



Forestry and  
Land Scotland  
Coilltearachd agus  
Fearann Alba

# Glengarry LMP

## Background Information



# Location

The Glengarry Land Management Plan (LMP) is located south and west of Invergarry in north Lochaber. It comprises of three forests: Glengarry, Craig Liath and Ardochy. Glengarry and Ardochy lie adjacent to Loch Garry and Craig Liath lies adjacent to Loch Oich in the Great Glen. The forests are accessed from public roads as follows:

Glengarry Forest: (southern shores of Loch Garry)

- Main entrance off A87 at Whitebridge – NH 2838 0136
- Ciste Dubh car park at NH 2832 0135
- Minor entrance off at Faichem – NH 2807 0182
- Greenfields entrance off C1144 at 1938 0230, entering the forest at NH 1937 0161
- Poulary entrance off C1144 at NH 1323 0147, entering the forest at NH 1330 0106

Ardochy Forest: (north side of Loch Garry)

- Main/only entrance off A87 at NH 2406 0290
- Daingean car park at NH 2357 0316

Craig Liath Forest: (west shore of Loch Oich)

- Main entrance off A82 at NN 3007 9869 (Well of the seven heads)
- Loch Oich car park at NN 3040 9892
- Mandally entrance off U1031 at NH 2996 0072.
- Mandally entrance off U1031 to Crofting Land at NH 2844 0052, entering Glengarry Forest at NH 2796 0033.

# Ownership History

The LMP area occupies 13,461.67ha.

The Forestry Commission acquired land as follows:

1927 – Glengarry Deer Forest – 8295.38ha. This includes Craig Liath Forest and Glengarry Forest east up to Greenfields.

1947 – Ardochy – 262.12ha

1960 – Garry Gualach area in Glengarry Forest – 206.24ha.

1964 – Greenfield Farm II – 609.84ha. This occupies Poulary in Glengarry Forest.

1966 – Greenfields Farm III in Glengarry Forest – 4290.54ha. This includes Poulary Deerpark and the remaining open hill ground.

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

2003 – 2.59ha – Craig Liath Forest, Mandally, crofting land

2013 – 0.11ha - Greenfields

2014 – 0.44ha – Craig Liath Forest, Mandally, crofting land

2018 – 4.48ha – Craig Liath Forest, Mandally, crofting land

2022 – 19.49ha – Ardochy Forest to the Communities Housing Trust

2022 – 50.5ha – Ardoch Forest to the Glengarry Community Woodlands.

2023 – 2.67ha - Garry Gualach

2024 – 75.98ha – Ardoch Forest

## Physical site factors

### Geology & Drift:

The LMP area lies on the western side of the Great Glen Geological Fault which has formed a huge glen running from Loch Linnhe at Fort William in the south to the Moray Firth at Inverness in the north. 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 Craig Liath Forest is highly visible from the A82.

The geology derives from the metamorphic rock of the Moine Supergroup. The LMP area lies within the Moine sub-group -Loch Eil group.

Psammite (rock derived from sand), dominates the LMP area. This rock type is quartzite rich which means that it is hard and difficult to weather and as such it forms thin acidic soils.

Exposed granite pluton is found in the Ladaidh area of Glengarry Forest in proximity to Loch Garry as well as in the north east (NE) half of Craig Liath Forest. Both of these rocks indicate acidic soils.

Small igneous intrusions pepper parts of the open hill in southern Glengarry Forest.

The drift is dominated by hummocky glacial deposits derived from schists, gneisses, granulites and quartzites with areas of peat located in:

- Flat areas between glacial hummocky areas notably at Poulary Deerpark, Greenfields, Allt Meall Ard Achaidh and in the Fhudair mountain pass and Bealach Easain.
- On gentle to flat tops of hillocks and plateaus notably at Poulary, Meall Ard Achaidh and Craig Liath.
- On mountain sides such as Ben Tee and Meall a Choire Ghlais and Sron a Choire Ghairbh.

Elsewhere, alluvium is found around the main watercourses, especially the River Garry and the lower extent of the Greenfield Burn, with alluvial fans associated with run-off from steep slopes at Allt Coire an t-Seilich, NE Fhudair and minor streams in Cam Bhealach.

The steep mountain slopes around Coire Glas also have areas of Talus (British Geological Survey – BGS – description - accumulation of angular rock fragments derived from steep rock slopes of cliffs by the mechanical weathering of the rock mass).

### Slope Instability:

Geotechnical surveys have identified areas of moderate to high slope instability risk on the slopes in Craig Liath Forest at Balmaglaister, the adjacent crofting land and a small portion of a

recently felled site above the Kilfinnan road U1035. The instability points typically include area of rocky outcrops, glacial erratics, gulleys and areas of embankment failures.

## Soils:

### General:

The soils within the LMP area are described in “Scotland’s soils – part of Scotland’s environment” as follows:

- Peaty gleyed podzols with dystrophic semi-confined peat with peaty gleys – Dominant within the LMP.
- Peaty gleyed soils with dystrophic semi-confined peat – Localised dominant (Poulary, Coire Bo Chailein and the Craig Liath Mandally crofting land/native woodland)
- Humus-iron podzols with peaty gleyed podzols – localised area between Allt Garaidh Gualach and Greenfield Burn.
- Brown earths with humus-iron podzols – Localised – confined to Greenfields agricultural area and the Great Glen slopes of Craig Liath Forest and crofting land.
- Sub-alpine podzols – Localised – confined to the upper slopes of Ben Tee, Meall a Choire Ghlais, Sron a Choire Gharbh, Meall an Tagraidh, Meall na h-Eilde, Meall Coire nan Saobhaidh and Meall Tarsuinn.

All of the soils within the LMP area are deemed to have a low phosphorus sorption capacity (PSC), thus highlighting the difficulty in applying phosphate nutrition to improve conditions for commercial conifer production, in particular for spruces.

Available water capacity for soils is around 300 – 375mm for much of the LMP soils. The area that encompasses the higher ground of Forest Gate, the lower ground of Coire Bo Chailein and Bolinn hill is an area where there is a relatively low available water capacity for soils at around 100 – 150mm. Much of this co-incidences with the richest area of Caledonian pinewood.

### Forest soils:

Detailed soil surveys have been carried out in recent years throughout most of the forested areas of Glengarry Forest. It demonstrates just how complex and varied the soils are in any given area. These provide further evidence of areas of deep peat, most notably where they are defined as presumption to restore peat types, such as those in parts of Poulary, Meallan Odhar and Greenfields.

The soil surveys also describe at a glance opportunities for different woodland types, for example, surface water gleys and peaty surface water gleys in Poulary, Coire Bo Chailein and localised areas to the south and west of Meallan Odhar indicate suitability for commercial spruces.

Deep peats which may be capable of storing more carbon by replanting with trees dominate the central portion of Glengarry Forest. Ironpans dominate the forested areas around Garry Gualach in the west and Leac Ladaidh and Forest Gate in the east.

## Landform:

Elevation ranges from 40m near the shore of Loch Lochy at Balmaglaster to 935m at Sron a Choire Gharbh six kilometres to the south west.

Much of the LMP area is dominated by gentle to moderate north west facing slopes, in particular Glengarry Forest.

Ardochy has moderate south and south east facing slopes. Craig Liath has moderate north facing slopes, moderate to steep south east facing slopes with a peaty plateau on Crofting land.

The non-forested land in the south east section of Glengarry Forest has steep sided mountains of which (Sron a Choire Gharbh) at 935m is classified as a Munro. This mountain is directly connected to Meall a Choire Ghlais (900m), and Sean Meall (887m) to form Coire Glas. Ben Tee sits independently of these mountains to form a distinct cone shaped mountain which is iconic in the local landscape. The southern boundary of Glengarry Forest skirts across six mountain tops.

## Climate & Exposure:

Climate projections point to a warmer climate with lower summer rainfall and higher winter rainfall. DAMS score (relative exposure) range from 11 - 14 in Ardochy, 8 – 13 in Craig Liath Forested areas, and in forested areas of Glengarry it ranges from 9 in the sheltered east to 16 in Poulary and the tops of small hills in the centre of the forest. The most exposed area is the summit of Sron a Choire Gharbh with a DAMS score of 29.

The climate is cool, wet and windy, with average annual temperatures around 8 – 9 C and precipitation above 2500 mm per year (as at the Coille Mhorgil rainfall station near the River Garry/Kingie Pools at Poulary in the west side of Glengarry Forest). Rainfall is likely to be greater than this at the higher elevations in the LMP area.

Although snow is less prevalent than eastern and central Scotland, the region is subject to rain bearing South Westerly winds. Humidity levels are high throughout the year, rarely sinking below 70% relative humidity. The wet conditions contribute to soil leaching and development of gleys and bogs where soils are insufficiently free-draining.

The climate model describes climate type in terms of climate zone, moisture and exposure. The LMP can be described as follows:

- Sub-alpine/Wet/Highly and Severely exposed 24% of the LMP (35% of which is deemed too exposed for forestry).
- Cool/Wet/Highly exposed 19% of the LMP
- Cool/Wet/Moderately exposed 37% of the LMP
- Cool/Wet/Sheltered and Warm/Moist/Sheltered make up the remaining 20% of the LMP area.

## Water:

The watercourses within Ardoch Forest and most of Glengarry Forest drain into Loch Garry. The eastern section of Glengarry Forest and the northern, western and central section of Craig Liath Forest drain into the River Garry. The eastern section of Craig Liath Forest drains into Loch Oich and the watercourses within south Fhudair, Coire Glas and Cam Bhealach in Glengarry Forest and the SE extent of Craig Liath Forest drain into Loch Lochy.

Small watercourses punctuate much of the LMP area, especially in the Glengarry open land and woodland creation areas established during the previous plan period. The forested areas around the Allt Garry Gualach and Greenfield Burn have the highest density of watercourses in more established woodland.

Large streams or small rivers have bigger catchments. The most notable ones are: River Garry, Allt Choire a Bhalachain, Allt Garaidh (Garry) Gualach, Greenfield Burn, Allt Ladaidh and Allt na Cailliche in Glengarry Forest. Ardoch Forest contains: Allt Daingean and Allt a' Bhiora.

There are six small oligotrophic or dystrophic priority habitat lochs all of which are found in Glengarry Forest: Lochan Diota, Loch na Beinne Brice, Loch a' Choire Ghlais in the east; Lochan Fhudair and Lochan na Gearr Leacainn in the south and Lochan an Stac in Poulary.

Scottish Rainforest oceanic ravine habitat can be found around some of these larger watercourses such as the River Garry and Allt na Cailliche. 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 as demonstrated in the Garry Falls SSSI.

## Salmonid catchment:

Around 84% of the Glengarry LMP area sits in the southernmost extent of the Ness District Salmon Fisheries Board (NDSFB) catchment. This roughly equates to 6% of the Ness Catchment up to Inverness. The remaining 16% of the LMP area lies within the Lochaber District Salmon Fisheries Board (LDSFB) catchment.

The section of the LMP which lies in the Ness catchment lies within the "Garry & Oich" sub-catchment. This is described by the NDSFB as follows:

"The River Oich runs parallel to the Caledonian Canal, with extensive modifications being made to its course during the construction of the canal. The two rivers are separated by Loch Oich. Both the Garry and Oich support important "spring" salmon fisheries and are heavily impacted by large scale hydro-electric schemes".

The CEO of the NDSFB has identified two areas of concern in relation to future climate change resilience:

- Potential for overheating of the lower reaches of the Allt Coire a' Bhalachain in the Poulary section of Glengarry Forest due to an absence of riparian woodland habitat.

- Overshading of a section of the lower reaches of the Allt na Cailliche in the eastern side of Glengarry Forest.

## SEPA:

### Groundwater:

Around 84% of the LMP area lies within the Northern Highlands groundwater body. Its overall status is good.

The remaining 16% of the LMP area lies within the Fort William groundwater body. Its overall status is also good.

### Catchments:

The waterbody catchments within the LMP area are described, in terms of overall ecological potential, as follows:

- Poor: River Garry – Loch Poulary to Loch Quoich, Allt Coire a’ Bhalachain, Allt Lon Glas Bheinn.
- Moderate: Greenfield Burn, Allt Ladaidh, Allt a Choire Ghlais, Abhainn Chia-Aig.
- Good: River Garry – Loch Garry to Loch Poulary, Loch Garry, River Garry – Loch Oich to Loch Garry, Loch Oich, Loch Lochy, Allt na Cailliche.

### Lochs:

The five lochs into which drain the Glengarry LMP watercourses are: Kingie Pools, Loch Poulary, Loch Garry, Loch Oich and Loch Lochy. The latest overall ecological status is good for all three larger lochs.

### Rivers:

The SEPA water classification hub has defined the overall ecological status for the main LMP watercourses as follows:

- Poor: Allt Lon Glas Bheinn (Allt Garaidh Gualach)
- Moderate: Allt Coire a’ Bhalachain, Greenfield Burn, Allt Ladaidh, Allt Choire Ghlais, Abhainn Chia-Aig
- Good: River Garry, Allt na Cailliche.

The watercourses in the poor and moderate overall ecological status were previously of a higher status. The downgrade is mainly due to hydro developments which impede the movement of fish.

### Scottish Water:

Around 84% of the LMP area lies within the Scottish Water Ness public water supply catchment. The LMP area within this catchment occupies about 6% of the Ness public water supply catchment.

## Private Water Supplies (PWS):

Checks have been carried out in relation to private water supplies within the LMP area as well as those outside the LMP area whose catchments may be impacted by forestry operations.

Comparisons were made with Highland Council PWS data. This was helpful to identify the PWS type to understand the level of protection required, for example, identifying borehole, spring fed and surface water abstractions.

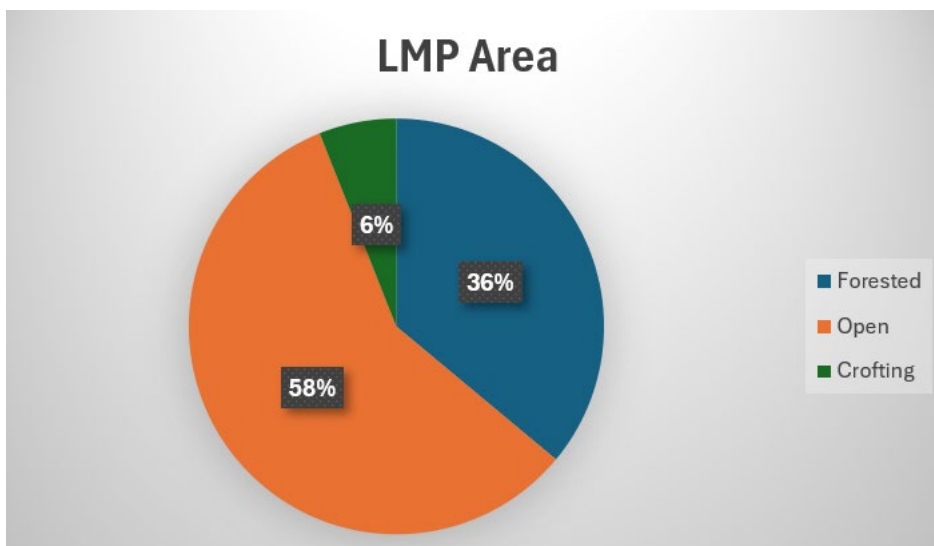
The location of private water supply abstraction points within the LMP area were ground-truthed and surveyed. These locations were updated in the FLS Forester web mapping to inform all operations on location of abstraction points, including abstraction type, protective buffers and the location of water tanks. Corresponding PWS catchments were identified and mapped on Forester web. These will be used to inform operational plans and pre-commencement documentation.

Most private water supply catchments affect the Craig Liath Crofting land, and as such are the responsibility of this Crofting Community.

## The existing forest

### Forest Land Use:

The proportion of forest land use varies between the three forest areas: Ardochy is 73% forested land use; Craig Liath is 15% forested and Glengarry is 38% forested.



Forest land use as a proportion of the whole LMP area

### Forest Rotation:

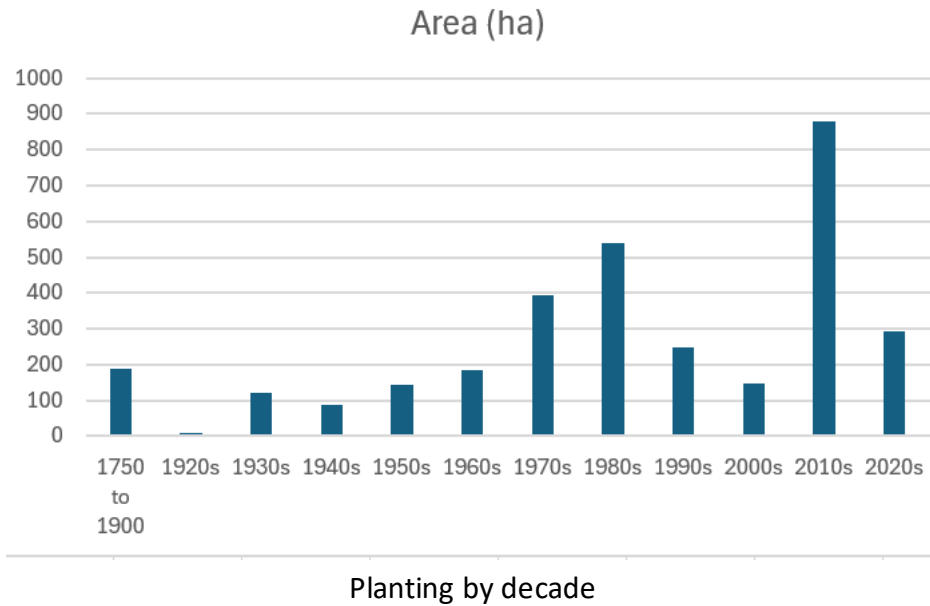
The forest rotation is defined as follows:

- First rotation (on previously open land) – 1841.49ha (53%)
- Second rotation (replanted forest areas) – 563.56ha (16%)



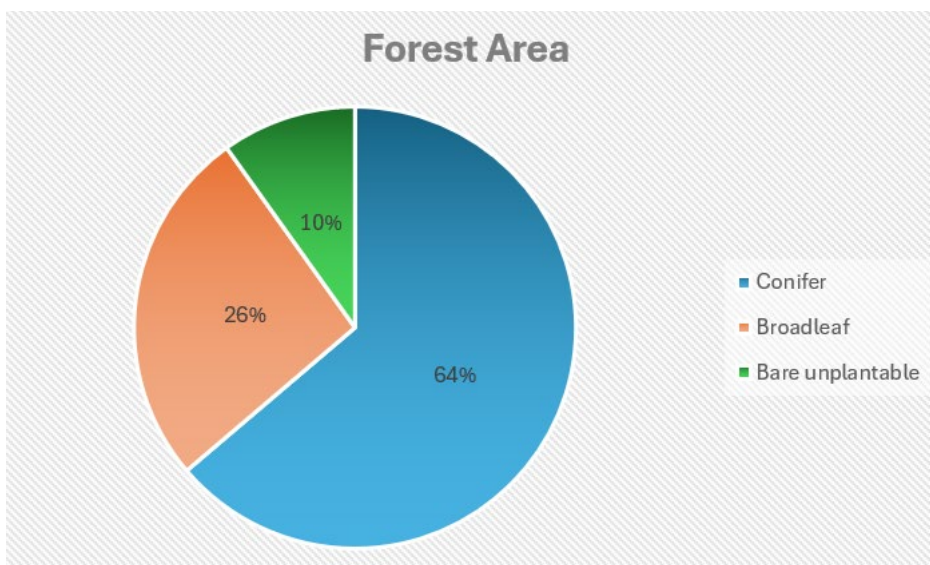
- Historically Woodland (plantations on ancient woodland sites) – 1000.15ha (29%)
- Ancient semi-natural woodland (ASNW) – 51.09ha (1%)

## Age structure:



## Forest species:

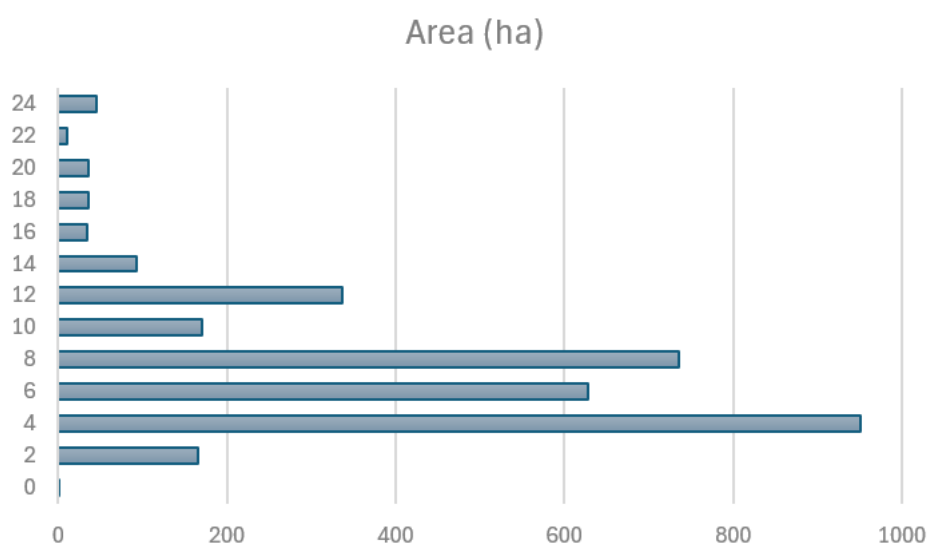
Conifer species dominates the main species type, in particular lodgepole pine and sitka spruce. Native scots pines are found in the northern areas of Glengarry Forest. Birches are the main broadleaf species which reflects the large variety of soil types and exposure found in the LMP area. The vast majority of broadleaf species can be described- as native species.



Proportion of forest land use type

## Yield class:

Yield class (YC) describes the rate of tree growth. This is dependent on species type, soil fertility and shelter. The chart below shows the YC range from 0 to 24, (where 0 is no growth and 24 is very good growth), and the hectarage of trees at a given YC. A YC of 24 signifies that in one hectare of forest 24m<sup>3</sup> of volume grows each year.



The above YC chart shows that the growth rates are generally very poor. This in part reflects the types of trees such as broadleaf species and pines which have low rates of growth. It also reflects areas where spruces are struggling on infertile soils and in areas dominated by heather. The best areas of tree growth are spruces growing in the better soils (brown earths), and sheltered areas of east Glengarry Forest and in Craig Liath Forest.

## Neighbouring Land Use

Public and private forestry and sporting estate land use lie adjacent to Glengarry Forest. Craig Liath Forest lies adjacent to crofting, agricultural land, tourism business and the urban area of Invergarry. Ardochy Forest is surrounded by private forestry and agriculture.

## Landscape

### Overview:

Most views of the LMP in the landscape are distant ones of Glengarry Forest from the A87 road to Skye. The A82 passes through the Great Glen where the open hill land of the impressive Cam Bhealach and of the mountains around Coire Glas uphill of Clunes Forest, the forest of Balmaglaister and the crofting area above the Kilfinnan road are highly visible. The main forested area of Craig Liath is too close to the A82 to be viewed in the wider landscape. It is more visible from the Great Glen Way on the east side of Loch Oich and by canal boats and kayakers on Loch Oich. Ardochy Forest lies adjacent to the A87 but is too close to see anything beyond the immediate roadside.

## Landscaping issues:

Most of the LMP forests sit quite well in the landscape, however, there are landscaping issues in the Great Glen section of the LMP.

The Balmaglaster block is unsympathetic in the landscape. It is a square block of conifer woodland surrounded by open ground. There is some native riparian woodland developing to the south of this site which may help with the restocking posts felling.

Elsewhere, there are options to improve the look of the Clunes Forest upper forest margin through mountain woodland creation on the open hills in the east side of Glengarry Forest between Coire Glas and the south side of Cam Bhealach. This will be a slow process as afforestation will be through natural regeneration enabled by effective deer management.

## 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 four Landscape Character Types and the following describes the key characteristics for each:

LCA No 235 - Broad Forested Strath (this covers most of the older forested areas of Glengarry and Ardochy and almost all of Craig Liath Forest).

- 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 237 – Rocky Moorland – Lochaber (occupies part of the forested areas of Poulary and the open ground and young planted woodland in the western part of Glengarry Forest and clips the northern part of Daingean in Ardochy Forest)

- Rugged, undulating plateaux of heather moorland with a textured and crinkled skyline and no distinct summits or peaks.
- Large patches of coniferous forestry.
- Uniform expanses of marshy grassland, sedges and rushes, rocky outcrops and stunted trees.
- Isolated, upland lochans.
- Infrastructure and engineered structures associated with hydro-electricity schemes such as pylons, dams and sub-stations.
- Closely related to Smooth Moorland Ridges with long views, but lacking the latter's distinctive smooth relief.

[LCT 237 - Rocky Moorland - Lochaber - Final pdf.pdf \(nature.scot\)](#)

LCA No 238 – Rugged Massif – Lochaber (occupies the central southern areas of Glengarry Forest which is a mix of open land and young native woodland)

- Rugged character, a crinkled skyline and a landform accentuated by rocky outcrops and glacial debris.
- Large rocky masses drawing the eye upwards to ice-scoured rounded summits.
- Often a transitional landscape with indistinct boundaries with other Landscape Character Types.
- Often in remote, unsettled and inaccessible locations which, combined with the rugged relief, accentuates the wild character of these areas.
- Thin soils supporting sparse cover of grasses and heather on higher, drier slopes.
- Birch scrub and some oak woodland on lower slopes and within burn gullies and hanging valleys.
- Extensive sheep and deer grazing with stalking and hill walking as popular activities.
- Forestry occurring over small areas on flatter, lower slopes

[LCT 238 - Rugged Massif - Lochaber - Final pdf.pdf \(nature.scot\)](#)

LCA No 239 – Interlocking Sweeping Peaks – Lochaber (occupies Meallan Odhar, Ben Tee, Coire Glas, Cam Bhealach in Glengarry Forest and clips the SW part of Craig Liath open land.).

- 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:

See Zones map

### ZONE 1 – Caledonian pinewood restoration Zone

This zone represents the priority 1 management in the ten year period of the LMP. It is confined to Glengarry Forest. Management will include establishing the felled areas and removal of non-native regeneration and invasive non-native species, in particular rhododendron.

### ZONE 2 – PAWS and native woodland Zone

This zone covers all forests within the LMP area. It covers ASNW and PAWS areas out with the Caledonian pinewood regeneration zone and includes other areas establishing as native woodland. The management here is similar to that in Zone 1 but will be treated as second priority.

### ZONE 3 – Oakwood Zone

This zone is confined to low lying areas in NE Glengarry Forest, in particular around the River Garry, in Glen Laogh and the shore area in east Bolinn. These low lying sheltered and relatively fertile areas suit oaks and are rich in Scottish rainforest bryophytes communities.

### ZONE 4 – Extended PAWS/CCF Zone

This zone is confined to the prominent east facing fertile slopes of NE Glengarry Forest. Current crops are dominated with mature Norway spruce crops. This area is prominent in the landscape which merits management to achieve an impression of continuous woodland cover. Birches, and to a lesser extent, scots pine and oaks are also present.

### ZONE 5 – Productive forestry Zone

This zone is scattered through the southern and western long established conifer areas of Glengarry Forest. These areas represent the only opportunities to manage productive woodland due to the lack of woodland designations. Species selection will be limited due to soil type and

condition within limited opportunity to plant pines due to the proximity of the CPI buffer and constraints in planting ALP within 1km of core pinewood areas. Management will concentrate on establishing felled areas (priority 1) and removal of NNR and INNS (priority 2 or 3).

## ZONE 6 – Glac Dubh open-crowned SP/juniper Zone

The Glac Dubh area is currently quite open. Native scots pine is seeding from the nearby CPI core pine areas and juniper is scattered in many places. Management will concentrate on managing herbivore impact, removal of planted LP and removal of NNR and INNS. This has potential to regenerate as an open crowned pinewood. This management will be priority 3 or 4.

## ZONE 7 – Crofting Zone

This zone is confined to Craig Liath Forest and is managed by the tenant Crofters.

## ZONE 8 – Greenfield agriculture to native woodland Zone

This zone lies in Glengarry Forest and covers the area which was tenant farmed up to 2023. There are three residential properties in vicinity of the fields. There already exists some riparian woodland around Greenfield Burn, ASNW and CPI woodland. There is an opportunity to expand these woodland habitats throughout this area via natural regeneration, excluding the peatland areas in the northern extent. This management will involve maintaining existing fences, managing deer and keeping on top of NNR and INNS at an early stage of development. This management will be priority 3 or 4.

## ZONE 9 – Allt Coire a Bhalachain new plant Zone

This zone lies in the west side of Glengarry Forest at Poulary. There is potential for woodland creation to better connect PAWS, ASNW and riparian areas, however, there is an issue of deer crossing the River Garry which would mean that fences would be required over sizeable areas. This is likely to take place out with this LMP, however, there is an urgency to create riparian woodland around the lower reaches of the Allt Coire a Bhalachain to build climate change resilience for the salmonid spawning areas. This section of the river is currently devoid of trees.

## ZONE 10 – Forest-to-bog investigation Zone

These areas are confined to Glengarry Forest and areas of forest associated with forest soils defined as presumption to restore peats. These will be peat probed to determine the extent of the required restoration. Several methods of restoration will be considered, dependent on size of area for restoration and ease of mechanised access.

## ZONE 11 – Slope stability Zone

This is confined to the Great Glen steep slopes of Craig Liath Forest. It covers the Crofting land which will be managed by the Crofters. Woodland management in Balmaglaster above the U1035 and in the main forested block above the A82 and powerline infrastructure and buildings.

Harvesting and restocking operations will be considerate to slope stability with the aim to build future slope stability resilience.

## ZONE 12– Mountain woodland/montane scrub Zone

This zone covers all the open land in the SE of Glengarry Forest. This is the location of the highest mountains and connects with the mountain woodland zone of the adjacent Clunes Forest. There will be limited interventions to active establish mountain woodland, instead this woodland expansion and montane scrub development will be achieved through effective deer management. This is a long term venture and as such is a priority 3 management.

## ZONE 13 – Visitor Zone

This zone covers the eastern extent of Glengarry Forest and much of the forested section of northern Craig Liath Forest. These are the most visited areas of the LMP by both locals and visitors to the area. Management will be limited to maintaining existing facilities with extra consideration given to harvesting and restocking operations to improve views and amenity value in proximity to trails and car parks.

## Landscape Guidelines

The visual impact of the LMP forests are considered from main viewpoints. These viewpoints include lay byes along the A82 next to Loch Lochy, from the Great Glen Way and from the A87.

Forest design principles are set out in the UK Forestry Standard 2023, section 6: 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.<br>This is of particular relevance regarding the forest boundary at Balmaglaster and the upper forest margin of the adjacent Clunes Forest which are 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.<br>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.<br>This not relevant in this LMP.   |

| Forest design principles | Importance for landscape   |
|--------------------------|--|
| Scale                    | <p>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.</p> <p>Viewpoints have been identified at popular lay byes along the A82 at Loch Lochy and from the A87 which provide intermediate and long distance views of Glengarry Forest. Views from the Great Glen Way are also considered. The design of the management coupes and future restocking will be assessed using these viewpoints.</p>   |
| Diversity                | <p>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.</p> <p>Native woodland restoration will be prominent 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. Productive forestry is also an important aspect of woodland management in Glengarry Forest. Here productive species will be nursed by other species which will add some diversity for much of the rotation. This diversity in productive areas will be bolstered with riparian woodland creation post harvesting.</p> |
| Unity                    | <p>Unity is achieved when forests or woodlands integrate well with other features and look as though they belong in the landscape. Unity also applies to the integration of the various elements within a forest design.</p> <p>Same comment as per “Diversity” above.</p>   |
| Spirit of place          | <p>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.</p> <p>This is particularly relevant to the Wild Land Areas designation within the LMP, as well as the area around Loch Garry, Allt Ladaidh, Greenfield Burn, Allt Garry Gualach, Allt na Cailliche and Allt Coire a Bhalachain; the Caledonian pinewood zone, the SSSI &amp; ASNW around the River Garry; Claon Leitir at Poulary; Cam Bhealach, Coire Glas and Ben Tee.</p>   |

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 Ladaidh, 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 Landscape Designations map)



## 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 Glengarry Forest taking in the western catchment of the mountains around Coire Glas to the western boundary at Poulary: taking in the open land and young woodland creation sites.

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. Glengarry. 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.

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

## 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”.

The Great Glen face of Craig Liath Forest and the Cam Bhealach, Coire Glas and Fhudair areas of Glengarry Forest lie within the Loch Lochy and Loch Oich Special Landscape Area (SLA).

The SLA special qualities with relevance to the Glengarry 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 (Glengarry and Craig Liath Forests)
- 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/Glengarry Forest), distinctive mountain-top views (Glengarry Forest, Sean Mheall, Meall nan Dearcaig and Meall Dubh)

- Intimate drama
  - Cam Bhealach hanging valley (Glengarry Forest but commences in Clunes Forest)

The SLA's "Sensitivity to change" factors which are relevant to this LMP are:

- The glen slopes are highly sensitive to the introduced elements upon the slopes, even small scale elements such as footpaths and forest tracks. This is partly because they are highly prominent when seen contrasting in line, colour or form against the simple land backcloth.
- The area is sensitive to significant changes in the certain land cover types: e.g. an increase in improved pasture or conifer forestry cover as this may change the distinctive pattern and mix of land uses upon the glen slopes and affect the sense of wildness looking away from the loch/glen floor.

## Environmental designations

(see SPA & SSSI Designations map)

### Special Protection Area (SPA):

The West Inverness-shire Lochs SPA (UK9020298) covers several lochs. Within the LMP area it affects Loch Poulary and Loch Garry which includes habitats within 10m of their shorelines.

The qualifying species are:

- Black-throated diver (*Gavia arctica*) – European importance of the Annex I species
  - Condition – Favourable Maintained (2010)
- Common scoter (*Melanitta nigra*) – European importance of the migratory species
  - Condition – Unfavourable Declining (2018) due to natural event and water management

The Conservation Objectives for this SPA as stated by NatureScot are:

- To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.
- To ensure the qualifying species that the following are maintained in the long term:
  - Population of the species as a viable component of the site.
  - Distribution of the species within the site.
  - Distribution and extent of habitats supporting the species.
  - Structure, function and supporting processes of habitats supporting the species.
  - No significant disturbance of the species.

## Special Site of Scientific Interest (SSSI):

### West Inverness-shire Lochs SSSI (Site code: 9189)

This designation covers exactly the same area and qualifying species as the above SPA. NatureScot describe the lochs as “being characterised by deep acidic water with emergent vegetation. The adjacent grass and heathland habitats provide nesting and brood-rearing areas for both black-throated divers and common scoter. The SSSI area supports nationally important numbers of breeding black-throated divers and common scoter”.

The NatureScot Objectives for management includes the following:

- To maintain the populations of breeding black-throated diver and common scoters by avoiding significant disturbance.
- To maintain, and if possible improve, diver chick productivity.
- To maintain the existing extent of wetland habitats in a favourable condition by ensuring that current water levels and regulatory regimes are maintained.
- To maintain an adequate food supply for black-throated divers by avoiding nutrient run-off and pollution from the loch catchments.

### Garry Falls (Site Code: 675)

Natural features of the SSSI:

- Upland mixed ashwood (Condition – Favourable declining (2015) due to non-natives).
- Bryophyte assemblage (Condition – Unfavourable declining (2015) due to non-natives).

NatureScot describe this site as an ancient semi-natural woodland with near vertical cliffs with lower slopes strewn with boulder scree. The woodland is of upland mixed ashwood species: typically ash, wych elm, rowan, hazel, downy birch and the odd bird cherry. It is fringed uphill by scots pine. Ground flora includes: a variety of ferns, with woodruff, enchanter’s nightshade and wood speedwell. This reflects a localised area of base rich Moine Schist.

The lower plant communities are of particular Scottish rainforest interest some of which are in a more easterly location than is usual. These rich communities of mosses, liverworts and lichen are established on all surfaces including rocks, boulders, trees and deadwood. This includes two nationally scarce species.

NatureScot have also identified rhododendron and non-native conifers negatively impacting the woodland and bryophyte feature. They noted an effort to manage rhododendron in 2008 as being helpful to improve the condition this site.

NatureScot’s Objectives for Management are:

- To fully restore the native broadleaf woodland to favourable condition by:
  - Ensuring no re-colonisation and regeneration of invasive non-native plants, especially rhododendron and taking appropriate action to remove any existing growth.

- Exercising caution in use of chemicals involved in rhododendron control.
- To fully restore the bryophyte assemblage to favourable condition by:
  - Ensuring that rhododendron does not re-colonise or regenerate and taking appropriate action to remove existing growth.
  - Safeguarding against modification of the tree canopy to retain existing light and moisture levels.

## Archaeology:

### Scheduled monuments:

There are no scheduled monuments within the LMP area. However, there is a cairn at Tom a Bhodaich in Glengarry Forest that has been determined as being of National Importance. It does not appear on the Historic Environment of Scotland’s National Record of the Historic Environment.

### Listed buildings/structures:

There are three listed building/structures:

- The Crucked Framed Barn at Greenfields (LB50834)
- The Falls of Garry suspension footbridge (LB6828) at the hydro dam at the mouth of Loch Garry
- The Invergarry Bridge suspension footbridge (LB6827) over the River Garry at Invergarry.

### Battlefield:

The 1544 Blar na Léine Battlefield zone lies within the SW section of Craig Liath Forest, mostly affecting crofting land as well as the forested area at Balmaglaster and the felled/awaiting restock area uphill of the housing estate at the entrance to the Kilfinnan road off the A82.

### Unscheduled monuments:

These unscheduled features are categorised according to importance as defined in the FLS Archaeology and the Historic Environment practice guide which ensures adherence to the UK Forestry Standard 2023, section 5: Forests and Historic Environment. The table below sets out this level of importance.

| Categories of Importance  | Action required  | Relevance to the LMP   |
|---|--|--|
| Regional Importance:<br>Including all prehistoric archaeological features and once-roofed pre-20th century ] be expected to survive. Sites of regional importance include their associated immediate historic landscape. Some sites categorised as of | Where appropriate, mark out and protect. Where appropriate, undertake conservation management works. | These include farmsteads and small townships at Fedden, Ladaidh, Poulary, Poulary Deerpark, Greenfields in Glengarry Forest; Daingean in Ardochy Forest and Balmaglaster and Allt an Oighre in Craig Liath Forest. |

| Categories of Importance   | Action required  | Relevance to the LMP  |
|--|--|---|
| regional importance may warrant future scheduling. Consideration should also be given to elements of 20th century historical significance (i.e. WWII defences and pill boxes, and unusual monuments of industry).  |  | It includes the monuments and platforms at Tobar an Ceann in Craig Liath Forest; cairns at Allt na Cailliche, a culvert at Allt Dubh Uisge in Glengarry Forest.<br><br>There are 31 structures of “Regional Importance” in this LMP area.   |
| Local Importance:<br>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. Heritage features 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). | This applies to enclosures, field systems, tracks, clearance cairns, shieling huts and tracks located in Glengarry, Greenfields, Ladaidh, South Ardochy, Fhudair, Allt Dubh, Tom a Bhodaich: and at Balmaglaster and Tobar na Ceann in Craig Liath Forest.<br><br>There are 22 heritage features of “Local Importance” in this LMP area |
| Uncategorised:<br>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 findspots such as the Pouлары Deerpark flint and Coire Bo Chailein shield. It also applies to the bloomery and crannog at Greenfields and the hut circle and structures in the Crofting land in Craig Liath Forest.<br><br>There are 21 structures of “Uncategorised Importance” in this LMP area.                      |

Farming structures dominate the heritage environment within the LMP area. Farmhouses and enclosures are located in the most sheltered and fertile areas, notably around Loch Garry at Allt Ladaidh and Greenfields. They are also located at prominent/vantage viewpoints along the Great Glen in the crofting land at Craig Liath.

Transhumance farming is evidenced with shielings in proximity to the ScotWays Drover's route through Fhudair pass. The Drover's Stance at Fedden (Fhudair mountain pass), represents a location for replenishment for cattle and Drover's enroute from the West Highlands and Islands to lowland fairs.

Townships are located at Daingean (Ardoch Forest) and adjacent to Loch Garry at Allt Ladaidh in Glengarry Forest. Other evidence of settlements include a possible crannog at Greenfields and a possible broch on a vantage point over the Great Glen on the Crofting land in Craig Liath.

Woodland land use includes woodland pasture farming around Allt Ladaidh (PAWS and pinewoods) and Gleann Laogh (PAWS); timber harvesting - wood mill at Allt Ladaidh (pinewoods & PAWS), Forest Gate, timber harvesting pits at Tom a Bhodaich; a bloomery at Greenfields (PAWS and pinewoods) and charcoal platforms in Craig Liath Forest (PAWS).

Industrial heritage includes: possible location of the Invergarry ironworks at Mandally, Craig Liath Forest and gravel extraction at Tom a Bhodaich.

### ScotWays tracks:

There are three historical routes affecting the LMP area, specifically Glengarry Forest:

- HL0021 – from Kingie to Mandally via Greenfields.
- HL0022 – from Loch Garry to Achnacarry via Greenfields and Fedden (Drover's stance)
  - Drover's road and Hill Access Track: 238.
- HL0024 – Fedden to Loch Lochy via Cam Bhealach. It joins HL0025 to Kilfinnan church and cemetery.
  - Hill Access Track: 240

### Cultural heritage:

(see Appendix IV: Gaelic placenames )

The Gaelic language provides a beautiful description of the local landscape. It can provide a clue to previous wooded habitats, areas known for specific species, historical events and former land use in Glengarry, Craig Liath and Ardoch Forests which is demonstrated below:

- Meall Doir an Daimh – rounded hill of the oak grove of the stag
- Ba nan Laogh – the calf's hollow
- Bolinn – hill of the cow's pool
- Torr na Ceardaich – Hill of the forge
- Allt Fhithich – burn of the raven
- Balmaglaister – MacGlaister's township
- Coille Daingean – wood of the stronghold.

Gaelic Language Plan link:

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

## Open Habitat Designations

There are a wide range of open habitats within the LMP area, the most important of which are the open priority habitats. Surveys have also identified localised important habitat types.

### Open Priority Habitats:

The table below identifies the main types of open priority habitat .

| Open Priority Habitat                | Area (ha) | % of the LMP open priority habitats | Main location in the LMP area  |
|--------------------------------------|-----------|-------------------------------------|--|
| Blanket Bog                          | 2707.32   | 35                                  | Craig Liath Crofting land which continues into Glengarry Forest around the base of Ben Tee, Fhudair pass and much of the SW part of Glengarry Forest.  |
| Inland Rock Outcrops & Scree Habitat | 184.55    | 2.5                                 | Glengarry Forest – Ben Tee   |
| Montane Heath                        | 713.56    | 9.5                                 | Glengarry Forest on Sron a Choire Gharbh, Meall a Choire Ghlais, Sean Mheall, Meall nan Dearcaig, Carn Dubh, Meall Tarsuinn, Geal Charn, Meall Coire nan Saobhaidh, Meall na h-Eilde, Sgurr Choinnich and Meall an Tagraidh. |
| Upland Calcareous Grassland          | 18.6      | 0.25                                | Glengarry Forest – Sgurr Choinnich and the southern slope of Sron a Choire Gharbh.   |
| Upland Flush, Fen, Swamp             | 8.48      | 1                                   | Ardochy Forest – around the township, Glengarry Forest around the lower reaches of the Allt Choire a Bhalachain and in Greenwood and Bolinn.   |
| Upland Heathland                     | 3855.77   | 50                                  | Craig Liath Forest – the plateau area of the Crofting land which is not blanket bog. In Glengarry Forest it lies on the slopes of the mountains and hills.   |
| Oligotrophic or Dystrophic Loch      | 109.82    | 1.5                                 | Concentrated on Loch Garry, Lochan an Stac in Poulary,   |

| Open Priority Habitat     | Area (ha) | % of the LMP open priority habitats | Main location in the LMP area  |
|---------------------------|-----------|-------------------------------------|--|
|                           |           |                                     | Lochan Fhudair, Lochan Diota and Lochan na Beinne Brice near Ben Tee and Loch a Choire Ghlais. |
| Rivers                    | 18.38     | 0.25                                |  |
| Unassigned Standing Water | 2.41      | 0                                   |  |
| Total                     | 7695.89   | 100                                 |  |

Within the above open priority habitats the following National Vegetation Classifications (NVCs) can be found:

| Habitat type                              | NVC No                      | NVC description  |
|---|-----------------------------|--|
| Calcicolous grassland                     | CG10a                       | Festuca ovina-Agrostis capillaris-Thymus praecox grassland, Trifolium repens-Luzula campestris sub-community   |
| Calcicolous grassland                     | CG11                        | Festuca ovina-Agrostis capillaris-Alchemilla alpina grass-heath  |
| Heath                                     | H10<br>H10a<br>H10b<br>H10c | Calluna vulgaris-Erica cinerea heath, typical sub-community<br>Calluna vulgaris-Erica cinerea heath, typical sub-community<br>Calluna vulgaris-Erica cinerea heath, Festuca ovina-Anthoxanthum odoratum sub-community  |
| Heath (International significance)        | H12<br>H12a<br>H12b<br>H12c | Calluna vulgaris-Vaccinium myrtillus heath<br>Calluna vulgaris-Vaccinium myrtillus heath, Calluna vulgaris sub-community<br>Calluna vulgaris-Vaccinium myrtillus heath, Vaccinium vitis-idaea-Cladonia impexa sub-community<br>Calluna vulgaris-Vaccinium myrtillus heath, Galium saxatile-Festuca ovina sub-community |
| Heath (Internationally important element) | H13                         | Calluna vulgaris-Cladonia arbuscula heath  |



| Habitat type  | NVC No                      | NVC description  |
|---|-----------------------------|--|
| of the British uplands)   |                             |  |
| Heath<br>(Very rare globally)   | H14<br>H14b                 | Calluna vulgaris-Racomitrium lanuginosum heath<br>Calluna vulgaris-Racomitrium lanuginosum heath,<br>Empetrum nigrum ssp. hermaphroditum sub-community   |
| Heath<br>(snow-beds)  | H18                         | Vaccinium myrtillus-Deschampsia flexuosa heath   |
| Heath<br>(part of a series of internationally important oceanic heaths) | H20<br>H20b<br>H20c<br>H20d | Vaccinium myrtillus-Racomitrium lanuginosum heath,<br>Cetraria islandica sub-community<br>Vaccinium myrtillus-Racomitrium lanuginosum heath,<br>Bazzania tricrenata-Mylia taylori sub-community<br>Vaccinium myrtillus-Racomitrium lanuginosum heath,<br>Rhytidiadelphus loreus-Hylocomium splendens sub-community |
| Heath   | H21<br>H21a                 | Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium heath, Calluna vulgaris-Pteridium aquilinum sub-community  |
| Heath   | H22                         | Vaccinium myrtillus-Rubus chamaemorus heath  |
| Mire<br>Bog pool community  | M1                          | Sphagnum auriculatum bog pool community  |
| Mire<br>Bog pool community  | M3                          | Eriophorum angustifolium bog pool community  |
| Mire  | M6<br>M6b<br>M6c<br>M6d     | Carex echinata-Sphagnum recurvum/auriculatum mire,<br>Carex nigra-Nardus stricta sub-community<br>Carex echinata-Sphagnum recurvum/auriculatum mire,<br>Juncus effusus sub-community<br>Carex echinata-Sphagnum recurvum/auriculatum mire,<br>Juncus acutiflorus sub-community                                     |
| Mesotrophic grassland   | MG6                         | Lolium perenne-Cynosurus cristatus grassland   |
| Mire  | M10<br>M10a                 | Carex dioica-Pinguicula vulgaris mire<br>Carex dioica-Pinguicula vulgaris mire, Carex demissa-<br>Juncus bulbosus/kochii sub-community   |

| Habitat type         | NVC No                              | NVC description   |
|----------------------|-------------------------------------|---|
| Mire                 | M11<br>M11a                         | Carex demissa-Saxifraga aizoides mire<br>Carex demissa-Saxifraga aizoides mire, Thalictrum alpinum-Juncus triglumis sub-community   |
| Mire                 | M12                                 | Carex saxatilis mire  |
| Mire<br>Wet heath    | M15<br>M15a<br>M15b<br>M15c<br>M15d | Scirpus cespitosus-Erica tetralix wet heath<br>Scirpus cespitosus-Erica tetralix wet heath, Carex panicea sub-community<br>Scirpus cespitosus-Erica tetralix wet heath, typical sub-community<br>Scirpus cespitosus-Erica tetralix wet heath, Cladonia spp. sub-community<br>Scirpus cespitosus-Erica tetralix wet heath, Vaccinium myrtillus sub-community |
| Mire<br>Wet heath    | M16<br>M16<br>M16c                  | Erica tetralix-Sphagnum compactum wet heath, Succisa pratensis-Carex panicea sub-community<br>Erica tetralix-Sphagnum compactum wet heath, Succisa pratensis-Carex panicea sub-community  |
| Mire<br>Blanket mire | M17<br>M17a<br>M17b<br>M17c         | Scirpus cespitosus-Eriophorum vaginatum blanket mire, Drosera rotundifolia-Sphagnum spp. sub-community<br>Scirpus cespitosus-Eriophorum vaginatum blanket mire, Cladonia spp. sub-community<br>Scirpus cespitosus-Eriophorum vaginatum blanket mire, Juncus squarrosus-Rhytidiadelphus loreus sub-community   |
| Mire<br>Blanket mire | M19<br>M19a<br>M19b                 | Calluna vulgaris-Eriophorum vaginatum blanket mire, Erica tetralix sub-community<br>Calluna vulgaris-Eriophorum vaginatum blanket mire, Empetrum nigrum ssp. nigrum sub-community   |
| Mire                 | M25<br>M25a<br>M25b                 | Molinia caerulea-Potentilla erecta mire, Erica tetralix sub-community<br>Molinia caerulea-Potentilla erecta mire, Anthoxanthum odoratum sub-community   |

| Habitat type  | NVC No                              | NVC description  |
|---|-------------------------------------|--|
| Mire<br>Spring  | M32                                 | Philonotis fontana-Saxifraga stellaris spring  |
| Calcifuge grasslands<br>& montane<br>communities<br>Grass-heath<br>(snow-beds)                    | U7<br>U7a<br><br>U7b<br><br>U7c     | Nardus stricta-Carex bigelowii grass-heath<br>Nardus stricta-Carex bigelowii grass-heath, Empetrum<br>nigrum ssp. hermaphroditum-Cetraria islandica sub-<br>community<br>Nardus stricta-Carex bigelowii grass-heath, typical sub-<br>community<br>Nardus stricta-Carex bigelowii grass-heath, Alchemilla<br>alpina-Festuca ovina sub-community |
| Calcifuge grasslands<br>& montane<br>communities<br>Moss-heath<br>(International<br>significance) | U10<br>U10a<br><br>U10b<br><br>U10c | Carex bigelowii-Racomitrium lanuginosum moss-heath<br>Carex bigelowii-Racomitrium lanuginosum moss-heath,<br>Galium saxatile sub-community<br>Carex bigelowii-Racomitrium lanuginosum moss-heath,<br>typical sub-community<br>Carex bigelowii-Racomitrium lanuginosum moss-heath,<br>Silene acaulis sub-community                              |
| Calcifuge grasslands<br>& montane<br>communities<br>(Montane)                                     | U13<br>U13a                         | Deschampsia cespitosa-Galium saxatile grassland,<br>Anthoxanthum odoratum-Alchemilla alpina sub-<br>community  |
| Calcifuge grasslands<br>& montane<br>communities<br>Tall herb community                           | U16                                 | Luzula sylvatica-Vaccinium myrtillus tall-herb community   |

### Important Habitats:

Localised areas of important habitats include:

M1 & M2 - Bog pool communities; S9 – Carex rostrata swamp; M11 - Carex demissa-Saxifraga aizoides mire; M32 - Philonotis fontana-Saxifraga stellaris spring; and M38 - Cratoneuron commutatum-Carex nigra spring.

### Species

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

- Raptors: such as buzzard, raven, merlin, white-tailed eagle, golden eagle, peregrine falcon and osprey.
- Other birds: such as black-throated diver, common scoter, greenshank, Eurasian teal, whooper swan, common goldeneye, black-legged Sympetrum, red-breasted merganser,

common sandpiper, wood sandpiper, common grasshopper warbler, common crossbill, crested tit and black grouse. A black grouse core area designation covers most of the LMP area

- Mammals: such as water voles, badger, red squirrel, otter and pine marten
- Fish: salmon and brown trout.
- Insects: such as small pearl-bordered fritillary, pearl-bordered fritillary, green hairstreak and the notable assemblages of dragonflies and damselflies.
- Plants: notable bryophyte and lichen assemblages, dwarf birch, montane willow scrub, juniper, intermediate wintergreen, chickweed wintergreen, cloudberry and lesser twayblade.

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:

## Woodland Designations

### Caledonian pinewood:

The Caledonian Pinewood Inventory (CPI) has identified just over 254ha of core pine areas in the northern part of Glengarry Forest. The areas represent the remnants of the ancient Caledonian pinewood that was once widespread in much of the Highlands. Here in Glengarry Forest there are 22 distinct core pine areas spread across 13km from Forest Gate in the east to Poullary Deerpark in the west, however, they are clustered in a higher density in the Bolinn and Ladaidh (Laddie) areas in the central and eastern areas. These have pretty much been captured on the Native Woodland of Scotland Surveys (NWSS).

The CPI defines a 100m regeneration zone around the core pine areas. Here it is expected that natural regeneration of native pines will occur. This regeneration zone in combination with the core pine areas occupies over 1197ha. This is the extent where FLS expect to eventually restore native pinewood habitat and is comparable in size to the landscape scale restoration of native pinewoods in the neighbouring Arkaig catchment. It is therefore, an important native pinewood area in the northern extent of the native pine seed zone 6 -SW in terms of its restoration; and the future resilience of pinewoods in this area in terms of the potential for improved ecological connectivity between pinewoods and other types of native woodland.

The restoration efforts are already underway with some areas, in particular the east side of the pinewood extent are regenerating, albeit with some non-native species existing as a minor component at present. Full restoration will take many decades to achieve. Threats to the core pine areas and the CPI regeneration zone include: invasive non-native species such as rhododendron, non-native tree species as well as high herbivore impact. CPI areas around Allt

Ladaidh, and to a lesser extent around Allt Garaidh Gualach, have been impacted by hydro development and associated infrastructure such as the water pipelines and their wayleaves.

### Ancient semi-natural woodland (ASNW):

Ancient semi-natural woodland remnants cover around 350ha of forested land in Glengarry Forest and the Crofting Land of Craig Liath Forest. They are quite diverse, comprising of (W18) native pinewood (some of the CPI core areas mentioned above), (W17) oak woodland, and (W4, W11 & W17)) birch woodland. Some of these include small areas of bog woodland and (W7) wet woodland habitat. Not all of these remnants have been identified in the Native Woodland of Scotland Surveys (NWSS).

A few of the ASNW remnants are contiguous and as such create larger core areas in some cases over 60ha in size, but in general they tend to be concentrated either side of Allt Garaidh Gualach and around the River Garry in Glengarry Forest, and in the Mandally Crofting Land in Craig Liath Forest. Some small remnants sit isolated from other native woodland habitats such as at Allt Coire an Eich, the north facing slope of Cam Bhealach and at Doire na h-Achlaise on Ben Tee. Some of these ASNW remnants are hosts for woodland flora habitat, deadwood, veteran trees and bryophyte and lichen assemblages.

Some of these areas are struggling to regenerate. Threats to these woodlands include: invasive non-native species such as rhododendron, overshadowing and competition from non-native tree species as well as high herbivore impact.

It should be noted that there is a further 16ha of non-ASNW habitat that has veteran trees.

### Plantation on ancient woodland sites (PAWS):

FLS have identified 1318ha of PAWS in the LMP area with the main areas found in the following areas:

- Ardoch Forest – in the eastern and central areas.
- Craig Liath Forest – the main forested block.
- Glengarry Forest – around Forest Gate, Bolinn, Laddie and Greenfields where it mostly coincides with the CPI regeneration and core pine areas. In the west there are isolated PAWS areas in Poulary, Poulary Deerpark and Doir an Daimh.

The Native Woodland of Scotland Surveys (NWSS) information identifies further PAWS areas in Glengarry Forest in Poulary Deerpark south and the northern slopes of Leac Ladaidh.

The ecological potential of the PAWS areas is as follows:

- High – 850ha (65% of total the PAWS)
- Medium – 426ha (32% of the total PAWS)
- Low – 42ha (3% of the total PAWS), in Poulary Deerpark, Greenwood and River Garry in Glengarry Forest, and at north Daingean in Ardoch Forest.

The current status of the PAWS areas is as follows:

| Current status No | Current Status | Area (ha) | % of PAWS areas |
|-------------------|----------------|-----------|-----------------|
| 1                 | Not Started    | 254       | 19.5%           |

| Current status No | Current Status               | Area (ha) | % of PAWS areas |
|-------------------|------------------------------|-----------|-----------------|
| 2                 | Securing Remnants            | 176       | 13%             |
| 4                 | Establishing native woodland | 226       | 17%             |
| 5                 | Native woodland established  | 583       | 44.5%           |
|                   | Unknown                      | 79        | 6%              |

FLS is committed to restoring 85% of the PAWS forests in its ownership. Restoration has commenced, in particular in Ardochy Forest and in the CPI regeneration zones in Glengarry Forest. As mentioned above 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.

## Other woodland habitats:

### Montane scrub:

Glengarry Forest has montane zones in the mountains around Coire Glas, on Ben Tee and the high mountains along the southern boundary. There is little formal information on montane scrub species, however, there are records and observations of dwarf birch, dark-leaved willow and prostrate juniper. These are found at relatively low elevations.

### Deadwood:

The forested areas of the LMP have been assessed for deadwood ecological potential. They have been categorised as follows:

- High:
  - ASNW, CPI core area, riparian areas and some CPI regeneration and PAWS areas.
- Medium:
  - Remaining PAWS and CPI regeneration zone areas.
- Low:
  - Commercial conifer plantation areas.

It should be noted that not all forested areas have been captured in the above categories.

### Riparian zones:

Riparian areas are important areas for biodiversity. Some riparian areas within the LMP area are in good condition offering the dappled shade required for healthy water habitats as well as the humidity levels to support bryophytes associated with Scottish Rainforest habitats as observed around the River Garry and Allt Ladaidh.

Mature conifer plantation (and in localised areas beech), do negatively impact riparian areas causing too much shade; potential slope stability issues through lack of trees with a mosaic of rooting habitats to bind soil, and a lack of light for water habitat and ground flora. This can be observed in Craig Liath Forest and along the lower reaches of the Allt na Cailliche in Glengarry Forest.

## Forest Research:

### Experiment sites:

Forest Research have five active experiment sites in Glengarry Forest. Two are biosoil plots which do not require special management or avoidance by FLS. Two are Caledonian pinewood regeneration long-term monitoring plots which will be retained indefinitely. FLS management will avoid these experiment areas. The final experiment is a seed trial, in particular for direct sowing of pine seed. This will inform options to bolster the regeneration of the Caledonian pinewood in Glengarry Forest.

### Forest reproductive material sites (seed stands):

There are two official registered seed stands in Glengarry Forest:

- Bolinn oakwood adjacent to Loch Garry (13.91ha) – qroSTN105-01SI
  - This comprises of 20% sessile oak established around 1900 with the remaining ground felled in 2008 and naturally regenerating as native woodland. Non-native regeneration and rhododendron are also developing with operational plans in place to restore native woodland habitat.
- Glen Laogh oakwood in the Forest Gate area of Glengarry Forest (4.06ha) – qpeSTN105-02SI
  - This comprises of 25% sessile oak established around 1850 with 75% birch established in 1988.
  - Some of this birch is impacting on the crowns of the oaks. Non-native regeneration is developing in much of the seed stand, some of it young but pole stage and mature sitka spruce is severely impacting the oaks in the southern and northern section of the stand.

## Plant Health:

There are a range of pests, disease and invasive species which threaten the forests and woodlands within 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 and open priority habitats. The species below exist in the LMP area and also exist in the wider landscape.

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. Efforts to control rhododendron has taken place in the past, notably in Craig Liath Forest and the Garry Falls SSSI in Glengarry Forest, however follow-up treatment is required.

## Gaultheria shalon:

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 along a path and a forest road layby in the east side of Glengarry Forest. However, there is a sizable areas in the northern part of Craig Liath Forest where it is establishing along the sides of the forest road and becoming the dominant ground flora in a stand of birch.

## 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. Lodgepole pine (LP) is particularly troublesome due to its proximity to the Glengarry CPI areas and the potential for it to host Dothistroma infection. The soils in Glengarry suit pines and as such suits LP as a non-native invasive species.

Sitka spruce is also good at invading a wide range of habitats and soils. As well as being problematic at being invasive in native woodland habitats, it is also problematic for open priority habitats, such as the River Garry ASNW, the CPI areas and open priority habitats Craig Liath Forest and in Glengarry Forest at Cam Bhealach, Garry Gualach and around Coire Glas.

Western hemlock is problematic with its ability to tolerate deep shade.

Beech is also problematic to native woodlands and affects PAWS designations and Ancient semi-natural woodland areas in Craig Liath Forest and east Glengarry Forest.

## Tree Diseases:

### 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 within 1km of the Caledonian Pinewood Inventory (CPI), regeneration zone .

DNB has been found at a Block level in all three Forests. Pine condition scores are moderate to quite high in lodgepole pine crops in the central part of Glengarry Forest, some of these lie in proximity to CPI core areas and all lie upwind of CPI areas.

### 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 Glengarry LMP area lies within the Priority Action Zone (PAZ), where actions will have the greatest impact on controlling its spread. According to Scottish Forestry, the purpose of the PAZ is “to eradicate local infections by felling affected trees rapidly after detection”.

The FLS Larch Strategy 2022 identifies that Glengarry LMP lies within the PAZ “more vulnerable zone”. This means that FLS will:

- Remove at least 20% of the larch by April 2027 (against an April 2021 baseline and focusing on the areas closest to the boundary of the Risk Reduction Zone)
- Fell the “difficult and complex larch coupes” by April 2032 (starting with those most at risk to disease and maintaining a balanced annual programme)
- Construct access to at least 80% of all mature larch by April 2027.

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 64ha of Larch in this LMP, the majority of which are located in the central parts of Glengarry Forest. Some stands were planted as far back as 1930 with the most recent planted in 2003. Generally the Larch has been planted as a pure crop, sometimes as a border around other conifer crops such as at Greenfields in Glengarry Forest and on a steep highly visible site at Balmaglaster in Craig Liath 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 introducing the disease to existing juniper stands from infected nurseries. Juniper naturally exists sporadically but widespread in Glengarry Forest, notably in the east on rankers and in the CPI core pine areas as well as localised in Craig Liath Forest.

## 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”.

Ash is rarely found in the LMP area due to the acidic bedrock, however, there is a localised highly important area of upland mixed ashwood which is one of the features of the Garry Falls SSSI. Dieback of ash is apparent in this designation.

## Mammals:

### Deer:

The findings of the FLS ASNW and PAWS surveys, 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.

It should be noted that there has been excessive impact by cattle browsing in the past where there were official Forest Research experiments for natural regeneration via managed grazing regimes. The damage by cattle probably occurred post experiment stage.

### Feral pigs:

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:

Formal recreation facilities are advertised on the FLS website and those found within the LMP area include the following:

Craig Liath Forest:

- Loch Oich Forest Car Park which is accessed from the A82.

Glengarry Forest:

- Ciste Dubh car park . This is well used, especially when the Dam’s sluice gates open on a Thursday allowing kayakers to take advantage of the white water conditions.
- Ciste Dubh trail – 2km which includes travelling through riparian woodland around the River Garry.
- Allt na Cailliche trail – 4.8km taking in the River Garry and Allt na Cailliche including a stunning waterfall.

Both trails commence and end at the forest car park. Locals often access the Allt na Cailliche trail from the minor public road at Mandally.

## Informal recreation:

The informal recreation which will revert to SOAC access includes the following:

Ardochy Forest:

- Daingean Forest car park. There is evidence of overnight stays, litter and campfire which is against management objectives.
- Daingean township trails – 0.57km leading from the forest car park to the ruins of the Daingean township.

Glengarry Forest:

- Glac Dubh trail – 1.63km – from the Torr an Eas CPI core area in the north through open land with juniper scrub and views to the west over parts of Glengarry Forest and glimpses of Loch Garry, to the Glac Dubh CPI core areas in the south.
- Ben Tee hill access route – 5km one way. This enables access to the top of this iconic mountain via the forest car park and Allt na Cailliche trail.
- Core paths which link Invergarry and Mandally with the River Garry pass through the forest road (LO11.09), and riparian woodland (LO11.01), at the Faichem block next to the A87. It also includes the GG1 forest road from the Ciste Dubh car park to Tom a' Bhodaich (LO11.08).
- Clunes hill access route – 5.69km one way. This enable access from the north and leads from an ATV track off forest road GG12 to the ascent path to Sron a Choire Gharbh.
- Clunes hill access route – 3.86km one way. This enables access from the east leading from Clunes Forest up into the Cam Bhealach which then zig-zags up Sron a Choire Gharbh in Glengarry Forest.
- Caig hill access route – 3.81km one way which leads from Loch Arkaig to the south. The northern part of this trail lies in Glengarry Forest ending at the Fedden Drover's Stance at Fhudair.

There are some old rights of way and include the three ScotWays tracks:

- HL0021 – Poulary to Mandally via Greenfields
- HL0022 – Tomdoun to Achnacarry via Greenfields and Fhudair and the old Fedden Drover's Stance. This is also defined as a Heritage Path – Drover's Road and Scottish Hill Track 238.
- HL0024 – Fedden/Fhudair to Loch Lochy. This is also Scottish Hill Track 240.

Scottish Hill Track No 247 passes through the western extent of Poulary enroute from Tomdoun to Strahan at the head of Loch Arkaig.

## Long distance routes:

The Great Glen Way (GGW), stretches from Fort William in the SW through the Great Glen to Inverness in the NE. It is the second most popular long distance route in Scotland. The main route between Laggan Locks follows the east side of Loch Oich, however, there is an alternative route called the Invergarry link which follows the forest road in Craig Liath Forest to enable walkers and cyclists to use facilities in Invergarry. This route through the forest is also core path/cycle track (LO11.04).

This GW link is used as an official diversion route when management operations on the east side of Loch Oich impact public access.

### Community:

The main community is the village of Invergarry. There are small communities at Kilfinnan, Tomdoun and Ardochy.

### Visitors:

Locals and tourists visit this area to enjoy forest walks and to see the River Garry and the waterfall on the Allt na Cailliche. The greatest numbers of visitors are those in Craig Liath Forest walking or cycling the Great Glen Way. The car park at Loch Oich provides a welcome stop with great views across Loch Oich for those travelling on the A82.

Kayakers enjoy paddling on Loch Garry, but in particular enjoy river kayaking on the River Garry. A few enjoy mountain biking in the peaceful and more remote areas in west Glengarry Forest. Others travel farther afield to Knoydart, through Poulary and into Kingie Estate or to the Munros and Corbetts to the south passing alongside or through the LMP area as they proceed with their journeys.

### Neighbours:

Neighbours to the LMP include: the Craig Liath Forest Crofters, Achnacarry, Kingie and Ardochy Estates, Glen Kingie Forest; the residents of Invergarry, Mandally, Kilfinnan next to Loch Lochy, Greenfields, Garry Gualach, Tomdoun and Ardochy. MOWI at Ardochy/Tomdoun as well as the SSE Garry-Moriston Hydro-Electric Power Scheme at the exit of Loch Garry are also regarded as neighbours.

FLS manage Clunes, Loch Arkaig and Drynachan Forest which neighbour this LMP area.

## Renewables:

There are five operational hydro schemes in Glengarry Forest. The table below outlines the location of the schemes and the associated outputs.

| Hydro Scheme             | Operational start date | Output (kW)     | Operator                     |
|--------------------------|------------------------|-----------------|------------------------------|
| Allt Coire a' Bhalachain | 2014                   | Medium<br>900kW | Green Highland Ltd           |
| Allt Garaidh Ghualaich   | 2019                   | Large<br>1080kW | Koehler Renewable Energy Ltd |
| Doire Garbh              | 2001                   | Medium<br>780kW | Innogy plc/Bear Ellice Ltd   |
| Greenfield Burn          | 2019                   | Medium<br>795kW | Koehler Renewable Energy Ltd |
| Allt Ladaidh             | 2015                   | Large<br>1345kW | Green Highland Ltd           |

| Hydro Scheme                                 | Operational start date | Output (kW)         | Operator |
|--|------------------------|---------------------|----------|
| Coire Glas (consented pumped storage scheme) | n/a                    | Very Large<br>1.5GW | SSE      |

The above table identifies the proposed Coire Glas pumped storage scheme. The pumphouse will be located in Clunes Forest on the western shore of Loch Lochy. The reservoir will be created in Coire Glas in Glengarry Forest where Loch a Choire Ghlais is located.

Currently SSE are carrying out exploratory tunnelling works in Glengarry Forest. This will inform on the viability of creating such a sizable scheme on the western side of the geological Great Glen Fault Zone.

When this project gets underway this will impact on the FLS management of the eastern side of Glengarry Forest, including the impact of new infrastructure associated with this development.