glen Etive and Glen Fyne SPA borders on the woodland to the north-west.

4.0 Analysis and Concepts for each site factor

4.1 Analysis

A new District Strategic Plan the period 2014 -17;
<http://scotland.forestry.gov.uk/images/corporate/pdf/WestArgyllDsp2014-17.pdf>
expands on six key themes introduced in the National Strategic Directions document,
<http://scotland.forestry.gov.uk/images/corporate/pdf/FES-strategic-plan.pdf> making specific district responses to these key commitments. The Glen Shira LMP takes these into consideration. These themes are as follows:-

Healthy, achieving good environmental and silvicultural condition in a changing climate.

Productive, providing sustainable economic benefits from the land.

Treasured, as a multi-purpose resource that sustains livelihoods, improves quality of life, and offers involvement and enjoyment.

Accessible, local woodlands and national treasures that are well promoted, welcoming and open for all.

Cared for, working with nature and respecting landscapes, natural and cultural heritage.

Good value, exemplary, effective and efficient delivery of public benefits.

National key commitments under these themes and the district's specific action response are highlighted where relevant in the text below.

4.1.1 Physical site factors

4.1.1.1 Geology, soils and landform

Conversion of the plan area to native woodland will have benefits in reducing the vulnerability of the site to land slippage. However, this is not guaranteed, as evidenced by the slippage within the birch woodland at the northern end of the plan area. Conversion to LISS will help protect erodible soils. Most of the area above the main access road is classed as 'areas of steep ground' for harvesting. The combination of slippage, Surface-water gleys and steep ground require more robust working harvesting methods and plans to avoid issues arising.

4.1.1.2 Water

Riparian corridors will benefit from the removal of conifers and replacement with native woodland. LISS management will give greater protection to water quality in the future. Most watercourses originate from private forestry ground above the plan area. These areas have largely been harvested and restocked, so issues are less likely to arise. Harvesting operations will require the crossing of one gullied watercourse and several minor watercourses. Work plans will identify suitable crossing points and measures to safeguard water quality, in line with the Forests and Water Guidelines.

4.1.1.3 Climate

Windiness is the main climatic factor affecting the forest. Critical decisions on when and whether to thin, and whether stands can be converted to continuous cover are all dependent on accurate assessment of windthrow risk. DAMS is the best available method of assessment to assess risk, using maximum scores to guide thinning and timing of felling decisions. Scores suggest that thinning may be possible (See Map 3.4). However, the mature conifer stand is well past thinning age and suffering wind damage, so will not be thinned.

Development of robust habitat networks is seen as part of the strategy for developing resilience against the effects of Climate Change. Conversion to native woodland will increase resilience in an area badly affected by conifer windblow in recent years. Conversion of the entire woodland area to native woodland may have a slight positive benefit on neighbouring plantations, given that the future native woodland will not be clearfelled, but managed under LISS.

No opportunities for generating renewable energy exist within the plan area.

4.1.2 Biodiversity and environmental designations

Glen Shira Woods SAC (part)

Management interventions may become necessary if regeneration produces a uniform understorey. Methods to tackle this will be agreed with SNH, should the need arise. A high density of regeneration would threaten lichen communities through shading and changes to humidity.

Birds

No ornithological concerns exist within the area. The Glen Etive and Glen Fyne SPA borders on the woodland, which may have sensitivities associated with it, particularly for operations that might cause wider disturbance, such as road blasting (not currently anticipated on the new roadline, but use of hydraulic peckers is expected).

PAWS

The Phase 2 felling coupe is largely PAWS. Its ecological value has been assessed as high, due to its proximity to the SAC and to associated seed sources. There are however few if any seed sources or native woodland remnants within the stand. It has also been assessed by desk exercise as critically threatened on account of likely shading of any remnants within the coupe. Part of the remaining 2006 conifer planting is also PAWS. This may be removed prematurely if funding becomes available.

(National Key Commitment (Cared for): We are restoring around 85% of areas on ancient woodland sites to largely native species – remaining areas will be enhanced through our management. District specific action: We will continue to enhance ancient woodland remnants and restore plantations on ancient woodland sites to native woodlands, removing mature conifers from 100 ha during 2014-2017).

Deer Control

The area within the SAC deer fence is routinely monitored for deer and the fence inspected. Deer control is undertaken within the deer fence when necessary. The FD Environment team would like to see the adjoining mature spruce felled as soon as

possible to avoid further damage to the fence. Deer are known to be in the area at present.

Native Woodland

Native woodland regeneration planned for as the successor crop to the proposed clearfell coupe will need to be deer fenced. Regeneration is anticipated, so planting is unlikely to be required.

(National Key Commitment (Cared for): We aim to increase broadleaf tree cover from the current 8% of woodland cover to around 20%. District specific action: Our new Land Management Plans will use data from the Native Woodland Survey of Scotland to identify where expansion of broadleaf woodland will improve the habitat network and buffer ancient woodland fragments).

Open habitats

Nearly all existing open space, other than that associated with powerline corridors and roads, is likely to regenerate with broadleaves. Given the context within a glen containing considerable adjoining open space, the lack of open space within in the plan area is not an issue. As the woodland is part of a larger forest area, it should also be seen in that context, where the plan area's main objective is to provide native woodland component. There are significant areas of open space in the wider forest, associated with powerline and hydro-scheme corridors, roads and unplanted areas. However, FCS wish to see a minimum of 10% permanent integral open space within the plan area, in line with the UKFS and UKWAS, which will necessitate some open space management of riparian corridors to maintain a degree of openness.

Invasive species

Any rhododendron regeneration that arises will be removed as part of the district's eradication policy. Conifer regeneration will be removed periodically from native woodland regeneration areas.

(National Key Commitment (Healthy): We are committed to dealing with invasive plants and animals that threaten habitats and biodiversity. District specific action: We have treated 25% of the rhododendron in West Argyll and have moved 2,250 ha into the follow-up phase, tackling particular concentrations in Appin, Carradale and Lochgilphead, and on Mull).

4.1.3 The existing forest

4.1.3.1 Age class, species and yield class

Age class structure within the SAC has been a concern, there having been little if any regeneration up until the deer fence was erected. Regeneration is now occurring and is not causing the opposite concern of being rank throughout the woodland at present. There are no plans to modify the overstorey, despite there being few gaps within it.

Native woodland is the objective for the plan area. Non-native species will be removed. This will not include mature Sycamore, due to the presence of valuable lichen communities on mature trees, noted here and elsewhere in the glen. Should planting of regeneration areas become necessary, species compatible with the NVC woodland type will be used.

4.1.3.2 Access

Access roads are largely not on FCS land. However, access agreements were secured at the time of sale of the adjoining forest. Both the main access road and spur road are in good order.

The spur road extension will be constructed from material brought into the site as FCS no longer have access to a quarry in the forest area. If FCS were to build the road, material would have to be brought in from the Birdfield quarry. However, the cost of importing it is considered prohibitively expensive. Consequently, it is proposed to incorporate road construction into the standing timber sale.

Access for deer control is considered satisfactory.

(National Key Commitment (Productive): We will use our work programmes to promote the development of the forestry and land management sectors. District specific action: We will construct 75km of new forest roads to improve access to manage the National Forest Estate in West Argyll).

4.1.3.3 LISS Potential

DAMS scores suggest opportunities for thinning may exist. This is now restricted to second rotation crops. The native woodland regeneration area could be managed under LISS, with the intention to diversify the age classes over time.

4.1.3.4 Current and potential markets

Timber markets are likely to remain outwith the forest district. Woodfuel is unlikely to be available from the plan area in the foreseeable future, except as a minor bi-product of felling the spruce crop. In the longer term, some hardwood timber may be obtained from LISS management activities, most likely as woodfuel.

4.1.3.5 Portfolio Analysis

Portfolio Analysis is a recently developed national tool used to assess the relative values of different aspects of the each forest by means of a scoring system. Combined scores for each forest allow comparison of relative importance across the whole estate, and highlight strengths and weaknesses at an individual forest level.

Scores suggest current economic, social and environmental benefits are low to moderate for the forest area. Current cost effectiveness is moderate and there were little future potential benefits and effectiveness to be gained. Nationally, it ranked 294th out of 486 sites for current cost-benefit ratio, as appraised in 2012.

4.1.4 Landscape and landuse

4.1.4.1 Landscape character and value

The Council's APQ designation identifies the glen as sensitive to development. Road construction is the only development planned. The scale of change in a much larger forest area, and the general lack of visibility of the proposed roadline, suggest the development will have minimal impact on the wider environment.

SNH's Landscape Character Assessment

The key pertinent landscape issues affecting the landscape type were identified as:-

- Design of conifer plantations to conserve distinctive landscape features.
- Management and progressive replanting of broadleaved woodland.

The suggested specific landscape guidelines that are pertinent to the plan area are as follows:-

- Conserve and extend all broadleaved woodland, reinforcing the distinctive and varied woodland character of burns and lower slopes; give priority to the continued protection and management of semi-natural woodland.
- The extensive conifer plantations tend to form a homogenous dark carpet across ridges and valleys, detracting from the scenic qualities of this dramatic landscape and camouflaging its distinctive landforms. Further commercial forestry should be discouraged and the existing plantations not replaced wherever they occur on local ridgelines and in areas with distinctive landscape features; ensure that plantations are varied in structure, scale and form, so as to maintain contrasts in landscape character from one valley to the next.
- Retain open character of river floodplains and dramatic contrasts with the surrounding steep mountain ridges.

Given that the FC woodland area is small, a component of a much larger area of commercial forestry and with an objective of conversion to native woodland, the landscape implications are relatively minor, but positive. The upper edge, to the former head dyke and forest road, may appear somewhat artificial. Encouragement of native woodland development in the adjoining private estate, particularly up riparian corridors, would help integrate the plan's native woodland into the larger forest.

4.1.4.2 Visibility

Only edges of the forest are visible from the main access road. The Phase 2 coupe is not visible from the main access road, being screened by the native woodland. It is visible as an edge from the spur road. The size of the coupe and its association with a much larger clearfell or newly restocked area on the adjoining private estate reduces its significance in the wider landscape.

4.1.4.3 Neighbouring landuse

Argyll Estates have cleared the windblown conifers immediately above and to the south of the plan area. Delaying felling until Phase 2 will remove any adjacency issues with the surrounding private estate clearfelling. Management of the SAC is complementary to the management on the other side of the River Shira.

4.1.5 Social Factors

4.1.5.1 Recreation

No recreation facilities are planned. It is unlikely that there is any public demand for increased access to the SAC. The main access road provides a useful means of viewing the SAC.

4.1.5.2 Community

There is no community involvement in the area at present or is currently anticipated in the future.

4.1.5.3 Heritage

A number of unscheduled archaeological sites exist in the forest, nearly all of which are charcoal platforms, numbering at least 31. The positions of these platforms are shown on the old heritage dataset, but not on the new dataset, where a polygon is

drawn round the general area occupied by them. Further survey work is required ahead of felling to safeguard known and suspected additional sites, not otherwise recorded. These will be identified at Work Plan stage. The absence of platforms from the northern end of the SAC is also noteworthy. The proposed roadline route will be checked for archaeology prior to construction, and the route amended to avoid any features discovered. Restoration to the original head dyke will reflect the 18th-19th.C historic disposition of native woodland in the plan area.

The district's Cultural Heritage Strategy details working methods around archaeological sites, which is sufficient for all sites within the plan. No sites currently have any interpretation associated with them. The district's heritage records have been consulted, which include data from searches of the RCAHMS inventories, WOSaS online data and NMRS. Old one-inch Ordnance Survey maps have also been checked for sites.

(National Key Commitment (Cared for): We will safeguard archaeological sites through our planning and management, and recognise special places and features with local cultural meaning. District specific action: We will continue to undertake conservation management, condition monitoring and archaeological recording at significant historical assets in West Argyll District. We will continue to work with stakeholders to develop, share and promote best-practice historic environment conservation management).

4.1.6 Statutory requirements and key external policies

Ancient Woodland sites will be restored. Currently there are few if any hardwoods within the proposed felling coupe.

Powerline corridors are routinely widened to 20m either side of the lines after harvesting. There are no immediate plans to widen the existing corridor through the native woodland between the road and river. Any request to do so would come from SHE. As this is part of the SAC, consultation would be entered into with SNH. No issues involving trees along the line have been reported. Some stretches, particularly along the side of the main access road, have considerable growth of woody shrubs and saplings affecting them.

There is currently no formal agreement with SNH on the management of the SAC, but a set of draft discussion document was prepared in 2012 for the FCS section. There is no immediate pressure to draw up an agreed plan, though this remains an objective. The full management plan would also need to cover that part of the SAC in Argyll Estate's ownership.

4.2 Plan Concepts (See Concept Map 4.3)

4.2.1 Physical site factors

4.2.1.1 Geology, soils and landform

Slope instability and soil erodability may require additional precautions to be taken. Standing Sales purchasers will be made aware of the potential for instability and working methods discussed with them prior to commencement of road construction and harvesting.

4.2.1.2 Water

Any concerns regarding soil erodability will be dealt with prior to commencement of operations, as noted above. The Forests and Water Guidelines will be followed.

4.2.1.3 Climate

Native woodland creation will provide the most robust woodland habitat for the area. It will contribute in the longer term to developing native woodland habitat networks in the glen.

4.2.2 Biodiversity and environmental designations

Management of the SAC will comply with current Habitat Regulations. SNH will be consulted on all management activities. The FD is committed to moving the condition of this SAC to 'favourable'.

A minimum of 10% integral open space will be maintained within the plan area.

Full PAWS restoration is an objective for this site. Natural regeneration is the preferred method of establishment. Deer fencing will be employed to secure natural regeneration from deer browsing.

*National theme - **Cared for** - delivery by development of improved habitat network linkages; protection and enhancement of open habitats.*

4.2.3 The existing forest

4.2.3.1 Age class, species and yield class

Native broadleaves are the objective for the plan area.

*National theme - **Cared for** - delivery of up to 90% broadleaved woodland cover as contribution to FD Strategic Plan target of around 20% cover through the design.*

4.2.3.2 Access

One new road is required to access the Phase 2 coupe. It will be built through private finance associated with the timber sale. EIA determination for this roadline and PN application will be submitted separately in Phase 2 of the plan.

*National theme - **Productive** - delivery through contribution to FD Strategic Plan road construction target of 75km.*

4.2.3.3 LISS Potential

LISS opportunities in the native woodland regeneration areas will be considered for suitability further into the life of these crops. The SAC will be managed under Minimum Intervention, with particular focus on conserving the habitat for the benefit of lichens and bryophytes.

*National theme - **Healthy** - Area managed under LISS will be increased by conversion conifer area to native woodland.*

4.2.3.4 Current and potential markets

No changes expected. There is very limited timber potential to consider in any case.

4.2.4 Landscape and landuse

4.2.4.1 Landscape character and value

Conversion to native woodland will enhance the landscape of the area. It will contribute to future native woodland networks in the glen. The site is of particular value on the side of the glen otherwise dominated by commercial coniferous woodland.

*National themes - **Treasured and Cared for** - delivery of landscape improvements through conifer replacement with native broadleaves.*

4.2.4.2 Visibility

No issues or concerns.

4.2.4.3 Neighbouring landuse

No issues or concerns.

4.2.5 Social Factors

4.2.5.1 Recreation

No new proposals.

4.2.5.2 Community

No major drivers or concerns

4.2.5.3 Heritage

Best practice is contained in the district's Cultural Heritage Strategy and UKFS guide 'Forest and the Historic Environment', which will be adhered to.

*National theme - **Cared for** - protection and enhancement of cultural assets.*

4.2.6 Statutory and legal requirements and key external policies

Restoration of Ancient Woodland sites is an FCS policy. Full restoration is planned for this area. The FD will adopt a constructive approach to requests from SSE for resilience felling alongside wayleaves. The FD will work with SNH to draw up an agreed management plan for the SAC.

All national themes - we will comply with UKWAS, the UKFS and all other policy documents and legal obligations.

Glen Shira Forest Design Plan 2017-26

Table 4.1 - Analysis of Opportunities and Constraints Table (See map 4.2)

Factor	Opportunities	Constraints	Concept development
Water quality	Adoption of LISS management will reduce harvesting impacts. Conversion to native woodland will benefit watercourses.	Soil erodability and instability may be affected by harvesting operations. Water quality could be affected by activities on neighbouring private forest.	Convert to native woodland. Adhere to Forest and Water guidelines. Monitor water quality and liaise with SEPA as necessary.
PAWS	Full restoration is planned. Clearfelling will deal with windblow threat and slope instability issues. Restoration will improve wider Ancient Woodland habitat network connectivity.	Conifer regeneration. Abundant regeneration may produce even-aged forest with little open space. Threat of windblow means that thinning will not be employed to introduce gradual change to the sites, which might otherwise help secure native woodland remnants.	District policy is 85% restoration. Full restoration is desirable on this site to benefit the SAC.
Species choice	Native woodland is possible over the whole area.	Will be more susceptible to deer browsing and may require deer fencing. Loss of commercial productivity.	Native woodland as per NVC woodland type. This will link in with adjoining areas of native woodland.
Native woodland regeneration	Desirable as replacement for conifer crops. Desirable within the SAC to introduce structural diversity.	Requires deer fencing to avoid deer damage. Too much in the SAC will shade out lichens and alter humidity they need.	Manage regeneration as per forthcoming SAC management plan. Remove conifer regeneration.
SAC management	Opportunity to progress management plan with SNH. This will help clarify management of the wood.	SNH will need to involve Argyll Estates regarding their section.	Encourage plan completion with management objectives.
Felling	Current stand is partially windblown and will need felling soon. This will protect the fence from windblow damage, letting in deer.	Neighbouring plantations have only just been felled and restocked so there is an adjacency issue.	Delay felling until adjacency issue resolved.
Thinning	Thinning allows more gradual restoration of Ancient Woodland sites. There are benefits for amenity and wildlife.	DAMS suggest most of the forest is suitable for thinning. However, windblow is occurring in the mature crop and the surrounding crops have recently been felled.	Clearfell remaining mature crop.
Roading	Construction of the access road extension will aid current and future management. New roading may increase recreation opportunities and provide better access for deer control.	There is a significant relative cost to introduce the new road required to access the Phase 2 coupe.	Ensure road proposal is fit for purpose. Explore alternative means of financing.
Open land	Existing open land is valuable for deer control, landscape/amenity and wildlife, including riparian habitats.	Open land is very limited within the woodland. There would be a cost in creating/maintaining it.	Maintain and enhance areas of existing open space, except where there is clear justification for change. Maintain a minimum of 10% integral open space within the plan area.

5.0 Management Proposals

5.1 Forest stand management (see map 5.1)

5.1.1 Commercial areas

• Clearfelling

One coupe will be felled during Phase 2, which has been carried over from the previous plan. Timber will be marketed via Standing Sales.

Table 5.1 - Felling Areas Analysis (Conifers)

	PHASE (GROSS AREAS)									
	1	2	3	4	5	6	7+	LISS	Open & Other	SUM
AREA	-	8.1	-	-	-	-	0.9	38.1	10.8	57.9
%	-	14	-	-	-	-	2	65	19	100

No more than 25% shall be felled in any 5 - year period (See UKWAS 3.4.2).

Table 5.2 - Felling and thinning volumes (Conifers)

Average Annual Felling volumes by phase	Clearfelling (Km3)	Thinning (Km3)
2016-2020	Nil	Nil
2021-2025	5.9	Nil
2026-2030	Nil	Nil

Production profile smoothing is an FD objective, but is not relevant here due to the small volume involved. It is also doubtful that felling of the mature stand could be delayed further as it is already 25% windblown.

Table 5.3 - Forest Operations Area Statement - Phase 2 felling

FELLING COUPE AREA (HA)		RESTOCK AREA (HA)	
Conifer	= 8.1	Conifer	= 0
Open space	= 0	Open space	= 0.5
		Broadleaves by natural regeneration (net area)	= 7.6
Broadleaves to be felled	= 0	Broadleaves by planting (net area)	= 0
Broadleaves (not to be felled but within coupe area)	= 0	Existing Broadleaves	= 0
TOTAL	= 8.1	TOTAL	= 8.1

Broadleaves will be established through natural regeneration to achieve a minimum stocking of 1650/ha over a 5 to 10 year period, and 2500/ha if planted. Assessment of regeneration areas in this plan will be made 5 and 10 years after felling. Full stocking will be achieved by year 15, planting when necessary to supplement natural regeneration.

The area to be regenerated noted above is the area currently felled. The area to be felled will only be expected to regenerate by 2035, so falls outwith the plan approval period.

♦ Thinning

There are currently no plans to thin.

♦ Continuous cover forestry

No conifer areas have been identified for CCF management. The native woodland regeneration areas will be managed under CCF. They do not currently have sufficient ecological value to merit classification as Natural Reserves. Interventions may also become desirable to restructure these areas in the future. Current biodiversity values are low to moderate, so offers greater scope for timber production.

♦ Long-term Retentions

There are no long-term retentions in the plan area.

5.1.2 Non-commercial areas

♦ Natural Reserves

There are no Natural Reserves in the plan area.

♦ Minimum Intervention

The SAC will be managed in this way. Some areas of planned native woodland will be managed under Minimum Intervention where site factors favour this approach. Examples include riparian margins, gullies and potentially unstable slopes.

Table 5.4 - Current Area Summary – Low Impact Systems

TYPE	AREA (HA)	%
Continuous Cover Areas	15.3	26
Natural Reserves	0	0
Minimum Intervention Areas	28.0	48
Long Term Retentions	0	0

5.2 Future habitats and species (see map 5.3)

Species rationale

Native broadleaved woodland is the management objective for the plan area. Regeneration may lead to birch dominated woodland on clearfell sites, but succession may eventually produce a more typical Atlantic oakwood community.

Table 5.5 - LMP Species Distribution

SPECIES	2016		2025		2056	
	AREA (ha)	%	AREA (ha)	%	AREA (ha)	%
Sitka spruce	8.7	15	0.9	2	-	-
Japanese larch	0.3	1	-	-	-	-
Native Broadleaves	33.0	57	43.1	74	52.1	90
Felled (regeneration area)	5.6	9	8.1	14	-	-
Internal open space	10.3	18	5.8	10	5.8	10
TOTALS	57.9	100	57.9	100	57.9	100

Open and broadleaved areas contribute more than the UKWAS target of 15% of the woodland area being managed with conservation and biodiversity objectives. Table 5 lists other woodland areas contributing to the area (See UKWAS 6.3.1).

Habitat networks

The Habitat Networks map (Map 3.7) identifies the main habitat networks, both open, native woodland and riparian. Native woodland habitat networks will also contribute to the deadwood resource, providing a deadwood habitat network as a consequence. Deadwood will routinely be identified at Work Plan stage, selection being based on available opportunities and with reference to deadwood management guidance. Deadwood resource mapping has been broadly assessed in the FD. The Phase 2 coupe currently offers up some windblown areas, where deadwood is likely, given its age. Deadwood left here will become embedded in the future native woodland.

5.3 Restructuring

The overall plan for the area is mature native woodland unless management interventions are undertaken. In the wider context, permanent mature native woodland may prove valuable in the short to medium term, whilst restructuring of the adjoining private commercial forest is undertaken. Given that the SAC is noted for its lichen and bryophyte communities, native woodland management is likely to favour processes that protect and encourage conditions favourable to these communities.

Delaying felling of the mature crop to Phase 2 will assist in the wider restructuring of the forest, allowing time for the adjoining areas of clearfelled private forest to be restocked and to become established.

5.4 Future management

Invasive species

The FD’s program of eradication will deal with these as and when they arise.

Heritage

Monuments will be protected as per guidance in the district’s Cultural Heritage Strategy document.

Recreation

No new trails are envisaged at present.

Monitoring

Monitoring of outputs within the plan area are handled in accordance with the district’s Monitoring Plan. Subjects are grouped under Key Themes from the Strategic Plan. Specific methodologies are detailed under separate guidance documents. Responsibilities for undertaking, recording and responding to the results of ongoing monitoring are also detailed in these documents. Any relevant to LMP delivery will be reviewed at the mid-term review stage. Monitoring of the SAC is undertaken by SNH and FCS. The district’s planning team currently oversee stocking density assessments of regeneration areas, although none have been formally undertaken in the plan area as yet.

5.5 Age structure

Table 5.6 – Future forest structure

Age of Trees (Years)	Successional Stage	Percentage of Forest over Year		
		2016	2040	2100
0 - 10	Establishment	8	14	-
11 - 20	Scrub & Early Thicket	-	15	-
21 - 40	Thicket & Pole Stage	-	8	-
41 - 60	Mature High Forest	33	-	-
61+	Old Forest	59	63	100
TOTALS		100	100	100

5.6 PAWS restoration

All the areas on the NCCS inventory that are classed as 'Ancient Woodland Sites' or 'Long-Established Semi-natural origin' will be restored to native woodland in the future within the plan area. All areas identified by the FD from the 1st Edition Ordnance Survey mapping will also be restored. Restoration will be through clearfelling. Natural regeneration will be the preferred method of broadleaved establishment.

5.7 Management of open land

Given the desire to see 10% open space within this woodland area, in line the UKFS, management interventions will be required in order to maintain a degree of openness. This will require maintenance of existing open space along wayleaves and roadside edges. Existing open space within the SAC may potentially be lost, but there is scope for increasing resilience for the powerline working with SSE and SNH in the future. Monitoring of open space percentage will be reviewed at plan revision and mid-term review stages, when achievement against the 10% target will be assessed and actions agreed if necessary.

5.8 Deer Management

Deer fencing will be the norm on sites with particularly vulnerable crops, chiefly native woodland areas. Current policy requires rangers to prioritise new restock

sites for deer control along with resources for the construction of quad tracks on these sites. The FD's Environment team will monitor success of broadleaved regeneration in the SAC and will liaise with ranger staff where issues arise due to browsing. Deer stalking will be the preferred method of deer control, in line with the FD's Deer Management Strategy. Deer fencing will be erected around the Phase 2 coupe after harvesting to assist native woodland regeneration. This will effectively deer fence almost the whole of the upper plan boundary, which is otherwise not defined by a march fence. Liaison with Argyll Estates under concurrent rights will be undertaken as necessary. Deer management will comply with SNH's 'Code of Practice on Deer Management'; [Code of deer management - Scottish Natural Heritage](#) Deer fencing will comply with the Joint Agency Fencing guidance; [Deer fencing guidance - Scottish Natural Heritage](#)

5.9 Access

The proposed new forest road will be constructed as part of the standing timber sale. It will not have any significant impact on the landscape or environmental sensitivities. A total of 0.55Km of new roading is required for approval in the second 5 years of the plan. Consequently, approval for this roadline will only be sought nearer the expected time of felling of the Phase 2 coupe. Construction will require the removal of some native woodland regeneration. Material for the roadline will be supplied by the timber purchaser. The Forest and Water Guidelines will be adhered to during construction. Other relevant guidelines to be adhered to include; UKFS guidelines, Guidance Note 32: Forest Operations and Birds in Scottish Forests, and Guidance Note 34: Forest Operations and European Protected Species in Scottish Forests. SNH will be consulted regarding any impacts on the SPA. Road specification will conform to the Timber Transport Forum's 'The design and use of the structural pavement of unsealed roads 2014';

<http://timbertransportforum.org.uk/attachments/article/12/TTF%20The%20design%20and%20use%20of%20the%20structural%20pavement%20of%20unsealed%20roads%202014.pdf>

It will also conform to SNH's guidance document 'Constructed tracks in the Scottish Uplands' revised September 2015;

<http://www.snh.org.uk/pdfs/publications/heritagemanagement/Constructedtracks.pdf>

One watercourse on the OS backdrop along the route will require a piped crossing. The SEPA CAR regulations will be followed in this respect. Passing places will be constructed at approximately 200m intervals. A micro-siting corridor of 40m will be required. A turning place will be required at the end of the road.

In addition to the above, road maintenance of the existing main access roads will be required, in agreement with other users.

Haulage will adhere to the following protocols 'The ATTG Protocol for Timber Haulage in Argyll and Bute'; <http://www.argyll->

bute.gov.uk/sites/default/files/ATTG%20Protocol%20for%20Timber%20Haulage%20in%20Argyll%20and%20Bute%20-%20Updated%20April%202012.pdf

And with the 'Protocol for Timber Transport Operations (Appendix 1)'; <http://www.argyll->

bute.gov.uk/sites/default/files/ATTG%20Timber%20Haulage%20Protocols%20for%200Argyll%20%20and%20Bute%20Appendix%201_0.pdf

5.10 Critical success factors

The following outcomes are required:-

- Expansion of native woodland – requires completion of felling (8.1ha) and restocking (7.6ha) through natural regeneration of existing felled area. (see section 5.1 Forest Operations area statements)(Regeneration of area to be felled falls outwith the plan timescale)
- Roading – construction of 0.55Km required to facilitate felling of the Phase 2 coupe.
- Timber production 5.9Km³ - requires completion of felling program.
- Full PAWS restoration requires conifer removal, control exotic regeneration and deer fencing to achieve satisfactory habitat restoration. Timescales for completion go beyond the plan approval period.
- Protection of sensitive conservation features through appropriate design, notably the Glen Shira Woods SAC, including removal of conifers within the SAC.

Appendix I: Forest Design Plan Consultation Record

Statutory Consultee	Date contacted	Date response received	Issue raised	Forest District Response
Argyll & Bute Council				
SNH				
Neighbours	Date contacted	Date response received	Issue raised	Forest District Response
Aitchesse Ltd (BSW Tilhill Forestry Ltd) (For Argyll Estates)	Several dates	Various	FCS raised possibility of extraction through Phase 1 adjoining coupe on Argyll estates, to avoid roading costs.	FCS decided, on looking at terrain, that proposal was not suitable.
Community Groups	Date contacted	Date response received	Issue raised	Forest District Response
Others	Date contacted	Date response received	Issue raised	Forest District Response

Appendix II: Tolerance Table

Tolerance Table for West Argyll Forest District

Area or Zone	Action required	Adjustment to coupe boundaries (to a limit of 20% of coupe area)	Timing of restocking (years after felling)	Changes to species (in excess of 25% change)	Windblow clearance (ha>40% blown)	Changes to roadlines (m from centre line)
Native woodland areas	Exchange of letters	1.5ha	5 yrs	No threshold	0.5ha native species. 5ha conifer	50m*
	Plan amendment	3.0ha	10yrs**	No threshold	10ha conifer	100m
Landscape sensitive areas***	Exchange of letters	0.5ha	3 yrs	Between evergreen and deciduous conifer species. No threshold for native species.	2ha conifer	50m
	Plan amendment	1.5ha	5 yrs	Between evergreen and deciduous conifer species. No threshold for native species.	5ha conifer	100m
Low sensitivity areas****	Exchange of letters	3.0ha	4 yrs	Between evergreen and deciduous conifer species. No threshold for native species.	5ha conifer	200m
	Plan amendment	5.0ha	7 yrs	Between evergreen and deciduous conifer species. No threshold for native species.	10ha conifer	400m

* Any impact on existing ancient woodland will be agreed with no threshold

** Due to preference for natural regeneration

*** Includes all landscape designation areas, e.g. NSA's, designed landscapes, plus WIAT, community woodlands and FD Strategic Planning Landscape Zone

**** All other areas not included in other zones. Localised environmental sensitivities within the zone will be covered under existing management plans. Consultation on these sites will be undertaken as part of the normal approval process and methods detailed in work plans.

Note: Any increase in open space will be subject to EIA thresholds for deforestation unless part of normal process of forest restructuring

Appendix III: FDP Brief and Introductory Information for Initial Stakeholder Meeting

(Outcomes from Initial Stakeholder meeting held on 04/09/2015 added in italics)

Introduction

The plan for Glen Shira represents 57.9ha of the former plan area covering some 2900ha that was not sold off in 2012. The purpose of retaining this part was firstly to continue to manage a core native woodland area comprising the Glen Shira Woods SAC. Secondly, there was a commitment to the expansion of the native woodland area, which might not otherwise be ensured under different ownership. As such, it contributes to the forest district's native woodland strategy and targets. It also contributes to the percentage of the district area covered under environmental designations.

The forest area was acquired in 1969. The area available for afforestation was planted mainly with Sitka spruce in 1973. The main access road was tarred, widened and given passing places ahead of harvesting in 2004. Part of the plan area was felled in 2004, a forest road being constructed along the top edge of the block for access. The upper part of this area was restocked with Sitka spruce in 2006. This was subsequently partially cleared for broadleaved natural regeneration. The remainder was left for native woodland regeneration, as a buffer around the SAC. The remaining area of mature timber was approved for felling by amendment in the previous plan, but has not been felled owing to delays in building the required access road.

The FD has approval to dispose of the area by excambion (do we omit this statement?).

Progress (from previous FDP)

- Felling under the original design was complete.
- Remaining mature conifers were approved for felling by amendment under the old plan.
- Conifer restocking was complete.
- Broadleaved regeneration is ongoing (from 2006). No SDA's have been undertaken.
- The SAC and restocked areas were mostly deer fenced in 2008.
- Glen Shira Woods was designated as an SAC but not an SSSI in 2005. There is therefore no requirement for a management plan.

Issues

- Deer control in regeneration areas outside the deer fence. Extension of the deer fence to incorporate PAWS areas to be felled in Phase 2. Matched LIFE funding?
- Deer control within the deer fence is being compromised by mature conifers falling onto the fence, letting in deer. Delaying felling will increase protection costs and impact regeneration success. In addition, some 25 mature conifers were left standing after felling in 2004, now also posing a threat to the fence and potential conifer seeding - *these have now been felled.*
- New roading (550m) to be constructed as part of the sale of standing timber (PFI) – cost of bringing in stone is too expensive for us to do it.
- Would be useful to develop outline management plan by FE into an agreed plan with SNH.
- No SDA assessment of regeneration areas to date.
- Soil erodability and potential slope instability need to be considered at Work Plan stage.
- Mature conifer coupe is 30% windblown.
- FCS require us to be compliant with 10% open space under UKFS/UKWAS – will require a degree of intervention to maintain this in the future, including increasing resilience along powerline corridor and maintaining open space along watercourses.

Plan Objectives

The role of Scotland's National Forest Estate focuses on 6 key themes:-

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

The plan will deliver on these themes in the following ways:-

Productive

- Timber production – commercial conifer areas.
- Road construction - contribution to the 75Km target in the Strategic Plan.

Cared for

- Enhancement and protection of habitats - Glen Shira SAC.
- Landscape improvement – by conversion to native woodland.
- Protection and enhancement of cultural heritage assets.
- Full PAWS restoration – on area occupied by commercial conifers.
- Development of habitat networks by contribution to the broader native woodland network in the glen.
- To take account of soil erodibility and potential slope stability issues in the design.

All themes:-

- To comply with the Forest and Water Guidelines.
- To comply with UKWAS guidance for certification.
- To comply with all other relevant guidance and policies, FD Strategic Plan and overarching FCS plans.

Summary of Proposals

The Forest District's Strategic Plan for West Argyll Forest District includes a vision statement, to which each individual Land Management Plan (LMP) will make a contribution. The District Vision Statement states that 'West Argyll FD will be a key land manager in Argyll, producing quality timber for the market, providing sustainable employment in both the public and private rural sectors, and opportunities for renewable energy projects. We will also provide well-managed native woodlands for wildlife and places for enjoyment for visitors and local communities'. The Glen Shira LMP revision contributes to the District Vision by seeking the following outcomes:-

Economic context

- ◆ Renewal of approval for 8.1ha of felling, to be completed within the plan period, and 7.6ha of restocking by natural regeneration is being sought, for completion within 15 years of felling.
- ◆ Timber production from felling yielding 5.9km³.

Environmental context

- ◆ Full restoration of PAWS is incorporated for the area to be felled.

- ◆ Protection of sensitive conservation features through appropriate design, notably the Glen Shira Woods SAC, including removal of conifers within the SAC.

Stakeholder consultation

In addition to the FD's statutory stakeholder's (SNH & Argyll & Bute Council), SEPA is routinely consulted. The RSPB, Confor and SSE have also asked to be routinely consulted. Inverary Community Council will be consulted. Only one neighbour, Argyll Estates, is relevant the plan area. Several tenanted properties in the glen will be consulted, including Drimlee, as the proposals are very visible from this property. Information will be posted on line on the FCS website at various stages of the plan development, with the approved plan eventually being made available here.

Agreed that as no community associated with the area, and with the intention to dispose of the area, that there would be no public event. Tenants at Ellerig More and Elrigbeag would be contacted. No need to contact RSPB or SSE.

Appendix IV: Glossary

ASNW	Ancient Semi-natural Woodland
ATC	Alternative to clearfell management
AWS	Ancient Woodland Site
BAP	Biodiversity action plan
CCF	Continuous cover forestry
DAMS	Detailed aspect method of scoring
FCS	Forestry Commission Scotland
FD	Forest District
FDP	Forest design plan
FE	Forest Enterprise
LIFE	Financial Instrument for the Environment
LISS	Low Impact Silvicultural System
LMP	Land Management Plan
PAWS	Plantation on Ancient Woodland Sites
PFI	Private finance initiative
SAC	Special Area of Conservation
SNH	Scottish Natural Heritage
SDA	Stocking Density Assessment
SS	Sitka spruce
SSSI	Site of Special Scientific Interest
UKFS	UK Forest Standard
UKWAS	UK Woodland Assurance Scheme
WAFD	West Argyll Forest District
WoSAS	West of Scotland Archaeology Service
YC	Yield Class

Appendix V: Supplementary Information

Documentation includes:-

- Roadline surveys
- Production Forecast 2015
- Sub-compartment database
- Conservation plan
- Landscape Character Assessment by SNH
- Aerial photos
- Forestry Guidelines
- Recreation Plan
- District Strategic Plan
- Forestry Commission approval procedures
- Scheduled Ancient Monument Plans
- Inventory of Ancient, long-established and semi-natural woodland, Argyll & Bute District (NCCS)
- Economic felling age

Available for inspection at:

West Argyll Forest District
 Whitegates
 Lochgilphead
 Argyll
 PA31 8RS Tel: 01546 - 602518