Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Glenachulish Land Management Plan Scoping Brief

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Introduction and Description

Glenachulish forest is located on the southern shore of Loch Leven and the eastern shore of Loch Linnhe, where the lochs converge near the Ballachulish Bridge. It covers 1,122 ha of commercial conifer plantation, native broadleaved woodland and open ground, extending from sea level to an elevation of 1020 metres.

The land holding includes 576 ha open ground (including unplanted stream sides) and 455 ha forested ground, with a further 80 ha of felled, failed or windblow, which could potentially be restocked. Conifer species cover 356 ha of the forested ground.

The forest is above the communities of Ballachullish, Glenachulish and Kentallen. Most of it is highly visible in the landscape and is on extremely steep ground. There are extensive areas of Ancient Semi Natural Woodland (ASNW) and Plantations on Ancient Woodland Sites (PAWS).

The forest bounds FLS ground to the South; private ground to the East and the A82 and A828 roads to the North and NW, including in places, areas of private ground between the forest and the public roads. Neighbouring land use is primarily agricultural, although the land to the South at Lagnaha is now under FLS ownership. Glenachulish is part of the wider North Argyll forest area and will be covered by the Strategic Plan for the area.

This Land Management Plan will review and replace the 2007 - 17 Plan. The existing plan proposes to reduce both the extent of forested ground and the proportion of commercial conifers, replacing these with broadleaves, primarily native woodland, but continuing to restock some areas with commercial conifers. These proposals will be reviewed in the light of experience and changing policy priorities.

Social Factors

Glenachulish lies adjacent to the settlement of Ballachulish; North Ballachulish faces the forest from the opposite shore and Glencoe is just over 2.5 km from the most easterly margin of the forest. Approximately 1000 people reside within close proximity to the forest but tourism increases the population size significantly in the summer months and the A82 and A828 arteries bring high numbers of travellers past the forest. The forest is directly opposite the Ballachulish Bridge and is highly visible to people travelling across the bridge from the North and from Kinlochleven.

Currently, the glen is used by local walkers and for cycling, horse riding, canoeing (on the lower part of the river) forest walks and access to the nearby Munros of Beinn a Bheithir (the Hill of the Thunderbolt) and other mountains. The car park is situated close to the forest entrance and links to a circular route of forest roads and trails within the glen and paths onto the open hill; a through- route from the glen to St John's church and a forest walk to a memorial cairn. The Ballachulish Community Action Plan (2016-21) recognises both the Glenachulish and Brecklet forests as important local resources for recreation, tourism and potential Hydro scheme developments. Priorities in the Community Action Plan include developing and promoting mountain bike trails and path networks through local forests as well as developing community involvement in their use and management where this could bring benefits to the community around Ballachulish.

Environmental Factors

Almost all of the LMP area lies within the Ben Nevis and Glen Coe National Scenic Area.
The Glen Etive and Glen Fyne SPA covers the open hill ground and extends into the forested zones in places; operations in the upper zones of the forest may impact on priority species on which the designation is based.
A small non -commercial part of the forest lies within the Kentallen geological SSSI and the St John's Church geological SSSI lies adjacent to the forest on the shores of Loch Leven.

Loch Leven is a designated shellfish growing area and in 2014, SEPA monitoring indicted that the overall condition was good, with freedom from invasive species and physical condition having a high rating. Loch Linnhe joins Loch Leven at Ballachulish Bridge and has an overall ecological status of Moderate, with the projected condition improving to Good status by 2027. Salmonids spawn in Abhainn Greadhain, the main watercourse running through the forest.

A small part of the plan area near Duror is at risk of acidification but this is on open land and is not affected by forestry. The river Abhainn Greadhain flows into Loch Leven at South Ballachulish and SEPA flood maps indicate a potential flood risk here from the river and surface water, as well as coastal flooding. A small area of open hill in the southern margin of the block forms part of the drainage catchment for the River Laroch, with an associated flood risk to the settlement of Ballachulish, through which it flows. Forestry operations will not impact on this area.

Drinking water supplies are taken from within the forest block. The Abhainn Greadhain is a designated Drinking Water Zone, which draws from a catchment that includes the upper slopes of the forested area and water supply pipelines run through parts of the forest on lower ground. Private supplies are taken from Coire Giubhsachain, behind St John's Church and from points near the car park and to the West of the forest.

Red squirrels have been observed in the western section of forest, on the lower slopes close to the shore.

There is 63 ha of ASNW and 301 ha PAWS – the current plan proposal is to restore the PAWS areas to native woodland, although this may need to be achieved in phases across a long timeframe.

There is good natural regeneration of broadleaves on lower slopes, indicating low browsing levels but mid to upper slopes are heavily grazed / browsed, by both deer and livestock ingressing from neighbouring ground, with little recruitment of young trees.

Rhododendron has encroached into the forest; removal is ongoing with the P ramorum infection adding urgency to the work.

The Appin Murder Cairn Scheduled Ancient Monument is located in the western section of the forest and a trail leads through the forest to the site. A further three unscheduled monuments are located in the forest.

The Scottish Natural Heritage Landscape Assessment classifies most of the area as Mountain Massif and the low level areas on Loch Leven shores as Settled Lochs. Forestry - related guidance includes ensuring that forestry does not mask landforms; reducing grazing pressure for natural regeneration; softening woodland edges and maintaining some open land in large-scale plantations.

The main geological formation is the Ballachulish Pluton (Quartz-Diorite), with the Leven Schist Formation (Semispelite, Quartzite, Pelite) to the East of the block. These are overlain with hummocky glacial deposits (Diamicton, sand and gravel) along a channel to the East and along much of the lower slopes, with some raised marine deposits on the low ground around South Ballachulish.

Economic Factors

48% of the forest block is open hill, with 41% covered with forestry, including ancient woodland, ornamental trees and broadleaf regeneration:

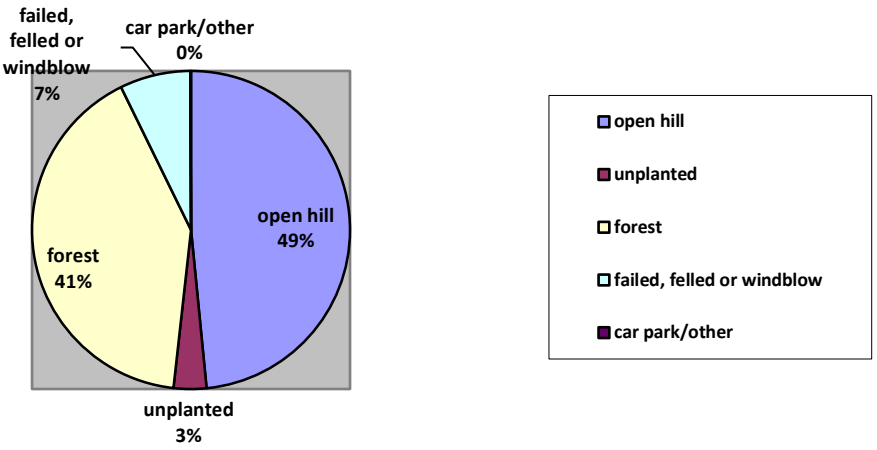


Figure 1: Land use in the Glenachulish LMP area

Sitka spruce dominates the species mix; birches and oaks are the next most prevalent species. Larches also cover a significant area (39 ha) and removal will be prioritised where possible in the felling programme, in response to the Phytophthora ramorum risk, as per the larch strategy. Restock will not include larch and alternative species will be identified to create diversity and colour. Two Statutory Plant Health Notices were served on FLS ground in January 2019, for Phytophthora on Rhododenron in the NE section of woodland, close to the A82 at Craigrannoch and the war memorial.

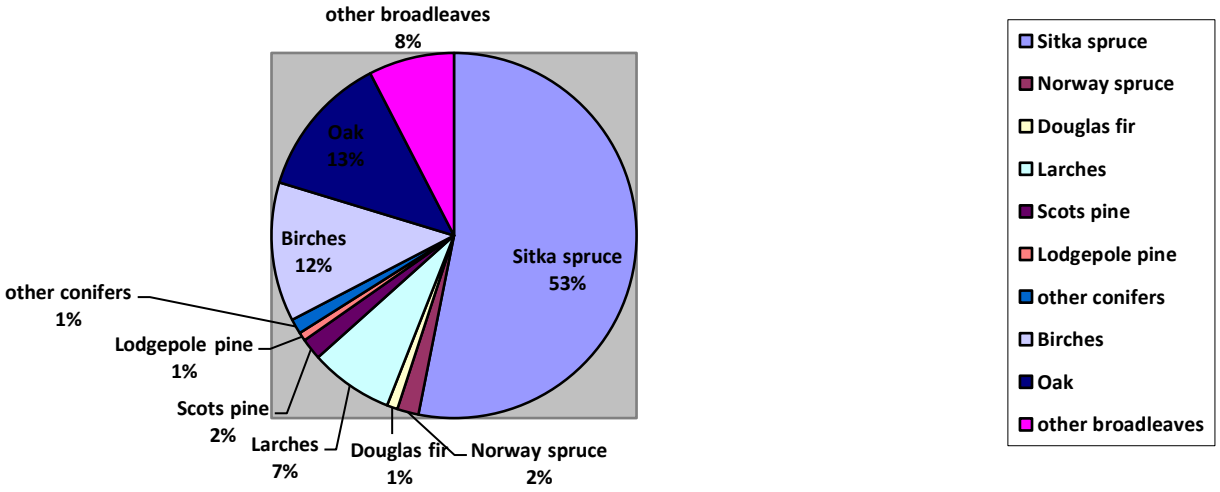
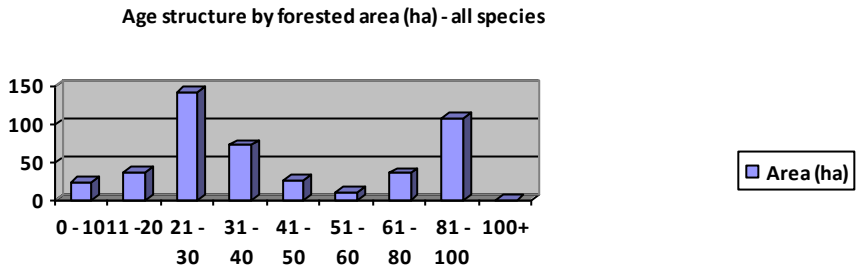
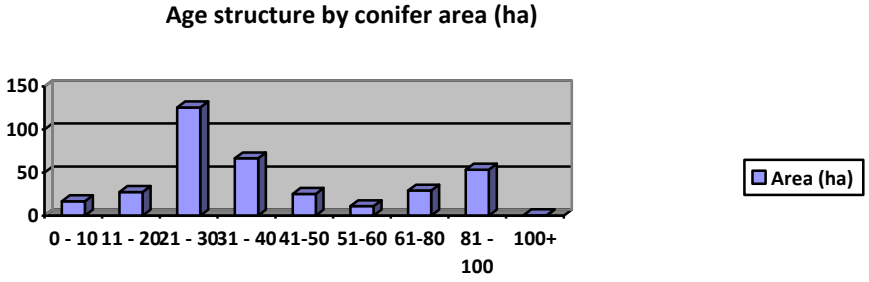


Figure 2: Current tree species composition

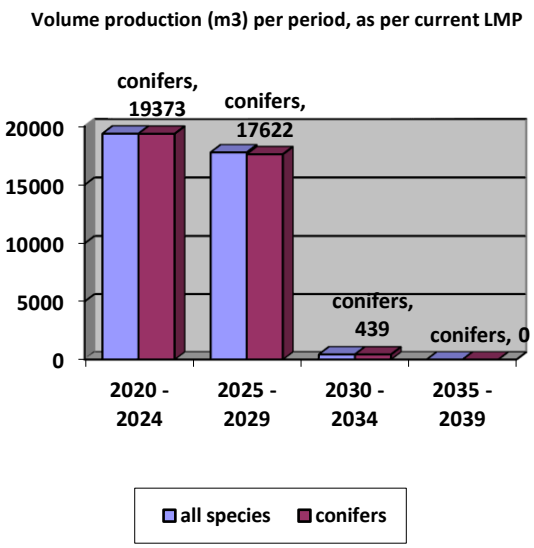
44% of the forest cover (conifers and broadleaves) was planted or established in the last 30 years as second rotation crops, while 24% is more than 80 years old.

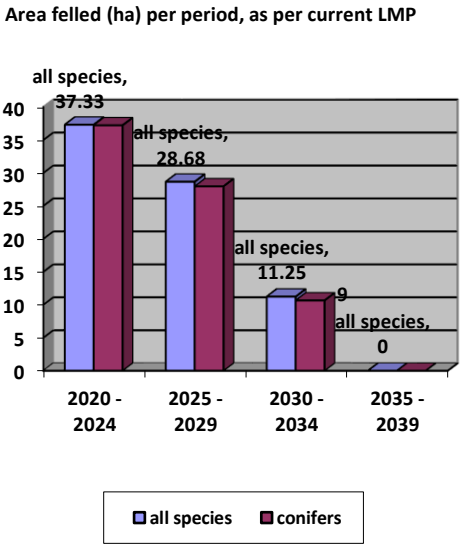


74% of the conifers were planted in the last 50 years; 48% in the last 30 years.



Current total standing volume is 125,600 m^3 across all species, 108,400 m^3 of which is accounted for by conifer species. Current volume per ha under tree cover is 334 m^3/ha for all conifers and 363 m^3 / ha for Sitka spruce. This output is fairly low compared to other blocks in the area (such as Brecklet or Bealach). The current LMP felling and restocking programme predicts volume production will drop dramatically after 2029 as the area to be felled decreases.





Operational Access

The forest is well roaded but not all forest roads are constructed to modern standards, so road upgrades are required. Recent landslips have damaged sections of road.

Silvicultural potential

Much of the forested area is on steep ground and various areas that remain to be felled will require winch extraction, often on unstable slopes and sub- vertical faces; the presence of hanging coupes also needs to be addressed. A few translational landslides have been noted across the forest, mainly in the western section, including a very recent landslip that has blocked one of the forest roads. Some of the difficult working areas lie above the A82 and A828 roads; residential properties; forest roads or public footpaths. Initial geotechnical surveys have been undertaken but more work is required before forestry operations are undertaken in these difficult areas.

Soils are variable across the forest block, with upland and podzolic brown earths, iron pans and podzols with various surface water gleys (particularly in the eastern section) and intermittent bogs. Upper slopes are characterised by shallow soils, with rock outcrops and boulders.

Much of the forest sits within a fairly sheltered glen, with variable micro-climates across the forest, from sheltered lower slopes to more exposed hill sides. The predominantly North facing slopes create shaded conditions.

A 0.5 MW Hydro scheme is planned on the Abhainn Greadhain, which the local community hopes to take forward.

Glenachulish falls within the Blackmount Deer Management Group (DMG). Deer pressure (red and roe) is currently fairly low in the lower part of the forest but coupes on upper slopes show evidence of significant browsing by deer and livestock and restock has failed. Control of browsing by both deer and livestock is essential, to protect young restock and establishment of natural regeneration, working with neighbours and the DMG. Other possible issues causing failure of restock will also be investigated and addressed.

Achieving National Priorities Locally

The management of Scotland's National Forests and Land is guided by Scotland's Forestry Strategy 2019 – 2029 and FLS's Corporate Plan (2019-2022) and is informed by strategies on a range of topics, including land use, economy, climate change, biodiversity and the historic environment.

The Scottish Government has identified three objectives to deliver over the next 10 years:

- Increase the contribution of forests and woodland to Scotland's sustainable and inclusive economic growth

- Improve the resilience of Scotland's forests and woodland and increase their contribution to a healthy and high quality environment
- Increase the use of Scotland's forest and woodland resources to enable more people to improve their health, wellbeing and life chances

This Land Management Plan will help deliver on these objectives, in line with FLS corporate outcomes, to ensure clear linkages through the planning framework and implementation of national and regional priorities. The brief is also guided by the National Spatial Overview, which has identified the focus of effort and investment challenges for this area. Key contributions that Glenachulish forest makes to our Priorities, Aims and Objectives are:

- Ecosystem services and additional public benefits – scenic quality and visitor attractions contribute to tourism income; sustainable timber production
- Other national commitments – PAWS restoration; rhododendron control; dealing with the potential impact of *P ramorum* on larch
- Contribution to financial sustainability – range of softwood; hydro schemes

Draft Land Management Plan Objectives

- Plan for the safe harvesting of the current stands of trees while protecting the slope and soils and optimising the return
- Develop plans for the removal of all the larch from Glenachulish, balancing the risk of disease spread with the needs of sustainable forest management and the safe recovery of the timber
- Restore the Plantations on Ancient and long established Woodland Sites to native woodland (within the current rotation where appropriate and within the next rotation on more difficult sites) and consider options for future expansion
- Continue productive woodland management, including some productive broadleaves, where this is compatible with safety, slope and soil conservation
- Strengthen native broadleaves in riparian zones
- Improve visual amenity and landscape impact of the woodland in the context of its significant contribution to the landscape of the National Scenic Area
- Design a restocking programme to protect steep slopes and conserve soils
- Recognise the importance of public access and the involvement of the community in developing the future design
- Work with neighbours an partners to reduce grazing/browsing pressure from deer and livestock to protect planted and naturally regenerating trees and to maintain priority open ground habitats in favourable condition
- Develop a plan to eliminate/contain the Rhododendron and other invasive plant species as part of control in the wider geographic area
- Maintain water quality and mitigate against excessive water runoff

Key issues identified for the LMP

Corporate outcomes relevant to the LMP:

Outcome 1: Supporting a Sustainable Rural Economy - FLS supports a sustainable rural economy by managing the national forests and land in a way that encourages sustainable business growth, development opportunities, jobs and investments.

Key operational actions relevant to the LMP:

- ensure a sustainable balance between the resilience and productivity of the national forests and land
- provide a sustainable supply of timber
- implement the national restocking strategy
- support Scottish tourism and the visitor economy through provision of visitor attractions
- work proactively with tenants & stakeholders to identify potential added-value opportunities

Issues	Challenges and Opportunities	Draft Objectives
Steep / difficult ground	• Safety of harvesting on difficult slopes • Protect slopes and conserve soils during and after harvesting • Mitigate visual impact of felling coupes • Ensure restock is completed timeously and with appropriate species, to protect slope stability and conserve soils	• Plan for the safe harvesting of the current stands of trees while protecting the slope and soils and optimising the return • Design a restocking programme to protect steep slopes and conserve soils
Future funding	• Costs – benefits of harvesting timber on difficult sites	• Plan for the safe harvesting of the current stands of trees while protecting the slope and soils and optimising the return
Maintain sustainable production volumes from the forest, in the context of the wider linked North Argyll forests	• Soils and other growing conditions on lower slopes are suitable for growing productive broadleaves • High yield classes of existing conifer crops on lower slopes	• Continue productive woodland management, including some productive broadleaves, where this is compatible with safety,

Issues	Challenges and Opportunities	Draft Objectives
		slope and soil conservation
Evidence of significant browsing pressure on restock and natural regeneration on mid and higher slopes	• Evidence of livestock ingress from adjacent land • Evidence of deer browsing throughout the forest on all but the lower slopes and this is most significant on higher ground	• Work with neighbours and partners to reduce grazing / browsing pressure from deer and livestock, to protect planted and naturally regenerating trees and to maintain priority open ground habitats in favourable condition

Corporate outcomes relevant to the LMP:

Outcome 2: Looking after Scotland's national forests and land – Scotland's forests and land are looked after; biodiversity is protected and enhanced; and more environmental services are provided to people.

Key operational actions relevant to the LMP:

- Manage the national forests and land to further the conservation and enhancement of biodiversity
- Collaborate with partners on integrated landscape-scale approaches to habitat management and restoration
- Take specific conservation action for vulnerable priority species
- Supporting forest research and development
- Develop an asset management approach to the historic environment within Scotland's forests and land
- Work with neighbouring land managers to undertake landscape – scale control of Rhododendron to conserve ground flora and improve habitats
- Continue to implement the larch strategy to reduce the rate of expansion of Phytophthora ramorum

Issues	Challenges and Opportunities	Draft Objectives
Phytphthora ramorum in the area	• Recovery of standing trees on inaccessible sites • Steep slopes – presenting challenges for felling, particularly in the event of a SPHN (important	• Develop plans for the removal of all the larch from Glenachulish balancing the risk of disease spread with the

Issues	Challenges and Opportunities	Draft Objectives
	that felling on difficult slopes is pre-planned carefully) • Visual impact of emergency felling in the event of a SPHN or if large areas need to be felled for larch removal	needs of sustainable forest management and the safe recovery of the timber
Extensive areas of PAWS woodland	• Restoration of native woodland is a priority but steep slopes, browsing pressure and lack of seed sources at some sites limit the ability to achieve full restoration within the current rotation	• Restore the plantations on ancient and long established woodland sites to native woodland (within the current rotation where appropriate and within the next rotation on more difficult sites) and consider options for future expansion
High visibility of a significant part of the forest within the local landscape, which is part of a NSA	• Felling coupes on higher slopes are highly visible from the surrounding area – particularly from the northern approach • The forest sits within a NSA and is an important element in the local tourism offering	• Improve visual amenity and landscape impacts of the woodland in the context of its significant contribution to the landscape of the National Scenic Area
Water flow and quality	• Relatively fast flowing main watercourse and feed tributaries on steep slopes, potentially impacted by harvesting operations – protection of watercourses during felling • SEPA flood maps identify potential issues due to surface water • Opportunities to create buffers around watercourses and to develop open canopied broadleaved woodland around main watercourses	• Maintain water quality and mitigate against excessive water runoff
Riparian woodland	• Presence of conifers on banks of watercourses and in riparian zones • Advance regeneration on some watercourses – opportunities to	• Strengthen native broadleaves in riparian zones

Issues	Challenges and Opportunities	Draft Objectives
	promote natural regeneration of native broadleaves in riparian zones • Open canopied broadleaf riparian woodland will help protect watercourses and slow run-off	
Evidence of high levels of browsing / grazing of young trees in mid and higher slopes	• Evidence of high levels of browsing leading to failure of restock and natural regeneration on middle slopes and higher ground	• Work with neighbours and partners to reduce grazing / browsing pressure from deer and livestock, to protect planted and naturally regenerating trees and to maintain priority open ground habitats in favourable condition
Extensive spread of Rhododendron and other invasive species across parts of the forest, with ingress from neighbouring ground	• Ongoing Rhododendron control related to SPHN and tree disease outbreaks • Opportunities to work with neighbours on control of Rhododendron and other invasive species	• Develop a plan to eliminate / contain the Rhododendron and other invasive plant species as part of control in the wider geographic area

Corporate outcomes relevant to the LMP:

Outcome 3: National forests and land for visitors and communities – Everyone can visit and enjoy Scotland's national forests and land to connect with nature, have fun, benefit their health and wellbeing and have the opportunity to engage in our community decision making

Key operational actions relevant to the LMP:

- Maintain walking and biking trails to promote fun in the outdoors, focussing on improving entry level experiences for everyone to enjoy and gain health benefits
- Continue to remove barriers to ensure that people from all backgrounds can/do access the full range of benefits from the forest and land
- Facilitate renewable energy opportunities in order to encourage community benefits
- Continue to engage communities in decisions relating to the management of the national forests and land

- Continue to support community empowerment by enabling communities to make use of the national forests and land to benefit their communities

Issues	Challenges and Opportunities	Draft Objectives
Communities interested in their local forests	• Access through the forest and to the open hill is a key provision for the community and for local tourism • Develop more opportunities for the community to contribute to the future design and management of the forest • Consideration will be given to future proposals for community projects related to the forest area	• Recognise the importance of public access and the involvement of the community in developing the future design

Stakeholders and Consultation

Highland Conservancy
NatureScot - South Highland Area Office
SEPA
Highland Council
Scottish Mountaineering Council
Ramblers Association
Scottish Rights of way Society
VisitScotland
Scottish Water
Scottish Wild Land Group
Lochaber District Salmon Fisheries Board
Lochaber Fisheries Trust
Duror and Kentallen Community Council
Ballachulish Community Council
Glencoe and Glen Etive Community Council
Nether Lochaber Community Council
Ballachulish Hotel
Neighbouring landowners
Confor