

Appendix 1: Description of Woodlands

Landscape and Topography

All three woodlands are part of the forested belt that runs between the coastal agricultural lands to the south of the Moray Firth and the more hostile uplands and foothills to the Cairngorms. Elevation ranges from 40m in Laiken, to 255m in the south of Assich forest.

The area is split into a number of Landscape Character Types (LCTs) as defined by NatureScot, 2019 which reflect the changes in topography: Coastal Farmland, Rolling Farmland and forests, Narrow Wooded Valley and Open Rolling Upland. These are described in detail in **Appendix 5 – Landscape** and **Map 7 – Landscape Character**

Neighbouring Land Use

The majority of adjacent land is managed for commercial forestry and rough pasture by several private estates and landowners. Open moorland is also found to the south of Ferness.

Geology, Soils and Peat

The geology of the area consists of an ancient basement of metamorphic rocks, the Moine Schists and Dalradian Schists, intruded by a series of igneous rock and unconformably overlain by Old Red Sandstone of the Devonian Period.

The soils vary across the plan area according to the underlying lithology and elevation, ranging from shallow, coarse grained granites and sandstones to deep glacial and fluvio-glacial deposits of mixed grain size.

Assich has the widest range of soil types with podzolic peaty surface-water gleys, typical podzols and Calluna, Eriophorum vaginatum blanket bog on the higher ground and podzolic surface-water gleys and brown earths on the lower margins.

Laiken is situated within rich agricultural country and is made up of typical podzols, typical surface water gleys, podzolic peaty surface-water gleys and podzolic surface-water gleys.

Ferness is similar to Laiken with typical podzols and podzolic peaty surface-water gleys but it also has peaty pockets of upland *Sphagnum spp.* bog and *Calluna spp.*, *Eriophorum vaginatum* blanket bog.

Soil types within the forest block are shown on **Map 8 a, b and c.**

Hydrology

Map 2a,b,c – Key Features Map shows all watercourses, open water and private water supplies. **Appendix 9 – Hydrology** contains details and information on management of water and catchments.

Windthrow risk

The DAMS exposure scores for the area all sit within the moderately exposed range with the exception of parts of Laiken which sit within the sheltered range.

DAMS scores of between 8 and 14 are very suitable for commercial forestry and are common throughout the LMP area. This means that the majority of the plan area is suitable for commercial forestry and for adopting low – impact silvicultural systems (LISS) and longer rotations.

Plant Health

There are no Statutory Plant Health Notices in the plan area. According to the FLS Larch Strategy 2022 Supplementary Guidance, the plan area is within the Less Vulnerable Area (Zone 3) for *Phytophthora ramorum*. As a consequence, pre-emptive felling is not required and investment in cleaning or respacing of naturally regenerating larch may be made to promote larch as a future mature species where site conditions are met. Investment in the management of younger larch (e.g. uneconomic first thinning) may also be made based on the same site requirements.

Dothistroma needle blight has been recorded in the Plan area but has low pathology in species within the plan area and does not preclude pine as a future tree species.

Pine weevil (*Hylobius abietus*) remains an ongoing constraint to forest management and affects the timing of restocking a felled site. Ideally restock would follow felling within one or two years as this reduces nutrient run-off and reduces the need for herbicide. However, if weevil populations are too high, early restocking risks high tree mortality or requires more intensive and frequent use of insecticides. To avoid this, the timing of restocking is determined using the Hylobius Management Support System (HMSS) and a fallow period of up to five years may be applied.

Deer/Herbivore Management Plan

Red and roe deer are found throughout the plan area with occasional Sika deer at Assich. We have had no reports of other herbivores in the area.

Good soils and the resultant high tree productivity have resulted in a high deer population. ATV access is required to extract deer from site which is made more difficult at Laiken and Ferness due to gorse along tracks and on clearfell sites.

In the last 5 years FLS have produced an average cull of 200 deer per annum. To achieve these culls we have used out of season authorisations, night shooting authorisations and daylight stalking. We have also employed the use of high seats to facilitate some static deer management in open areas.

The proposed cull for 2022/23 is 175. This will be reviewed annually to account for local factors including incursions and recruitment.

A Deer Management Plan (DMP) can be found in **Appendix 8**.

Key Habitats and Species

Notable Scottish Biodiversity Strategy habitat priorities supported by this LMP:

Habitat	Objective	Actions
Blanket bog	Survey and record to identify location and protect/restore.	Do not plant trees on deep peat, on active peat bogs or on areas of peat bog which can be restored as active. Undertake peat bog restoration where appropriate through removal of non-native trees, drain blocking to retain water within the site.
PAWS	PAWS restoration.	Maintain a monitoring program. Complete the removal of non-native conifers from the PAWs areas.
Acid Grassland	Survey and protect	Small areas exist and these will be identified and protected as open space.
Other native woodland	Survey, protect, restore and enhance.	Remove non-native trees within native woodland areas. Monitor semi-natural woodland and natural regeneration of native trees on open/woodland areas. Encourage natural regeneration of native trees through deer management.

Notable EPS, Scottish Biodiversity Strategy Species priorities and Actions Supported by this LMP:

Species	Objective	Actions
Red Squirrel	Species present in LMP. Survey, monitor, protect.	Diversification of species and age classes will create diversity of coning times and food availability. Pre-operational surveys will identify and protect any dreys. Any felling in red squirrel areas will be done under license from NatureScot.
Capercaillie	Species present in LMP. Survey, monitor, protect.	Capercaillie are still present in the wider area but are no longer breeding on FLS land. The retention of Scots Pine habitats and diversification of other woodland will create suitable habitat for this species to move into if the population expands. Surveys will identify any use of FLS areas and timing constraints will be placed on operations if they have the potential to cause disturbance.
Raptors	Species present in LMP. Survey, monitor, protect.	Existing sites will be monitored and protected. Retention of varied ages of conifers will allow continuity of nesting habitat. Pre-operational surveys will identify and protect any new sites.
Pine Marten	Species present in LMP. Survey and protect.	Integrate protection of the species during forestry operations if necessary, by protection of den and trees/stumps in which they breed. Retain older trees with holes.
Juniper	Species present in LMP. Survey and protect.	Identify and protect existing plants. Restoration of native woodlands will provide opportunities for expansion of this species.
Bats	Survey, Monitor for species. Protect.	Integrate protection of breeding/roost sites and of the species during woodland management where necessary. Generally protect ancient trees which are potential for bat roosts.
Badger	Present in this LMP. Record, protect.	Monitor setts. Protect during operations. Work only under license within 20m of sett.

Wood ants	Present in this LMP. Record, protect.	Undertake surveys. As a result of coupe check surveys or other recordings during site visits, integrate protection as part of forest operations.
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There are no designated Conservation sites within the plan area.

Non-native Invasive species

A major programme to eradicate rhododendron from the national forest estate was launched in 2011 and a substantial amount of work has already been done. There is a small area of *Rhododendron ponticum* remaining at Ferness and the aim will be to completely remove this during the life of the plan.

Planted Ancient Woodland Site Appraisal

FLS policy is to restore a minimum of 85% of all sites classified as Plantations on Ancient Woodland Sites (PAWS). This is in addition to the protection and enhancement of Ancient and semi-natural Woodland Remnants. The extent and location of the PAWS sites in the LMP area are detailed below. There are approximately 11.9Ha of PAWS within the plan area. The table below also outlines the threat level based on recent survey information and can be seen on **Map 2c** – Ferness Key Features Map.

Ancient Woodland Area	Area (ha)	Threat level	Action Proposed
Cpt 9	11.9	Partly Secure (3.0ha still threatened)	Mature non-natives have been removed from most of the site and are programmed for removal from the remaining areas within 5 years. The area already secured has extensive regeneration of native species. Future intervention will involve removal of regenerating non-natives.

Key management for the site is the removal of non-native conifers.

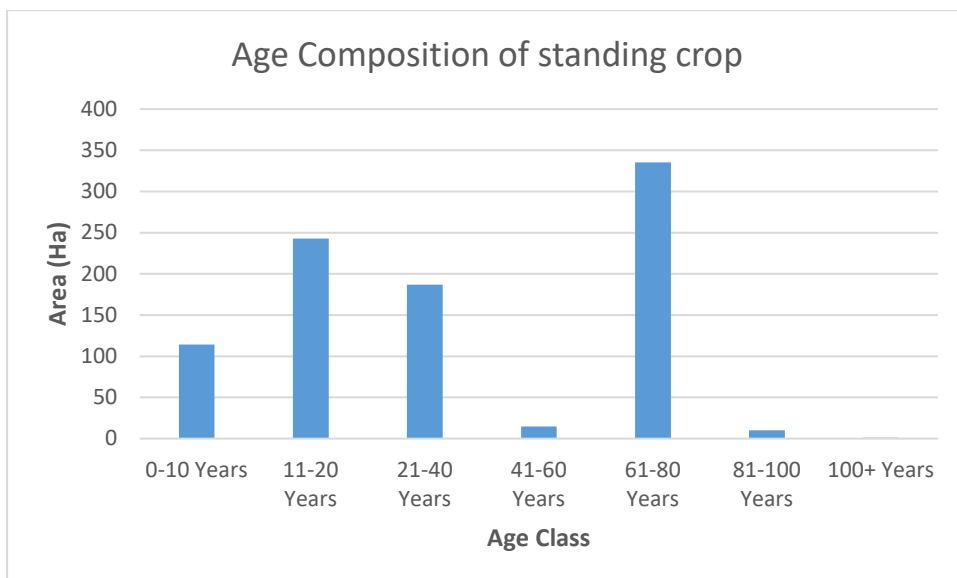
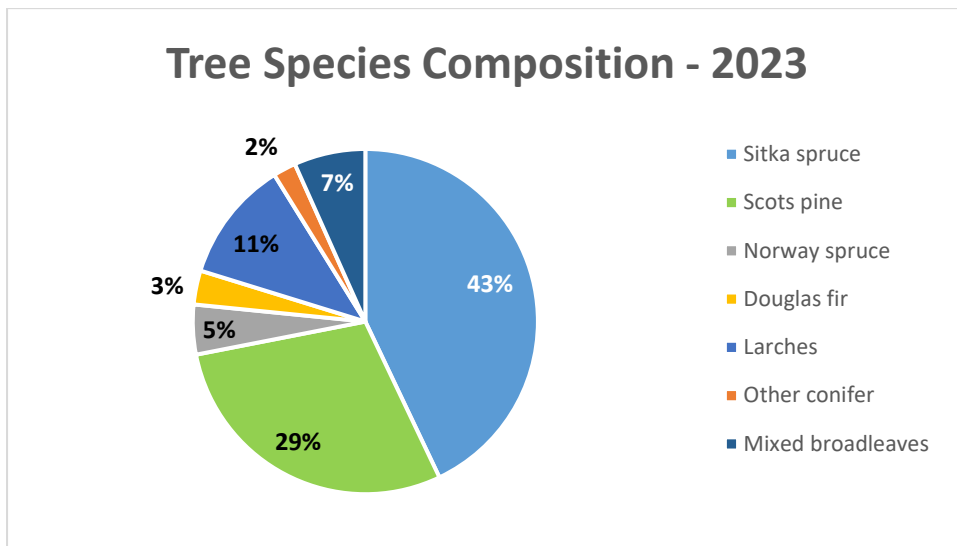
Once non-natives have been removed there is a subsequent rolling programme of regeneration removal. Most PAWS sites will be restored using natural regeneration of existing native species but where there is a lack of seed source for under-represented species, these may be planted. A key objective in the restoration programme will be the continual reduction of grazing pressure to levels that allow sufficient natural regeneration to establish.

PAWS surveys are conducted on a regular basis (5 yearly) and management priorities will be changed to reflect these survey results.

Woodland Composition

Most of the Plan area is wooded and now in its second rotation. Areas of first rotation forestry remain within all three forests and are mainly composed of Scots pine with some Norway spruce and occasional Lodgepole pine and Douglas Fir. Sitka spruce is now the dominant tree species with Scots pine and larch also present in all three forests.

The current species composition of the forest is shown below:



Public Access and Recreation

There is a Right of Way at Assich from Drummore of Cantray which is shown on Features Map 2a.

The Land Reform (Scotland) Act 2003 ensures everyone has statutory access rights to these woodlands, if these rights are exercised responsibly. FLS recognises the substantial benefits to health and wellbeing that are offered by access to these and other forests.

The areas covered by this land management plan do not have formal, promoted visitor facilities such as car parks and waymarked trails. As such, recreation use is relatively low compared to some other forests within the wider area (such as Culbin). Current recreational use includes walking, dog walking, horse riding and mountain biking. Laiken in particular is used by local mountain bikers.

There are no current plans to expand recreation provision in these forests, although the growing population of Nairn could justify considering this. FLS remains open to discussing ideas and proposals with local communities. In the meantime we will seek to maintain the current level of informal access.

Historic Environment

There are no Scheduled Ancient Monuments within the Plan area. However, there are two scheduled monuments out with but close to the boundary of Laiken Forest (see Map 2b):

Laikenbuie, cairns 300m SSW of (SM 11609) is located immediately adjacent to the south-eastern boundary of the northern block of Laiken Forest. The monument comprises a group of cairns of prehistoric date.

Slagachorrie, dun 835m NW of (SM11741) is located a short distance from the western boundary of the southern block of Laiken Forest. The monument comprises a small Iron-Age dun situated on top of a small rocky knoll, on a sloping hillside 750m ENE of the large fort at Castle Findlay

The forest contains various features of particular interest including a number of unscheduled Ancient Monuments, in particular two substantial and well-preserved farm steadings of Sluggan and Duglaick within Assich Forest. Field systems and cairns are also present in Laiken & Ferness.

Sluggan, Longhouse (MHG 26217) at NH 7941 4504

Duglaick, NH 8134 4621

Transport/ infrastructure

All three forests have a good forest road network within them and Assich has an existing quarry that has been and can be used for forest road repairs and upgrades.

All timber is transported to market via the A96, to the north of the three forest blocks. From Assich, the minor roads leading to the A96 are Highland Council Consultation routes. Laiken is connected by the A939, a Highland Council agreed haulage routes and Ferness is linked to the A939 via a consultation route.

Within the forest at Assich there is a private residence at Carnach with legally agreed access on the forest road from Wester Galcantry. A couple of the properties on the south side of Assich also use this route from the gate at Dalcharn but no official agreements are in place.