



Forestry and
Land Scotland
Coilltearachd agus
Fearann Alba

Appendix III

Background Information

Introduction:

This Land Management Plan (LMP) encompasses Loch Arkaig and Clunes Forests. They share a boundary to the north of the Dark Mile at NN 1967 8909. They also share neighbours, communities, management objectives and issues which justifies merging these forests into one LMP.

Clunes Forest and open hill occupies just over 2061ha and the Loch Arkaig Forest blocks occupy just over 940ha of forest and land.

Location:

(Refer to Map 1 – Location)

Clunes and Loch Arkaig Forests stretch 20km between the west shores of Loch Lochy, in the Great Glen, and the northern shores of Loch Arkaig in Lochaber. Clunes hamlet, Achnacarry, Achnacarry Estate, Bunarkaig and Kilfinnan hamlet neighbour these forests with Spean Bridge being the nearest village c7km to the south east.

Clunes Forest adjoins the Caig and Achnasaul sections of Loch Arkaig Forest north of the Dark Mile. The Allt Mhuic and Culcharn blocks form the western extent of Loch Arkaig Forest and are disconnected from the main part of the LMP area by Achnacarry Estate land. The following grid references denote the heart of the main areas:

Clunes Forest – NN 2272 9106

Loch Arkaig Forest:

Caig & Achnasaul – NN 1765 8923

Allt Mhuic – NN 1220 9159

Culcharn – NN 0862 9188

Ownership History:

The Forestry Commission acquired land as follows:

1927 – Kilfinnan 215ha (7% of the current LMP area)

1928 – The remainder of Clunes Forest and open hill as well as the Caig section of Loch Arkaig Forest 2189ha (73% of the current LMP area).

1954 – Achnasaul section of Loch Arkaig Forest 116ha (4% of the current LMP area)

1955 – Culcharn and the forested section of Allt Mhuic in Loch Arkaig Forest 404ha (14% of the current LMP area)

1966 – South Arkaig blocks 1180ha

2003 – Allt Mhuic Butterfly Reserve 69ha (2% of the current LMP area)

The following disposals took place during the previous Forest Design Plan 10 year period:

2016 – South Arkaig blocks 1180ha sold to the Woodland Trust and the Arkaig Community Forest. This is undergoing native pinewood restoration operations.

2021 – Clunes Oakwood and Forest School 6ha sold to the Arkaig Community Forest.

Physical site factors:

Geology:

(Refer to the StoryMap)

Clunes Forest lies on the west side of the Great Glen Geological Fault, which has formed a huge glen running from Loch Linnhe at Fort William to the Moray Firth at Inverness. It includes Loch Lochy, Loch Oich and Loch Ness. This fault was active around 400 million years ago and caused the land on the west side of the fault to slip about 100km to the SW. Since then it has been sculpted by glaciers which were active during the ice ages. Today this carved uniform face of Clunes is highly visible from the A82 and from Loch Lochy.

The area of the NW Highlands which lies to the west of the Great Glen Fault is composed of metamorphic rock in the Moine Supergroup. Clunes and Loch Arkaig Forests lie in the Loch Eil group of the Moine series. This metamorphic rock has not undergone heat and pressure as intense as the Glenfinnan and Morar groups which lie farther west.

Psammite (rock derived from sand), dominates Culcharn, Allt Mhuic and most of Clunes open hill and parts of the forested area of Clunes and north Caig. This rock type is quartzite rich which means that it is hard and difficult to weather and as such it forms thin acidic soils.

The Achnacarry Striped formation of psammite and semipelite can be found in Achnasaul, most of Caig and central and southern Clunes hill.

The Clunes Complex found in the Allt Molaich face of Clunes consists of Tonalite which was formed in the Silurian period (440 to 420 million years ago). This is an igneous plutonic rock.

The Great Glen Fault Zone affects the lower slopes of Clunes Forest from Allt Glas Dhoire Mor to Kilfinnan.

Igneous intrusions formed dykes in the metamorphic rock. Alkali Eil-Arkaig Dyke east/west swarms affect Culcharn and Allt Mhuic with Microdiorite dykes (Argyll and North Highlands Granitic Suite) affect Achnasaul in Loch Arkaig Forest.

Slope Instability:

Geotechnical surveys have identified areas of low to moderate slope instability risk in much of Achnasaul and the Caig area uphill of the Dark Mile. Moderate to high risk areas are identified in the forested areas of Caig and Clunes stretching from the Dark Mile to Clunes hamlet. The instability points typically include area of rocky outcrops and glacial erratics.

Soils:

The soils are highly variable. Clunes Forest is dominated by upland brown earths and podzols on the lower forested slopes and with a combination of podzols, ironpans, peats and peaty gleys on the upper forest slopes and on the open hill.

Loch Arkaig also has upland brown earths on the lower slopes where ancient woodlands were located. The remaining ground contains a matrix of blanket bog, ironpan and peaty gleys.

Landform:

The topography is dominated by high mountains (Meall na Teanga 917m elevation), coires, mountain passes and steep slopes especially in Clunes Forest. The forested areas are dominated by a south east aspect along the boundary with Loch Lochy and a southern aspect at the southern extent of Clunes, Caig and Achnasaul, Allt Mhuic and Culcharn.

Exposure:

The forested areas of both Clunes and Loch Arkaig Forests are relatively sheltered. This provides conditions suitable for stable forests from prevailing winds. It also contributes to good tree growth. The upper forest margin of south Clunes and north Caig in Loch Arkaig Forest is subjected to quite high exposure which is reflected in lower yield classes (growth rates), in commercial crops. The high elevation of the Clunes open hill is also very exposed. Vegetation and tree species which naturally grow here are stunted as a result of this level of exposure.

Water:

Small watercourses dominate much of the LMP forested areas making little, if any, indentation into the contours. Large streams or small rivers have bigger catchments. The most notable ones are: Allt Mhuic and Allt Cia-Aig in Loch Arkaig Forest. Clunes Forest contains: Allt Bhan, Glas Dhoire Mor and Allt Glas Dhoire. Coire lochan is a small oligotrophic or dystrophic priority habitat which is drained by Allt na Faing. All the watercourses drain into Loch Lochy either directly or via Loch Arkaig.

Scottish Rainforest ravine habitat can be found around watercourses such as Allt Mhuic and Allt Cia-Aig. These contain a rich diversity of bryophytes, lichen, fern and fungi sustained by the humidity levels created by the river spray contained within the ravines.

SEPA

Overall ecological status:

Groundwater:

The Fort William Area groundwater has a good ecological status

Loch waterbodies:

Loch Arkaig has a high ecological status

Loch Lochy has a good ecological status

Waterbody Catchments:

Loch Arkaig – High Ecological Status (affects Culcharn, Allt Mhuic and most of Achnasaul)

Abhainn Chia-Aig - Moderate Ecological Status (affects eastern fringe of Achnasaul, most of Caig and the NW section of Clunes hill).

Loch Lochy – Good ecological status (affects most of Clunes and the remainder of Caig).

River waterbody:

Abhainn Chia-Aig – moderate ecological status. This was downgraded from high ecological status due to the construction of the Caig Hydro scheme.

Scottish Water:

Public water supplies:

The entire LMP area lies out with public water supply catchments.

Private water supplies:

The Allt a' Mhanain feeds PWS GAIR/7 private water supply at Clunes. It serves 11 properties at Clunes hamlet. Highland Council data shows this is the only recorded private supply in the LMP area, which is confirmed by FLS legal data.

Climate:

(See Map 17 – Climate Model)

The climate is mild, wet and windy – rainfall typically exceeding 2200mm annually in Lochaber. The often steep sided slopes comprise of many small to medium sized watercourses. Run-off is rapid especially during storm events, thus, riparian management is key to protecting water from sedimentation and pollution, necessary to maintain waterbodies as good-high ecological potential.

The existing forest:

Forest Land use:

The forested area of the LMP area is almost 1,184ha. The table below shows the breakdown of the current forest land use in Clunes and Arkaig Forests in context with the LMP area:

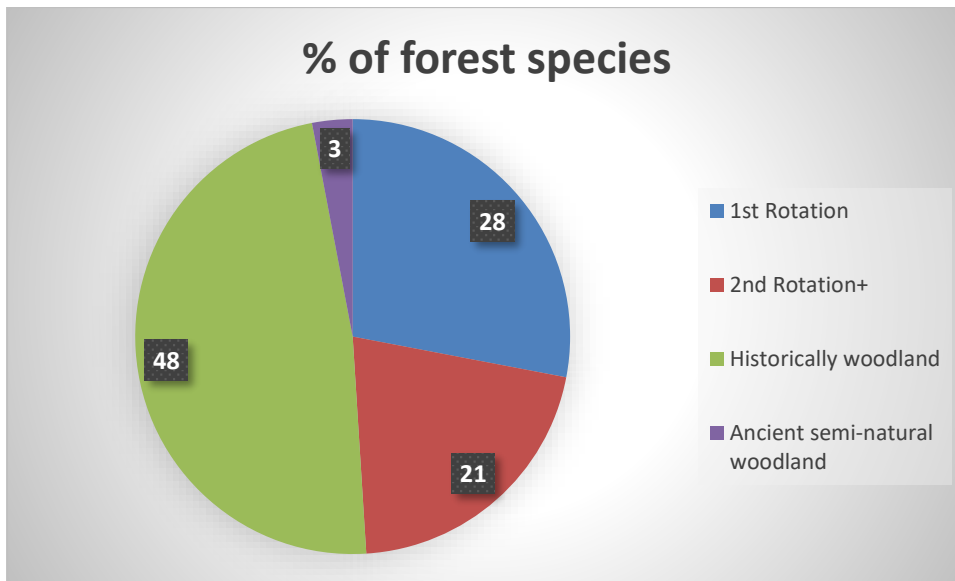
Forest	High Forest (ha)	Plantation Intruded broadleaves (ha)	Windblow (ha)	Plantation Research (ha)	Felled (ha)	Unplantable or bare (ha)	Total (ha)
Clunes	455.6	0.6	6.0	0	25.0	23.7	510.9
Loch Arkaig	528.1	1.7	0.1	0.7	135.9	6.1	672.6
Total (ha)	983.7	2.3	6.1	0.7	160.9	29.8	1,183.5
% of LMP forested area	83.1%	0.2%	0.5%	0.1%	13.6%	2.5%	100

Forest Rotation:

The pie chat below displays the proportion of the forested area in terms of forest rotation.

- First rotation means that these crops were planted as new woodland creation.
- Second rotation+ means that these crops were restocked after the previous crop or crops were harvested.
- Historically woodland means that the original native tree cover was replaced with planted non-native crops.

- Ancient semi-natural woodland represents the original native woodland which has remained uninterrupted.



Forest species:

The table below shows the breakdown of the hectareage (ha), of the main species in Clunes and Arkaig Forests in context with the LMP area. (See Map 18 – Current Species)

Forest	SS*	SP*#	DF*	XL*	NS*	LP*	MC*	NBL*#	MB
Clunes	208.6	50.7	30.1	23.3	25.5	0.1	2.5	110.5	2.9
Loch Arkaig	204.7	48.3	4.9	42.5	23.7	33.8	18.2	144.2	7.8
Total (ha)	413.3	99.0	35.0	65.8	49.2	33.9	20.7	254.7	10.7
% of LMP forest area	42.1%	10%	3.6%	6.7%	5%	3.5%	2.1%	25.9%	1.1%

*See Appendix VII for species abbreviations.

Denotes native species

Yield Class:

Yield class (YC), reflects the rate at which the volume of the standing crop of a given species grows. It describes the volume of timber in cubic metres (m³)/hectare/year, hence a stand of 30 year old YC 10 Scots pine has accumulated 300m³ of timber per hectare. (YC10 x 1 hectare x 30 years). Yield class varies according to tree species, exposure, soil fertility, vegetation and shelter. Spruces, notably Sitka spruce, naturally grow fast as do species like Douglas fir, Grand and Noble firs. Larches grow at moderate rates with pines such as Scots pine and Lodgepole pine growing at low to moderate rates. Most broadleaf species tend to grow at relatively low rates.

The table below shows the proportion of the main tree species that are categorised as low, moderate and high growth rates.

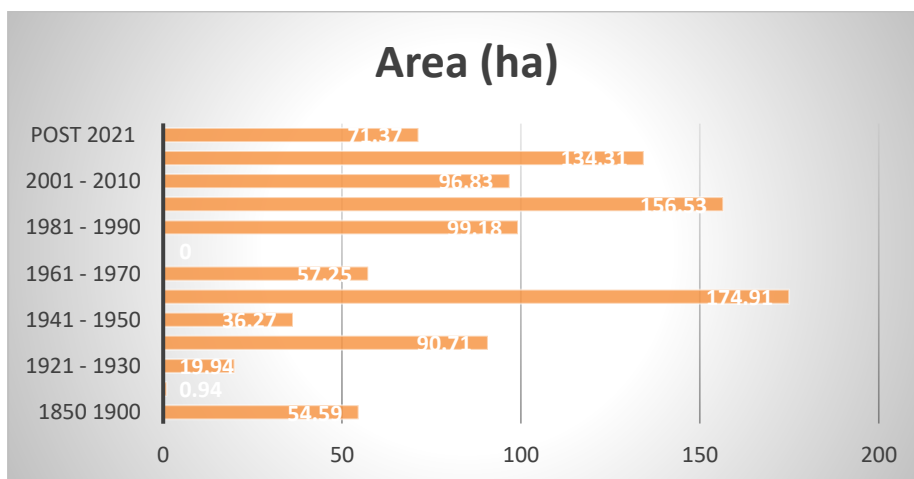
Species*	Low growth rates (YC 2 – YC 8)	Moderate growth rates (YC 10 – YC 16)	High growth rates (YC 18 – YC 24+)	Comments
Sitka spruce	19.5%	50.5%	30%	Lowest growth in the exposed section of Caig. High growth rates in Clunes Forest at Loch Lochy, especially in the Kilfinnan section. This species can grow on a wide range of soil types, soil moisture, nutrient regimes and exposure.
Norway spruce	4.5%	83.5%	12%	This species has been planted on the most desirable areas of Clunes and Caig where ideal soil moisture, fertility and shelter are found.
Larches	23%	77%	0%	Best growth rates in Clunes Forest at Loch Lochy.
Douglas fir	4%	31%	65%	This species is quite demanding regarding soil nutrition, shelter, drainage and moderate levels of rainfall. This species has been planted on the most desirable areas such as the

Species*	Low growth rates (YC 2 – YC 8)	Moderate growth rates (YC 10 – YC 16)	High growth rates (YC 18 – YC 24+)	Comments
				sheltered brown earths.
Scots pine	70%	30%	0%	This is a naturally slower growing species. It is tolerant of infertile drier soils which is typical of its location on the podzolic zones in this LMP
Native mixed broadleaf	98.5%	1.5%	0%	These species are naturally slow growing. The best growth rates are found in the brown earths of the lower sheltered areas.

*See Appendix VII for species abbreviations.

Age Class:

The bar chart below displays the hectare of tree planting for each decade.



Neighbouring Land Use:

Clunes and Loch Arkaig Forests share a boundary with the FLS owned Glengarry Forest north of Clunes open hill and Caig. Glengarry Forest also has a substantial area of open hill. New native woodland creation along the old drove route/ mountain pass near Feddan links Clunes, Loch

Arkaig and Glengarry Forests. Glengarry has a large area of pinewood restoration near Loch Garry as well as sizeable areas of commercial conifer production and PAWS areas.

The hamlets of Clunes, Bunarkaig and Achnacarry, and Achnacarry Estate and its estate forests lie to the south of Clunes and Caig. The area between Loch Arkaig Forest Achnasaul and Culcharn blocks comprises mainly of Achnacarry Sporting Estate land, remnant woodland pasture, small hydro schemes and the odd Estate croft and private dwelling.

Loch Arkaig is a popular loch for angling. Achnacarry Estate rent caravan pitches next to the Loch and minor public road next to Allt Mhuic. MOWI have a fish farm on the eastern section of the Loch. Glendessary Estate owns Sporting land and commercial forestry to the west of Loch Arkaig.

Much of the forested area on the south side of Loch Arkaig is owned by the Woodland Trust, with a small component owned by the Arkaig Community Forest. These forests are undergoing pinewood restoration through the removal of non-native conifer species. This complements the PAWS restoration operations which are taking place over a longer time period in the Clunes Loch Arkaig LMP area making this restoration on a landscape scale in this location.

The remaining land on the south side of Loch Arkaig consists of Sporting Estate owned by Achnacarry Estate.

The area to the east of Clunes Forest is dominated by Loch Lochy. This too is popular with anglers, however, it is dominated by boating tourism along the Caledonian Canal and kayaking, both local and long distance crossing the Great Glen. The settlements, farmland and tourist accommodation of Kilfinnan and South Laggan lie close to the north east end of Clunes Forest.

The A82 lies on the east side of Loch Lochy, the views from which are dominated by Clunes Forest and Meall na Teanga. This is the main route through the West Highlands between Glasgow and Inverness. It is busy with local journeys and very busy in Spring and Summer months with tourists.

Landscape:

Overview:

The local landscape is dominated by the geometric lines of the Great Glen running south west to north east and Loch Arkaig and the Dark Mile running east to west. The steep slopes of the forested areas are also very simple with most of Clunes having a very distinct south easterly aspect with south Clunes and Loch Arkaig Forests dominated by a southerly aspect. These dominant features are punctured by the ravines of Allt Mhuic, Allt Cia-Aig, Allt Bhan, Allt Glas Dhoire Mor and Allt Glas Dhoire. Allt Cia-Aig leads into the mountain pass at Feddan with Allt Glas Dhoire leading into the mountain pass Cam Bealach. These passes and the coires of Meall na Teanga form very strong lines leading the eye up the streams and indentations and drawing the eye down the spurs and outcrops.

Landscaping issues:

The upper forest margin, especially in Clunes Forest does not sit well in the wider landscape. It is very linear and abrupt and does not link with the natural features such as the outcrops and vegetation. To a lesser extent the margins of Loch Arkaig Forest's Allt Mhuic and Culcharn blocks also sit uneasily in the local landscape. Numerous minor watercourses run straight down the slopes creating straight lines in the landscape, albeit these are currently obscured by older plantation crops in the riparian areas. Restructuring the forest must consider the treatment of restored riparian areas to avoid unnatural geometric lines. The future forest needs to consider how the native woodland areas adjoin commercial conifer areas in as natural a way as possible. The shape of the future management coupes in Clunes Forest will be difficult to create natural sinewy shapes due to skyline harvesting methods on these steep slopes.

The Caig Hydro construction scars can still be viewed from the Woodland Trust Arkaig Forest on the south side of Loch Arkaig. The hydro roading and water pipeline wayleave leading down to the pumphouse at Caig Waterfalls is slow to heal.

Landscape Character assessment:

NatureScot describes Landscape Character Assessment (LCA) as “the process of identifying and describing variation in the character of the landscape. LCAs identify and explain the combination of elements and features that make landscapes distinct from one another by mapping and describing Landscape Character Types and Areas. The associated description of their distinctive characteristics shows how the landscape is perceived and experienced by people.”

The “LCAs analyses three main physical landscape components:

- Landform (hills, straths, glens) – such as, are the hills rounded or angular?
- Land cover (rivers, lochs, woodland, farmland) – such as, what is the dominant type and pattern of woodland?
- Settlement (towns, villages, farmsteads) – such as, what is the pattern of settlement?

“The combination of these components form the landscapes we see and experience.”

This informs our Land Management Plans in terms of how the current and future forest fits into the character of the landscape in which it sits. This assists the analysis and concept of the LMP area in terms of forest design principles such as spirit of place, unity, scale, landform, shape, pattern of enclosure and diversity.

This LMP is affected by three Landscape Character Types and the following describes the key characteristics for each:

LCA No 235 - Broad Forested Strath (occupies the area immediately uphill of the north side of the Dark Mile and Clunes Hamlet).

- Broad, low-lying straths with rolling relief and sculptural glacial landforms.
- Simple, large scale mosaic of forested ridges, rolling pastures and heather moorland, but dominated by swathes of forestry.
- A comparatively densely settled landscape with villages, houses and sporadic commercial development.

- Quarries hidden amongst the woodland cover.
- Strong communication and service corridors.
- Long distance views from surrounding hills over the glens, which are framed by steep glen sides.
- Lochs, rivers or canals on glen floor have often been engineered or substantially altered by man.

[LCT 235 - Broad Forested Strath - Final pdf.pdf \(nature.scot\)](#)

LCA No 236 – Smooth Moorland Ridges (occupies the majority of Loch Arkaig Forest).

- Gently undulating hills with smooth elongated ridge profiles, developing a more undulating landform in transitional areas with *Rugged Massif - Lochaber*.
- Simple, large scale landscape pattern dictated by uniform landcover and uncomplicated landform.
- Plateau summits generally draped in a mixture of grasses, heather and sedges, with exposed peat hags.
- Large blocks of conifer forests along the hill sides and lower foothills.
- Broadleaf woods on lower slopes and along loch edges, often framing crofts.
- Scattered croft settlements with stone dykes concentrated on lower slopes, particularly along roads and south-facing slopes.
- Roads and transmission lines following the base of the hills.
- Smooth open slopes highly visible.

[LCT 236 - Smooth Moorland Ridges - Final pdf.pdf \(nature.scot\)](#)

LCA No 239 – Interlocking Sweeping Peaks – Lochaber (occupies Gleann Caig, Clunes open hill and the entire Loch Lochy face of Clunes Forest).

- Pyramidal mountain summits with a jagged profile, often appearing as overlapping, peaks along glen views.
- Sweeping slopes with screes plunging directly into deep glens or lochs with little or no flat shoreline fringe.
- Sparsely vegetated with few trees.
- Numerous rocky outcrops punctuate the steep, rugged terrain.
- Inaccessible and remote with wild character.
- Long panoramic views.

[LCT 239 - Interlocking Sweeping Peaks - Lochaber - Final pdf.pdf \(nature.scot\)](#)

Landscape & management zones:

These depict areas with specific management objectives which are influenced by landscape and topography.

Zone 1: Environmental Woodland zone

This is the most complex of the management zones and can be broken down into four distinct sub-ones:

Zone 1a: PAWS & ASNW. This only applies to Loch Arkaig Forest where the topography permits easier access for forest operations. The ASNW along the larger burns, in the lower section of the Butterfly Reserve and along the roadsides at the Dark Mile. PAWS areas are located in the lower half of the Culcharn and Allt Mhuic blocks, the majority of Achnasaul and the southern and central sections of Caig. The PAWS areas will be restored to native woodland as harvesting of existing non-native crops progress over time.

Zone 1b: PAWS & ASNW steep ground. This applies to all of Clunes and the eastern extent of Loch Arkaig Forest where topography sometimes impedes access for forest operations. The ASNW here is located along some of the bigger burns and along the shores of Loch Lochy and uphill of the plantation forest in south Clunes. PAWS areas are located throughout the southern and much of the central portion of Clunes with two areas located in the Kilfinnan section. The PAWS areas will be restored to native woodland as harvesting of existing non-native crops progress over time.

Zone 1c: Caledonian pinewood regeneration zone.

The native Caledonian pinewood is located in Loch Arkaig Forest north of the Dark Mile. It comprises of 5.7ha of core pinewood, (mature stands), and 61ha of natural regeneration zone. This is where there is an expectation that the pinewood will naturally expand over this extent over a long period of time. Natural regeneration is preferred to maintain genetic integrity and to avoid the accidental spread of *Dothistroma* from infected nursery stock. Planted stock would need to have seed collected and grown in a nursery within this pinewood's genetic buffer area, which extends 500m beyond the regeneration zone. This genetic buffer is 357ha in size and extends southwards into Achnacarry Estate. Threats to the success of this regeneration are likely to come from high impact from deer and excess competition from non-native tree species and invasive non-native species such as rhododendron ponticum, gaultheria and buddleia.

Zone 1d: Natural Reserve. This is plantation based Natural reserve is composed of 4.4ha of Scots pine planted in 1936, 1.7ha of Sitka spruce in 1936 and 0.3ha of Norway spruce planted in 1932. It is almost surrounded by PAWS designations. This Reserve has not yet undergone initial one-off management to make conditions suitable for minimum intervention.

Zone 2: Other forested areas zone

This zone includes all woodland areas out with the PAWS and ASNW designations. They are subdivided into two sub-zones:

Zone 2a: other wooded areas. This encompasses the non-PAWS and ASNW areas in most of Loch Arkaig Forest.

Zone 2b: other wooded areas steep ground. This encompasses the non-PAWS and ASNW areas of Clunes Forest and a small part of the east section of Loch Arkaig Forest, where there is limited scope for forest intervention management.

Zone 3: Woodland creation zone

This zone depicts areas of native woodland creation. They are divided into two sub-zones:

Zone 3a: newly planted area. This new native woodland was planted in 2021 and occupies more than 71ha in the north west extent of Clunes Forest.

Zone 3b: proposed native woodland creation. This area is partially located on an ancient woodland area as identified by the Ancient Woodland Inventory. Planting new native woodland here links an area of ASNW to the north with PAWS areas to the south.

Zone 4: Montane Zone

This zone applies to all the open hill and mountain ground uphill of Clunes Forest and the Caig section of Loch Arkaig Forest. It reaches up to 917m on the summit of Meall na Teanga. There are large areas of Blanket bog and Montane Heath priority habitats as well as Upland Heathland. Montane scrub remnants exist in the montane heath areas. This area has great potential for future native woodland creation and expansion of the mountain scrub habitat.

Zone 5: Butterfly Reserve zone

This is the only Butterfly Reserve in Scotland, and is partnered by the Butterfly Conservation charity and has in the past been studied by Forest Research to gain a better understanding of the impact of the grazing management for Chequered skipper and Pearl-bordered fritillary habitat. This zone lies in the centre of the Allt Mhuic block of Loch Arkaig Forest. It is managed as a type of woodland pasture grazing regime using cattle to control excessive Birch regeneration and bracken for the benefit of the Chequered skipper butterfly. The grazing also improves the condition of the purple moor grass habitat which is the sole food plant for this rare butterfly.

Zone 6: Visitor Area zone

This zone is very localised, however these areas are very important for management purposes and are divided into the following sub-zones:

Zone 6a: Forest car parks. These small car parks are located at Allt Mhuic Butterfly Reserve, Caig Waterfalls and at the southern entrance to Clunes Forest. Although small they are regularly used by local visitors and by those from further afield.

Zone 6b: Informal forest trails. The main trail is located in the Allt Mhuic Butterfly Reserve, with a short trail around the car park and river at Caig Falls.

Zone 6c: The Great Glen Way (GGW). This long distance trail follows the entire route of the lochside forest road through Clunes Forest. A diversion has been created by the Coire Glas development team to ensure the public avoid the exploratory works area. This development has resulted in the relocation of the GGW Trailblazer campsite to the Allt Dearg alluvial fan at the shore of Loch Lochy.

Zone 6d: Chalara Impact Area. This area considers Ash trees which have been impacted by the pathogen *Hymenoscyphus fraxineus*, also known as Chalara, that lie within falling distance of the public roads. This area stretches along the B8005 and C1153 from Clunes Hamlet through the Dark Mile, past Achnasaul, Allt Mhuic and Culcharn.

Zone 7: Coire Glas Exploratory zone

This area is currently undergoing pre-development exploratory works for the Coire Glas pumped storage scheme. The impact of this work and the likely development of the scheme means that only emergency forestry operations will take place in this Kilfinnan section of Clunes Forest over the next ten years.

Landscape Guidelines:

The visual impact of the LMP forests are considered from main viewpoints. These viewpoints include main lay byes along the A82 next to Loch Lochy, from glimpsed views of Clunes and Caig from the B8005, of Culcharn, Allt Mhuic and Achnasaul from the C1153 road along the north shore of Loch Arkaig as well as views of Loch Arkaig Forest blocks from the Woodland Trust forest on the south side of Loch Arkaig.

Forest design principles are set out in the UK Forestry Standard 2017, section 6.4: Forests and Landscape. Each of these principles will be considered during the creation of management coupes and future restocking coupes in the new plan. The forest design principles are set out in the table below.

Forest design principles	Importance for landscape
Shape	The shapes of forests and woodlands within the landscape can be the most striking visual features: both the overall shape, and the patterns of species and felling coupes within. This is of particular relevance regarding the forest boundaries of Culcharn and Allt Mhuic and the upper forest margin of Clunes. The shape of the management coupes in Clunes will be highly visible from the A82.
Landform	In hilly or mountainous areas, landform is usually the dominant and most obvious landscape influence for forest and woodland design. The lines of force analysis will help determine how the forest can sit well in the landscape.
Pattern of enclosure	In lowland areas, where landform is subdued, field patterns are usually the dominant and most obvious landscape influence for forest and woodland design. This not relevant in this LMP.
Scale	Scale describes the relative size of visual elements as seen by the viewer. Generally, the scale of forest and woodland shapes should reflect the scale of the landscape. Viewpoints have been identified at popular lay byes along the A82 at Loch Lochy, from the B8005 between Gairlochy and Clunes, from the C1153 west of Loch Arkaig Forest and from the Woodland Trust Arkaig Forest. The design of the management coupes and future restocking will be assessed using these viewpoints.
Diversity	Diversity refers to the number of different elements in a design. Diverse forests are usually more visually appealing, but the level of diversity should be appropriate to the situation. Native woodland restoration will dominate this LMP. This will naturally introduce diversity that will be in keeping with this location and will sit well in the wider landscape where further restoration works as underway.
Unity	Unity is achieved when forests or woodlands integrate well with other features and look as though they belong in the landscape.

Forest design principles	Importance for landscape
	Unity also applies to the integration of the various elements within a forest design. Same comment as per “Diversity” above.
Spirit of place	Spirit of place is a term to describe the intangible qualities, such as wildness, tranquillity and cultural associations, that make a location special or unique. This is particularly relevant to the Wild Land Areas designation within the LMP, as well as the area around the Dark Mile, the Caledonian pinewood zone, the ASNW around Caig Waterfalls and Allt Mhuic.

The landscape context is also considered, such as the Landscape Character Types mentioned previously; landscape and visual sensitivities in a valued landscape will be considered in terms of new woodland creation; the historic landscape is also considered, such as woodland pasture at Allt Mhuic, ASNW and PAWS areas in locations where ancient woodland remnants and woodland heritage features remain. Designed landscapes do not apply to this LMP.

Landscape designations:

(see Map 15 – Landscape Designations)

Special Landscape Areas:

Highland Council has identified areas in the Highlands that they deem regionally important for scenic quality. They are according to the Highland Council Assessment of Highland Special Landscape Areas - “significant to Highlands and are valued beyond their locale”.

Clunes Forest and the west part of Loch Arkaig Forest lie within the Loch Lochy and Loch Oich Special Landscape Area (SLA).

The SLA special qualities with relevance to the Clunes and Loch Arkaig LMP are:

- The Great Glen – scale, striking, linearity, long narrow lochs. view from the A82 of steep slopes from loch side to mountain top and route of the Great Glen Way (Clunes Forest)
- Classic Highland scenery – views over lochs and steep wooded slopes. In calm weather superlative linear views along the bottom of the glen over reflective water surfaces that mirror the wooded slopes and bare hill tops and blurring boundaries between land and water (Clunes Forest), distinctive mountain-top views (Clunes Forest, Meall na Teanga and Meall Dubh)
- Intimate drama
 - Waterfall on Abhainn Chia-Aig has dramatic movement and noise (Loch Arkaig Forest)
 - Cam Bhealach hanging valley (commences in Clunes Forest)

Wild Land Areas:

NatureScot describe Wild Land Areas (WLAs) as the most extensive areas of high wildness.. They are identified as nationally important in Scottish Planning Policy but are not a statutory designation.

Wild Land Area 18 – Kinlochhourn-Knoydart-Morar affects the higher elevations of Gleann Cia-Aig and the western catchment of the Clunes open hill area.

The main features of this WLA are:

- High, remote, rugged and rocky mountains with a strong sense of naturalness and awe – some angular in profile with sweeping peaks, and some massive in form
- A very remote interior drawing adventurous and experienced hillwalkers
- Spectacular deep glens and lochs cut through the high mountains and hills, strongly influencing visibility, remoteness and access through the landscape.
- A strong influence of the sea around the north and western edges of the WLA, providing open views and contributing to perceived awe, remoteness and naturalness
- Secluded and elevated rocky cnocan and plateaux, containing hidden depressions and lochs with a strong sense of sanctuary.

Within the third feature mentioned above the following has been noted:

Around the margins of the WLA there are some extensive conifer plantations that extend out of the neighbouring glens e.g. Loch Arkaig. Although many of these are located outside the WLA edge, the prominence, extensive size and/or cumulative effects of some encroach upon the wild land qualities.

Click here for further information: [Wild land Description Kinlochhourn-Knoydart-Morar-July2016-18.pdf \(nature.scot\)](#)

Environmental Designations:

There are no statutory environmental designations associated with this LMP area. However, the following sections define important features that must be managed to meet FLS's Biodiversity Obligation as well as meeting good management practices as per the UK Forestry Standard 2017, section 6.1: Forests and Biodiversity.

Archaeology:

Scheduled monuments:

There are no scheduled monuments within the LMP area. However the 1544 Blar na Léine Battlefield zone lies immediately adjacent to the northern entrance to Clunes Forest at Kilfinnan.

Unscheduled monuments:

The Loch Arkaig and Achnacarry locations are notable for their association with the Jacobites as well as the WWII Commando training. Prince Charlie's cave is located in Loch Arkaig Forest above the Dark Mile.

Farming structures dominate the heritage environment within the LMP area. Farm houses and enclosures are located in the most sheltered and fertile parts of the land with Shielings (a basic dwelling), located on the upland summer pastures of Culcharn, Allt Mhuic and Gleann Cia-Aig.

This movement of people and their livestock uphill in summer and downhill in winter is known as transhumance.

Platforms and the Dark Mile bloomery are located in the PAWS and ASNW areas of Clunes and to a lesser degree in Loch Arkaig Forest. Platforms are natural or constructed level areas which were used to produce charcoal from locally sourced Oak and Birch. This charcoal was a source of fuel for the Bonawe Iron Furnace on Loch Etive.

More information on charcoal production:

[Slow Burn: Charcoal production in Callander - Forestry and Land Scotland](#)

There are three historical roads affecting the forest.

Drover’s Route/Scottish Hill Track 238/ ScotWays HL0022 from the Dark Mile to Loch Garry passes through the former Drover’s stance at Feddan. This was one of the main routes used between Skye and the Trysts in Crieff, Falkirk and beyond.

Hill Track 240/ScotWays HL0024 forms part of the access from Loch Arkaig to the Church and cemetery at Kilfinnan. This traditional route uses the southern section of HL0022 and the northern route of HL0025.

ScotWays route HL0025 also links the hamlets of Clunes and Achnacarry with the Kilfinnan Church and cemetery.

Link to the ScotWays website:

[ScotWays | Upholding Public Access in Scotland](#)

These unscheduled features are categorized according to importance as defined in the FLS Archaeology and the Historic Environment practice guide which ensures adherence to the UK Forestry Standard 2017, section 6.3: Forest and Historic Environment. The table below sets out this level of importance.

Categories of Importance	Action required	Relevance to the LMP
Regional Importance: Including all prehistoric archaeological features and once-roofed pre-20th century structures (houses, barns, kilns etc) as archaeological deposits may be expected to survive. Sites of regional importance include their associated immediate historic landscape. Some sites categorised as of regional importance may warrant future scheduling. Consideration should also be given to elements of 20th century historical significance (i.e. WWII defences and pill	Where appropriate, mark out and protect. Where appropriate, undertake conservation management works.	These include farmsteads and small townships in Culcharn, Allt Mhuic, in Clunes at Allt Glas Dhoire Mor, Allt Dearg and Allt Glas Dhoire, some platforms at Allt Molaich and the Dark Mile Bloomery in Loch Arkaig Forest. There are 32 structures of Regional Importance in this LMP area.

Categories of Importance	Action required	Relevance to the LMP
boxes, and unusual monuments of industry).		
Local Importance: All originally unroofed pre-20th century structures (sheep folds, dykes etc) as any surviving archaeological information is unlikely to be significant; and all possible sites with likely provenance (i.e. 'possible hut circle'). Condition and historic character are important considerations in regard to features of local importance – well-preserved drystone sheepfolds and dykes are significant elements of the local historic environment	Only when appropriate, mark out and protect. <u>Heritage features</u> of local importance may be negatively impacted where necessary for operational reasons (such as breaching a drystone dyke or field system, or using / crossing a historic road). However, evidence justifying the action and subsequent mitigation (such as carefully dismantling sections of wall to allow access, leaving the exposed ends stable).	These include enclosures in Clunes at Allt Glas Dhoire Mor and in Loch Arkaig Forest at the Dark Mile, Achnasaul, Allt Mhuic and Culcharn. It also includes several platforms at Clunes at Allt Molaich. There are 31 structures of Local Importance in this LMP area.
Uncategorised: Including findspots, unlocated sites (i.e. antiquarian records), previously destroyed sites (i.e. 'site of cairn'), fragmentary or poorly preserved sites of local importance, and possible sites of unknown type (i.e. 'possible mound').	No action necessary.	This applies to small buildings and charcoal platforms at Allt Mhuic, Corn drying kiln and platforms in Clunes at Allt Molaich. There are 9 structures of Uncategorised Importance in this LMP area.

Cultural heritage:

The Gaelic language provides a beautiful description of the local landscape. It can provide a clue to previous wooded habitats and former land use in Clunes and Loch Arkaig Forests which is demonstrated below:

Allt Glas Dhoire Mor – The big grey burn of the Oak thicket

Allt Mhuic – Burn of the pig

Coille Achadh nan Sabhal (Achnasaul) – Field of the barns woodland

Torr à Chròrain – Knoll of the murmuring sound

Goirtean nan Croabh – Field of the tree.

Gaelic Language Plan link:

[Gaelic language plan - Forestry and Land Scotland](#)

Habitat designations:

Habitats:

(See Map 14 – Habitats)

There are a range of habitats within the LMP area with the most biodiversity rich being the priority habitats. Habitats occupy almost 1743ha within Clunes Forest and the eastern section of Loch Arkaig Forest, of which almost 27% are wet open habitats, 71% are dry open habitats and 2% are woodland habitats. There is no data for the west section of Loch Arkaig.

The table below outlines the priority habitats.

There are localised areas of Important Habitats which have been identified in habitat surveys.

The table below lists those found with details of their significance.

Priority habitat type	Area (ha)	% of priority habitats	Main location
Upland heathland	795	48.5%	Clunes/Caig: Open hill between forest and montane heath. Caig: pinewood
Blanket bog	464	28.3%	Clunes/Caig: Open hill Caig: Beside pinewood
Montane heath	344	21%	Clunes: Summit of Meall na Teanga
Inland rock	1.5	0.1%	Clunes: Summit of Meall na Teanga
Inland rock outcrops & scree habitat	4.0	0.2%	Clunes: Summit of Meall na Teanga
Fen, marsh & swamp	1	0.1%	Clunes: Allt Glas Dhoire.
Upland birchwood	27.0	1.6%	Caig: near pinewood Clunes: Allt Glas Dhoire Mor
Upland oakwood	2.0	0.1%	Caig: At forest road junction above Dark Mile.
Oligotrophic or dystrophic loch	0.9	0.1%	Coire lochan
Totals	1639.4	100%	



Important Habitat Table:

Habitat Code	Habitat name	Common name	Significance
	Arctostaphylos uva-ursi	Bearberry	As a plant of polar and mountainous regions, the alpine bearberry is largely confined to Scotland . High latitudes and mountains. Its natural habitats are moorland, birch and pine dry forests and hummocks covered in moss next to bogs. Is a component of H17 - Calluna-Arctostaphylos heath.
	Vicia sylvatica	Wood vetch	Climber of hedge and woodland borders. Requires light in its woodland edge. Benefits from coppicing of broadleaf species to maintain light levels.
	Saxifraga oppositifolia	Purple saxifrage	Survives in the mountain tops. Grass in milder zones provide the greatest climate change threat. Part of the U15 Saxifrage-Alchemilla bank habitat characteristic of steep wet slopes and irrigated cliff faces.
	Carex rostrata	Bottle sedge	This community typically occurs as small stands and is strictly confined to raw peat soils in waterlogged hollows in the montane zone of Britain where there is moderate base-enrichment by drainage from calcareous rocks. These conditions are not common. The peat deposits on which the community is found are typically quite deep, usually more than 1 m, with a high and stagnant water table. The community is generally confined to altitudes between 400 m and 800 m in the central Highlands
	Lobelia dortmanna	Water lobelia	A small, rosette-forming perennial herb of oligotrophic lakes with acidic substrates. It is slow-growing, with little ability to withstand shade or competition and is therefore confined to shallow water less than 2 metres deep. Reproduction and dispersal is by seed, which can remain viable for thirty years. 0–745 m (Llyn Bâch, Caerns.).

Habitat Code	Habitat name	Common name	Significance
	<i>Galium boreale</i>	Northern bedstraw	A perennial herb of damp, usually base-enriched substrates, occurring in rocky places, on mountain ledges and screes, in base-rich flushes in montane grassland, on river shingle and stony lake shores, and on stabilised sand dunes. 0-1065 m (Ben Lawers, Mid Perth). The distribution of this species is little changed in Scotland, but it seems to have declined in England, particularly since 1970, where increased grazing pressure may be causing losses (Halliday, 1997).
	<i>Thalictrum alpinum</i>	Alpine meadowrue	A small, rhizomatous perennial of mountain habitats. It is found on damp rock ledges, at the open edges of stony streams and flushes and in thin grassland. It is a good indicator of substrates which are at least slightly base-rich. From sea level in N. Scotland, but generally above 300 m and reaching 1190 m on Ben Lawers (Mid Perth). Of the buttercup family. Part of the U15 Saxifrage-Alchemilla bank habitat characteristic of steep wet slopes and irrigated cliff faces.
	<i>Cirsium heterophyllum</i>	Melancholy thistle	A perennial herb of stream banks, hay meadows, damp roadside verges and moist woodland margins. Mostly upland, reaching 760 m in the Breadalbane (Mid Perth) and possibly to c. 975 m elsewhere in Scotland. <i>C. heterophyllum</i> is declining in some areas due to the shift from traditionally managed hay meadows to silage making, and as a result of unsympathetic management of roadside verges.
	<i>Saxifraga aizoides</i>	Yellow saxifrage	Part of the U15 Saxifrage-Alchemilla bank habitat characteristic of steep wet slopes and irrigated cliff faces.
	<i>Alchemilla alpina</i>	Alpine lady's mantle	Is part of the Willow scrub and herb-rich assemblage division of the mountain heath habitat. Part of the U15 Saxifrage-Alchemilla bank habitat characteristic of steep wet slopes and irrigated cliff faces.
	<i>Salix herbacea</i>	Dwarf willow	Also known as snowbed willow. A dwarf shrub of open, often bryophyte-rich communities in areas of late snow-lie, or in conditions of extreme exposure. It grows on erosion surfaces or stony ground on windswept ridges and cols, on screes, in corries and hollows, and locally on ledges and in montane grass-heath. From near sea-level (Fethaland, Shetland) to 1310 m (Ben Nevis, Westernness), but mostly not below 600 m. Is a component of H17 - <i>Calluna</i> - <i>Arctostaphylos</i> heath.

Habitat Code	Habitat name	Common name	Significance
	Diphasiastrum alpinum	Alpine clubmoss	An evergreen herb of short acidic grassland on mountains and moors, where it grows on moist but well-drained, thin peaty soils, especially those directly overlying rocks. More rarely it occurs on acidic sands. Vegetative propagation is much more frequent than sexual reproduction, which usually takes place on bare, disturbed ground. 0-1220 m (Ben Macdui, Banff.). Is a component of H17 - Calluna-Arctostaphylos heath.
	Alectoria nigricans		Type of lichen. It is a component of the lichen heath - U9 Juncus trifidus, where it grows on stone at the high summits.
	Thamnolia vermicularis	Mountain worms	Type of lichen typical of the uplands
	Dryopteris fern	Mountain male fern	Can form part of the Inland Rock Outcrop and Scree Habitats
	Oreopteris fern	Mountain fern	Oreopteris limbosperma - lemon scented. Found on steep slopes with acid, well drained peaty soils.
	Loiseleuria procumbens	Trailing azaelea	Is a component of H17 - Calluna-Arctostaphylos heath.
	Antennaria dioica	Catsfoot	Also known as cudweed. Found in cool northern and mountainous regions of Europe.
CG10	Upland Calcareous Grassland		Most widespread type (Sub-alpine)
CG11	Upland Calcareous Grassland		Type common at higher altitudes (Sub-alpine)
CG12	Upland Calcareous Grassland		Type confined to basic soils at higher altitudes. Uncommon in Scotland. (Alpine Calcareous Grassland)
H14	4060 Alpine & Boreal Heath		Calluna - Racomitrium is the H14 alpine heath habitat within the Alpine & Boreal Heath group and within the UK only occurs in the Scottish Highlands
M10	Upland Flushes, Fens & Swamps		M10 forms one component of this habitat - Carex dioica-Pinguicula vulgaris (dioecious sedge-common butterwort) mire community
U7	Mountain Heaths and Willow Scrub		Alpine moss heath - U7 Nardus stricts-Carex bigelowii snow-bed grasslands - the most extensive of the montane grasslands
U7b	Mountain Heaths and Willow Scrub		Alpine moss heath. Contains stands that do not fit into the other U7 communities.
U10	Mountain Heaths and Willow Scrub		Alpine moss heath. U10 Carex bigelowii-Racomitrium lanuginosum.
U10b	Mountain Heaths and Willow Scrub		Alpine moss heath

Habitat Code	Habitat name	Common name	Significance
U11	Mountain Heaths and Willow Scrub		Alpine moss heath - U11 Polytrichum sexagulare -Kiaeria starkei snow bed community is the moss dominated snow-bed habitat
U12	Mountain Heaths and Willow Scrub		Alpine moss heath. U12 - Salix herbacea-Racomitrium heterostichum. Liverwort dominated snow-bed habitat
U13a	Mountain Heaths and Willow Scrub		Montane grassland. The Anthoxanthum-Alchemilla sub-community U13a is a community of steep shaded slopes at high altitudes that receive the meltwater from patches of snow above them, or that are irrigated by flushing from cliffs
U13b	Mountain Heaths and Willow Scrub		Montane grassland.
U14	Mountain Heaths and Willow Scrub		Alpine moss heath. U14 - Alchemilla alpina-Sibbaldia procumbens dwarf-herb community
U17	Mountain Heaths and Willow Scrub		Luzula sylvatica-Geum rivale tall-herb community
UCG			
W7	Alder Woodland		Alnus glutinosa - Fraxinus excelsior woodland. Found on moist to wet mineral soils which are only moderately base-rich and not very eutrophic.



Species:

There are a variety of species which live within the LMP area. It includes the following:

Raptors: such as buzzard, merlin and owls

Other birds: such as Great Spotted Woodpecker and Black grouse

Mammals: such as badger, red squirrel, otter and pine marten

Insects: such as Chequered skipper, Pearl Bordered Fritillary, multiple other butterflies and dragonflies and Wood ants.

Plants: such as montane willows, Holly fern and helleborine.

Many of the above species are protected under the Wildlife and Countryside Act 1981 (as amended in Scotland) and the Habitats Regulations Act 1994 (as amended in Scotland) under Schedule 2 – European Protected Species.

Biodiversity:

(See Map 16 – Woodland Designations)

Deadwood:

Deadwood ecological potential has been determined greatest in the ASNW, richest PAWS areas and the riparian areas in the LMP area. This is where woodland has continued for a long time. In the native woodland areas deadwood is an important component of that habitat, with the richest being the ASNW. Here the deadwood has been allowed to stand or fall in situ where it is then colonised by saproxylic fauna which slowly breaks down the deadwood so it eventually becomes humus.

The low ecological potential areas for deadwood are located in the exposed woodland and semi-wooded areas of north Caig and the second rotation conifer crops of Clunes, Allt Mhuic and Culcharn.

ASNW:

As mentioned previously the Ancient Semi-Natural Woodland areas are the richest terrestrial habitats due to their continuous native woodland ecosystem. There is almost 58ha of ASNW in this LMP scattered in small often isolated pockets. Most are located in riparian areas as well as along the Dark Mile and in the Allt Mhuic Butterfly Reserve.

Caledonian pinewood:

There is one remnant of Caledonian pinewood located uphill of the Dark Mile in the Caig block of Loch Arkaig Forest. The core remnants occupy 5.71ha comprising of nine distinct clusters and forms a regeneration zone up to 61ha in size. This regeneration is where natural regeneration is expected to occur. Previous harvesting operations have removed most of the non-native species

from within the regeneration zone. Some localised areas of non-native species remain, especially in difficult to reach outcrops.

PAWS:

The “Plantations on Ancient Woodland Sites” (PAWS) designation covers most of the forested areas of Loch Arkaig and Clunes – c613ha. The areas which lie outwith this designation include the upper half of Culcharn and Allt Mhuic in Loch Arkaig Forest and the southern section of Kilfinnan in Clunes Forest.

This designation marks the areas where ancient woodland existed but was cleared and replaced with plantation forest. This process was usually driven by Government at a time where timber production was a strategic objective to replace depleted forests resulting from war efforts. In recent times Government objectives have changed in recognition of the importance of trees, native woodland and other native habitats in the ecosystem services they provide and the ability of them of store carbon as an important means of adapting to, and mitigate the effects of a changing climate.

FLS is committed to restoring 85% of the PAWS forests in its ownership. Restoration has commenced, in particular in Culcharn, Allt Mhuic, Caig and the southern tip of Clunes Forest. The full restoration will take place over many decades when harvesting of commercial crops provide the opportunity.

PAWS surveys have identified the ancient woodland features within the designation. In areas where clear-felling operations are not programmed for many years, features such as veteran trees have been identified for halo thinning to ensure they have enough light and space to thrive until the non-native crop around them is removed.

Montane scrub:

Montane willow scrub remnants lie between 540m and 760m elevation in four distinct groupings around the Meall na Teanga complex. Some lie as high as 865m elevation. They are confined to quite inaccessible areas of montane heath and some upland heathland priority habitats due to the high impact of deer.

Butterfly Reserve:

This is Scotland’s first dedicated butterfly reserve.

This is located in the heart of Allt Mhuic forest block in Loch Arkaig Forest. It occupies around 66ha of open ground and native woodland. It is managed as wood pasture using cattle to control excessive scrub and trample bracken to favour flora, with an element of native woodland, that supports Chequered Skipper and Pearl-bordered Fritillary butterflies.

FLS work in partnership with the Butterfly Conservation to manage the reserve.

Plant Health:

There are a range of pests, disease and invasive species which threaten the forests and woodlands of this LMP. Some are present, whilst others exist in Lochaber, thus posing as a potential threat to the LMP forests and woodland.

Invasive non-native species (INNS) pose a threat, in particular, to native woodland habitats. The species below exist in the LMP area and also exist in the wider landscape. The landscape scale native woodland restoration intended by many landowners in the Loch Arkaig catchment share a common goal in managing these species to secure restoration.

FLS is a Government body, and as such, has a biodiversity duty to further the conservation of biodiversity. Managing INNS is an important part of the biodiversity duty to secure healthy ecosystems.

Rhododendron:

This plant which originates from the Himalayas has managed to colonise wild areas in the West Highlands where the acidic soils and mild weather provide ideal conditions. It outcompetes native vegetation through a mix of fast growth, casting of shade and making the ground conditions toxic to native vegetation. It is scattered throughout the LMP area albeit in early to medium stage growth.

Gaultheria shallon:

This is another plant which favours acidic ground conditions. It originates from North America and naturally forms dense thickets which shades out native vegetation. Small quantities of Gaultheria have been noted in the LMP area and more is known to exist in neighbouring ground.

Buddleia:

This plant originates in Asia. It is able to spread quickly and outcompete native plants. It is starting to spread in a felled area of Clunes forest.

Plantation species:

Some plantation species can grow on a wide range of soil types, climatic conditions and exposure making them potentially invasive to native habitats. Such species within the LMP area includes Sitka spruce and Lodgepole pine, but the most troublesome is Western hemlock with its ability to tolerate deep shade. Beech is also problematic to native woodlands. These species are problematic in the establishing native woodland in the PAWS designations as well as affecting the Caledonian pinewood and Ancient semi-natural woodland areas.

Tree Diseases:

Phytophthora ramorum:

This disease poses a major threat to Larch trees which can succumb to the disease in a relatively short space of time. The mild, wet and windy climate of the West of Scotland provides ideal conditions for this water mould pathogen to survive and spread. FLS have drafted a Larch Strategy in response to the continuing spread of the disease to inform the management these crops in different parts of Scotland. Scottish Forestry – the forestry regulator - has created an action plan. The Clunes and Loch Arkaig LMP area lies within the Priority Action Zone (PAZ), where actions will have the greatest impact on controlling its spread. Outbreaks in the PAZ will be issued with Statutory Plant Health Notices (SPHN) which stipulates the date by which the diseased trees and those in proximity must be felled by law. To date, there has been no outbreak

of this disease in the LMP area, however, rhododendron is a host for this disease, thus increasing the risk.

There is just over 68ha of Larch in this LMP, the majority of which are located in Clunes Forest and the Achnasaul section of Loch Arkaig Forest. Some stands were planted as far back as 1932 with the most recent planted in 2013. The Larch has been planted as a pure crop, but others were planted with the Larch feathered through other species in a naturalistic fashion.

Chalara:

Hymenoscyphus fraxineus, or Chalara for short, is a serious fungal disease which is specific to Ash trees. Scottish Forestry states that “management efforts are now focused on mitigating safety risks from diseased trees, while allowing for natural regeneration of potentially disease-tolerant or resistant trees wherever possible”.

Semi-natural stands of Ash are dominant in proximity to the B8005 and C1153 public roads along the Dark Mile, at Achnasaul, Allt Mhuic and Culcharn.

Dothistroma:

Dothistroma needle blight (DNB) is a fungal disease which affects pine trees. It infects the needles of the pines causing them to shed. This can eventually weaken the tree, reducing growth and affecting timber production and may also lead to mortality. It spreads via wind in damp conditions and as such, is suited to the mild, wet and windy local climate. Corsican and Lodgepole pines are most susceptible, but if the viral load is high it can have a negative impact on Caledonian pines. This can be caused by non-native pines growing in the Caledonian Pinewood Inventory (CPI), 600m buffer zone.

There is one Caledonian pinewood area within the LMP area at the Dark Mile. The neighbouring Achnacarry Estate, Woodland Trust and the Arkaig Community Forest also have areas of Caledonian pinewood. In some cases neighbouring CPI buffers extend into FLS ground e.g. Achnasaul west.

Most areas of Lodgepole pine lie in the east side of Allt Mhuic. Here the condition of the pine is starting to decline.

DNB has been found at a Block level in Loch Arkaig Forest, but is currently absent from Clunes Forest.

Phytophthora austrocedrae:

This fungal disease affects native Juniper species. This is a desirable species as a minor component in native woodland planting on the higher elevations in the LMP. The planting of Juniper risks of introducing the disease to existing Juniper stands from infected nurseries. Juniper does exist in the 2021 native woodland creation site in the mountain pass of north Clunes. It also exists in the neighbouring FLS owned Glengarry Forest.

Mammals:

Deer:

The findings of the Native Woodland Survey of Scotland (NWSS), describes excessive herbivore impact, largely due to deer as the most widespread threat to the condition of native woods. Red, Sika and Roe deer live in and migrate through the LMP area.

Feral pigs are also present in the forest, although they are very elusive. The ground disturbance they cause can be beneficial for native woodland regeneration if the population is at sustainable levels.

Social Factors:

Recreation & Community:

Formal Recreation:

This includes the forest car parks at Caig Waterfall and another at the Butterfly Reserve at Allt Mhuic. and 1350m of forest trails in the Butterfly Reserve at Allt Mhuic.

Informal Recreation:

The main recreation area consists of 1350m of forest trails in the Butterfly Reserve at Allt Mhuic. It passes through native woodland, woodland pasture and open habitat offering views over Loch Arkaig at the upper section along the forest road. The trail offers glimpses of the ancient woodland/oceanic ravine habitat around the Allt Mhuic (stream), as well as wood ants nests near the ruined farm buildings.

There is also 290m of trails around the car park and waterfall at Caig Falls, as well as a small car park at the entrance to Clunes Forest near the shore of Loch Lochy. The Clunes Forest car park marks the start of the Great Glen Way long distance path through Clunes Forest. It follows the entire length of the loch side forest road for 9.27km, however, due to Coire Glas exploratory works a diversion has been put in place to avoid the construction zone. This has added 660m to the trail. The Great Glen Way exits the forest at Kilfinnan.

Scottish Canals manage an informal (Trailblazer), campsite open to those who walk or kayak the Great Glen Way with provisions including composting toilets and a shelter.

The following paths provide hill access:

Caig Hill access: stretches 3.8km from the end of the forest road in Caig to the former Drover's Stance at Fedden

Clunes Hill access: stretches 3.9km from the upper forest road at Allt Glas Dhoire through Cam Bealach where it zigzags up the much of the southern slopes of Sron a' Choire Gairbh.

Clunes Hill access unsurfaced path: extends 5.7km from the point where the above Clunes access path leaves Cam Bealach on its ascent of Sron a' Choire Gairbh to the forested area near the upper reaches of the Allt Ladaidh in Glengarry Forest.

Community:

There are small communities at Clunes, Bunarkaig, Achnacarry and Kilfinnan. The Arkaig Community Forest was established by local people who acquired forested areas from FLS. This included the former forest school at Clunes. They have developed a tree nursery and deer larder which supports woodland management on their property and potentially on neighbouring property.

Visitors:

Locals and tourists visit this area to see the waterfalls at Caig, visit the Butterfly Reserve, sightseeing or informal fishing holidays camping at the shores of Loch Arkaig and Loch Lochy. Others travel farther afield to Knoydart, through Glen Mallie or the Munros to the north passing alongside or through the LMP area as they proceed with their journeys.

Neighbours:

Neighbours to the LMP include Achnacarry Estate, the residents of Achnacarry, Bunarkaig, Clunes, Ardehive and Achnasaul, as well as at Kilfinnan to the north east of Clunes Forest. The Woodland Trust at South Arkaig and MOWI at Achnasaul and east Loch Arkaig are close neighbours.

Renewables:

There are three operational hydro schemes, all of which affect Loch Arkaig Forest. They are as follows:

- Allt Cheanna Mhuir on the western extent of Allt Mhuic – (0.5MW). The pumphouse and a small part of the water pipeline lies in FLS property.
- Allt Mhuic which lies in the centre of the Allt Mhuic Butterfly Reserve (0.95MW). The pumphouse and much of the water pipeline lies in FLS property.
- Cia-Aig which lies in the Caig area at the western end of the Dark Mile (3MW). The intake, most of the water pipeline and the pumphouse lie in FLS property. The wayleave buffer is 15m either side of the pipeline.

The electricity output cabling passes through the lower sections of Allt Mhuic and Achnasaul.

There is one proposed pumped storage scheme which will have an estimated output of 15,000MW is currently undergoing pre-development exploratory tunnelling works in the Kilfinnan section of Clunes Forest. If it proceeds it will create a pumphouse on the shores of Loch Lochy near the Allt Glas Dhoire in Clunes Forest, with a dam and reservoir created uphill in Coire Glas in the neighbouring FLS Glengarry Forest.