

# Duror Land Management Plan - Appendices

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# Appendix I - Land Management Plan Brief

## Duror Land Management Plan Scoping Brief

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### Introduction and Description

This Scoping Brief presents the FLS vision for Duror forest; analyses the issues and constraints to be considered for its management and proposes objectives and priorities, short and long term, which will inform the preparation of the Land Management Plan for the next 10 years. The Land Management Plan will review and replace the previous Duror Forest Development Plan, which expires on 31st March 2024. Duror is part of the wider North Argyll forest area and will be covered by the Strategic Plan for the area, which provides overview and context.

The Duror LMP area covers 3,113 hectares and extends over land ranging from 40 to 510 m above sea level, comprising approximately 1,115 ha commercial forest (including internal open space) and 1,998 ha open hill, with small areas of semi-natural and native woodland. The forested area extends through the long west/east aligned Glen Duror, occupying the glen floor and extending up the steep glen sides to about 300-350 metres. (See Map 1: Location map). Lagnaha, a sheep farm that was acquired in 2015, has been added to the original Duror forest Plan area.

The forest lies above the villages of Duror and Kentallen but is also within easy reach of the communities of Ballachullish, Glenachulish and Appin. The extensive, forested slopes at the mouth of the glen are clearly visible from the A828 but the forest becomes progressively less visually accessible as it extends eastwards. The forest is easily accessed from the village of Duror on its western edge where there is a FLS car park.

The LMP area bounds FLS ground to the South (Bealach) North (Glenachulish) and East (Glen Creran) with a small stretch of boundary shared with private ground to the East at Lagnaha. On the western side, the forest abuts onto the A828 road in places, although part of the seashore is also FLS land; there is also frontage onto part of Duror village. Neighbouring land use is primarily forest, open hill and agricultural ground.

## Social Factors

Duror forest lies adjacent to the settlement of Duror, between Glenachulish and Appin. Approximately 1000 people reside within 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 glen is used for informal recreation, largely by local walkers and cyclists. There is a FLS car park at the western end, close to the village of Duror and a waymarked access route, which extends for approximately 7 km through the forest. There is a relatively popular access to the 'James of the Glen' bothy, almost at its centre, and a long-distance traditional route through the forest links Duror village to Ballachulish and Glen Creran, adopted by Highland Council as a core path. A Sustrans cycle/ all ability access route extends to the edge of the forest.

The waymarked path, which is largely on forest roads, will be maintained but there are no current plans to extend the access network. Views from paths will be maintained or created where possible during the felling cycle and open space around the James of the Glen Bothy will be maintained. Failure of a bridge has impacted the access loop and limits access South of the river. FLS does not have plans to reinstate the bridge although discussions are underway with the community and Highland Council regarding alternative solutions.

## Environmental Factors

Part of the LMP area at Lagnaha (all open hill ground) 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, mainly in the NE section of the forest, which was planted in 2004 and 2010. Operations in the upper zones of the forest may impact on priority species on which the designation is based.

A small area of open ground at Lagnaha lies within the Kentallen geological SSSI, which also takes in a very small part of the Glenachulish LMP area. The SSSI management plan will be considered as part of the Duror LMP process (including the area of SSSI in the Glenachulish LMP area) as a major part of the designation sits within Lagnaha.

The River Duror runs through the forest and drains into Loch Linnhe. The river is approximately 9.7 km long, most of which lies within the LMP area. It has good to high classifications for most parameters, other than for overall hydrology and hydromorphology (moderate) and modelled hydrology and

hydrology which are poor (medium/ high flows). Loch Linnhe has an overall ecological status of Moderate, with the projected condition improving to Good status by 2027.

Drinking water supplies are taken from within the forest block, with at least three private water supply points present. Parts of the open hill at Lagnaha and South of the forested area are within public water catchment areas. There are also intakes along the river for an hydroelectric scheme.

There are small areas of Ancient Semi-Natural Woodland (ASNW) within the forested area, associated with the river and on upper slopes in the SE part of the forested area. Also, more significant areas of Plantations on Ancient Woodland Sites (PAWS) – surveyed in 2022 and found to be of high ecological value along the river but of low value in the South and SE parts of the forest, away from the main river. Duror lies within the Scottish rainforest area and riparian zones are important for oceanic bryophytes, so will be protected during operations.

The current Plan is to restore the PAWS areas to native woodland although the specific area and extent of the PAWS has changed slightly following survey. The LMP revision will review the restocking in these areas, following UKFS, UKWAS and FLS policy on PAW restoration. Overall, at least 85% of PAWs across the Region will be restored, prioritising PAWS of high and medium ecological potential, with enhancement of ancient woodland remnants and native woodland features in the remaining 15% of PAWS sites. The aim is to maintain and enhance features of high conservation value in all PAWS and although landscape-scale restoration to native woodland is a priority, PAWS of high - medium ecological potential will be restored and a precautionary approach will be taken with areas surveyed as low ecological potential. In these areas, some non-invasive, non-native restocking may be appropriate, if remnants are maintained and enhanced; features are buffered; the site is carefully managed and monitored and there is a clear management rationale.

ASNW is more extensive on lower slopes at Lagnaha; also, a scattering of native broadleaves have survived on crags and other inaccessible places. The potential for native woodland expansion in this area has been identified.

Pine marten have been noted through most of the forest. Black grouse, Red grouse, Rock ptarmigan and Golden plover have been recorded on higher slopes. The open ground is SPA for Golden eagle. Dwarf juniper grow on the slopes on Fraochaidh and a range of priority open habitats are found across the area including upland heath; blanket bog and mires; base rich flushes and minerotrophic springs.

Deer damage is significant in places. Nearest Neighbour survey data (2009-20) indicates an average 50 % conifer deer damage across the DMU / Strategic Plan area (Duror, Appin, Bealach, Glenachulish, Brecklet, Creran). Even higher rates of damage in broadleaves have been indicated by Herbivore Impact Assessments and Natural Regeneration Surveys. Further information can be found in the Deer Management Plan for the Strategic Plan area. Livestock also access the forest and are adding to the grazing and browsing damage. A new boundary livestock fence is required between the neighbouring

ground and the FLS land at Glenachulish and Duror; this has already been identified as a priority in the North Argyll Forests Strategic Plan and the Glenachulish LMP.

The Scottish Natural Heritage (now NatureScot) Landscape Assessment classifies part of the area as Rugged Massif and part as Craggy Massif, with Lowland Ridges and Mosses at lower levels. The steep sided enclosed glen provides a contrast to the adjacent more open coast and expansive seascape, as well as the openness and rugged grandeur of the high tops, including several munro summits which overlook the glen from the north.

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 geology is complex - granite and diorite dominates to the East and North forming the high ground and at lower levels to the West, the Appin Quartzite formation runs through the forest, stretching from Appin and the western side of Bealach. A mosaic of schists, slates, psammities, pelites and semi pelites, with occasional mudstones and meta mudstones occur across the rest of the LMP area. These are overlain with hummocky glacial deposits (diamicton, sand and gravel) across most of the forested area with occasional alluvial deposits (clay, silt, sand and gravel).

Soils are similarly varied, ranging from brown earths and upland brown earths mainly to the West and scattered through the forest, and elsewhere, large areas of ironpans and gleys. There are significant bog and peaty soil types along watercourses and natural flood plains, which need to be investigated for presence of deep peat.

## Economic Factors

FLS operations need to be financially self-sustaining at a regional level so continued production of commercial species is a necessity. The Strategic Plan for the North Argyll Forests sets the context for management of the forests in this area, separately and collectively. The Plan identifies commercial forestry as the main focus for Duror, primarily conifers but including some productive broadleaves where feasible. But other objectives are also important, including management of ASNW; restoration of PAWS; development and promotion of broadleaved riparian woodland and provision of visitor services.

Sixty-nine percent of the LMP area (including Lagnaha) is open hill (across the Strategic Plan area, open ground accounts for 62% of the FLS land holding, compared with 33% of FLS land nationally). Only 27% of the land is covered with forestry, including ancient woodland, non- native broadleaves and native broadleaf regeneration:

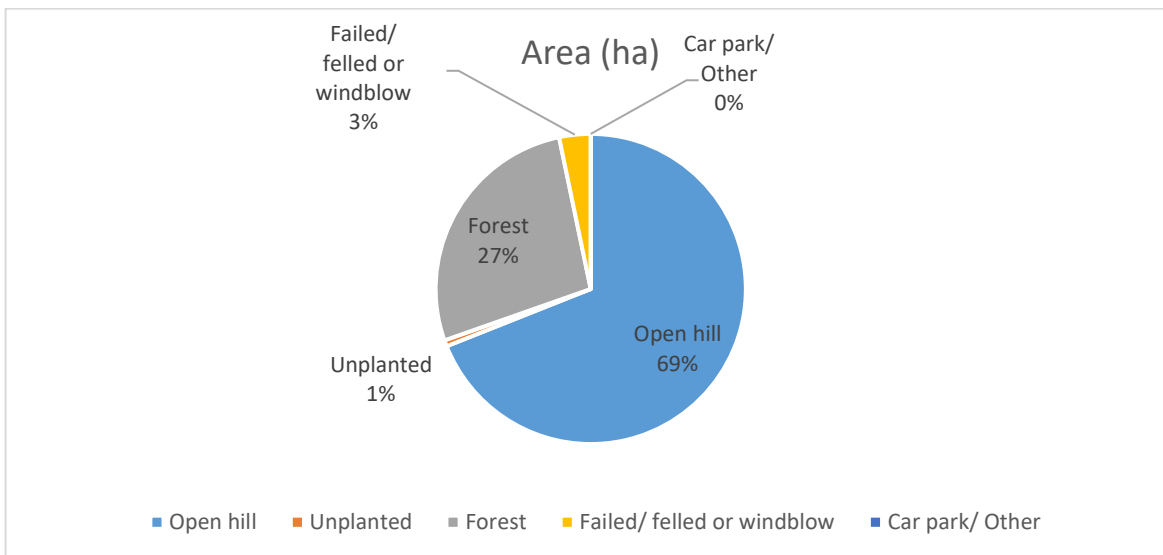


Figure 1: Land use in the Duror LMP area

Excluding the more recently acquired land at Lagnaha, the proportion of open hill reduces to 47% and the relative proportion under forest increases to 46%.

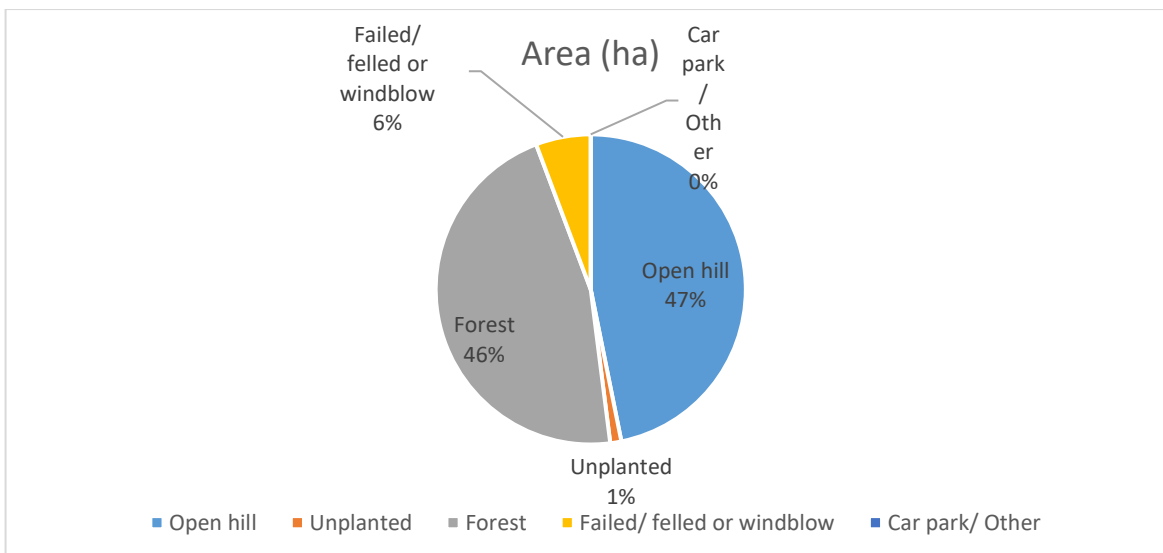


Figure 2 Land use excluding Lagnaha

Sitka spruce dominates the species mix, comprising 79% of all species. Larch is the next most prevalent species, comprising only 6% of the forested area. Removal of larch will be prioritised where possible in the felling programme, in response to the *Phytophthora ramorum* risk, as per the FLS larch strategy (2022) and in compliance with the Scottish Forestry Action Plan (June 2021). Duror lies within the more vulnerable Priority Action Zone, where the targets are to:

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

- Restock will not include larch and alternative species will be selected to create diversity and colour.

A priority will be to diversify the species composition by introducing more alternative conifer species as well as broadleaves, to improve resilience - for example to climate change and the threats of pests and diseases. Climate change models suggest that the general trend will be towards a significantly warmer climate with higher winter rainfall and lower rainfall in the summer leading to a partial soil moisture deficit during the summer months. Although this may have limited impact in the next rotation, in the longer term this may widen the range of species potentially suitable for the site but may reduce the suitability of Sitka spruce as a timber species if significant summer droughts become normal. At the same time, warmer winters and higher average annual temperatures promotes an increase in the type and scale of tree diseases and pests, which increasingly impact species choice and forest management. The increased risk of wildfires also influence the need to increase species and age diversity and establish more open rides.

Native broadleaves comprise less than 7% of the tree species and a further priority will be to increase the proportion of native broadleaves along riparian zones and in the PAWS areas of high-medium ecological potential, as well as protecting ASNW.

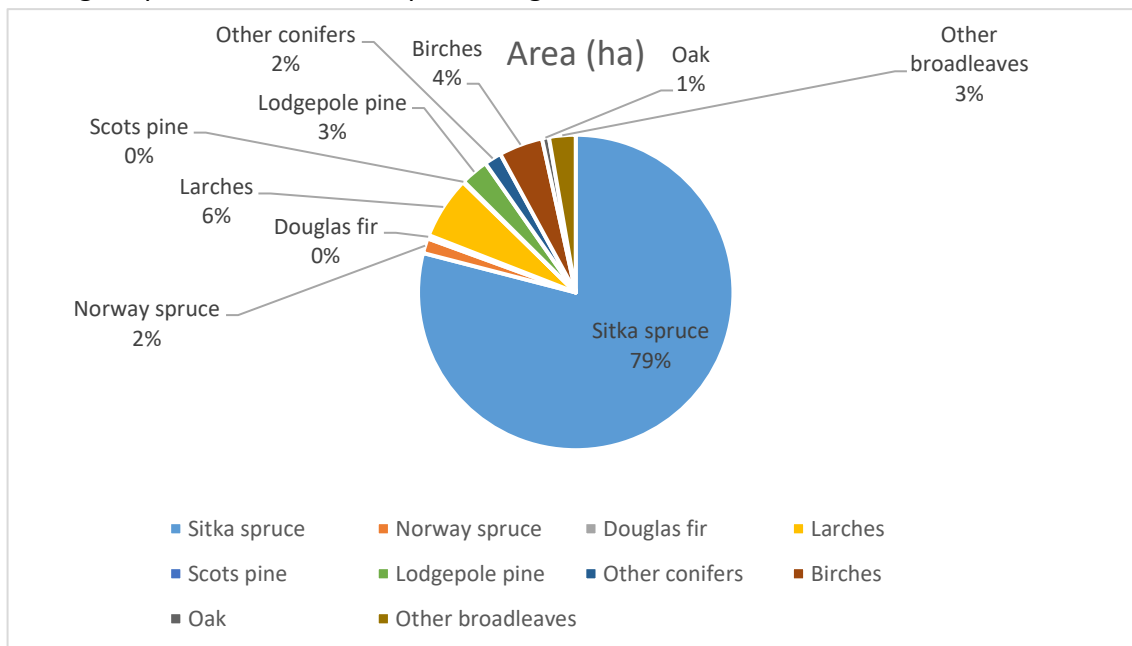


Figure 3 Current tree species composition

Some 85% of the forest cover (conifers and broadleaves) was planted or established in the last 60 years, while 15% of the forest is over 60 years old and only 4% is 80+ years old. 26% of the forest was established in the past 30 years whereas 59% was established between 30 and 60 years ago, reflecting the higher planting rates in the 1960s and the 1980s. A challenge will be to eventually broaden and smooth the age range further, avoiding the predominance of narrow age categories. This will be achieved by allowing a larger proportion of trees to reach over-maturity and old age, while continuing to promote recruitment into the younger age classes.

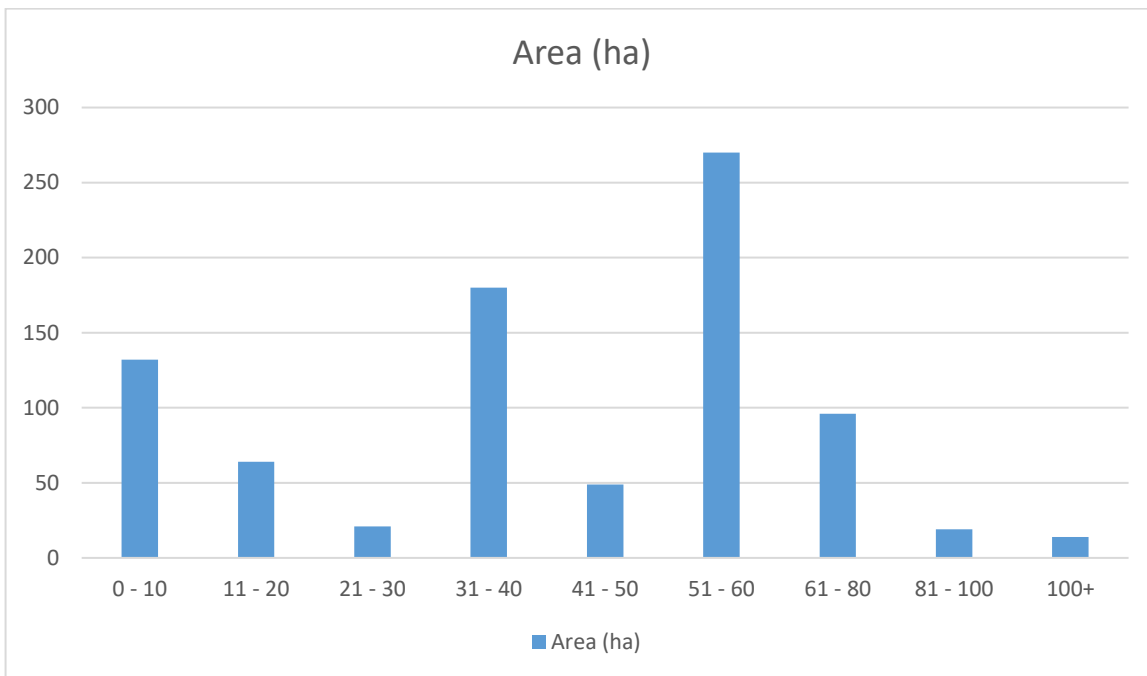


Figure 4 Age structure by all species (ha)

43% of the conifers were planted in the 1950s, with 39% planted in the past 50 years and less than 10% in the past 30 years. There is a lack of older conifers – only 3% are more than 80 years old. Current (spring 2023) total standing volume is 291,000 m<sup>3</sup> across all species (285,000 m<sup>3</sup> conifers). Future production volume (including restock) across the whole rotation as per the current FDP is 406,000 m<sup>3</sup> across all species, 401,000 m<sup>3</sup> of which is accounted for by conifer species. Current standing volume per ha under tree cover (excluding failed, felled and windblown areas) is 372 m<sup>3</sup>/ha for all conifers and 383 m<sup>3</sup> / ha for Sitka spruce. This output is fairly low compared to other blocks in the area (such as Brecklet or Bealach) and reflects significant areas where Yield Class is low. The current FDP /LMP felling and restocking programme predicts highest volume production in the next five years with smaller fluctuations over the following 15 years. However, areas to be felled will be reviewed, including regarding larch removal in response to *P. ramorum* risks.

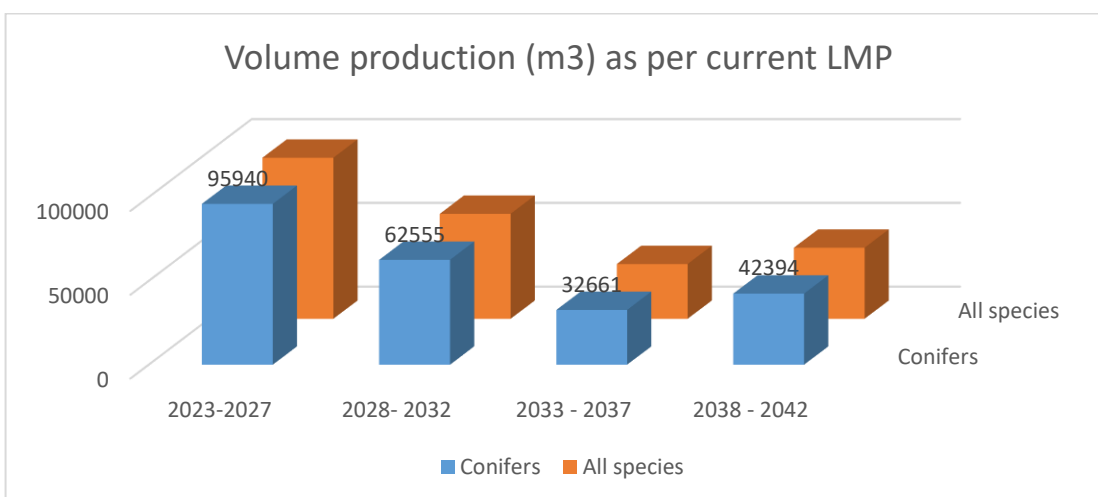


Figure 5 Volume production - current LMP



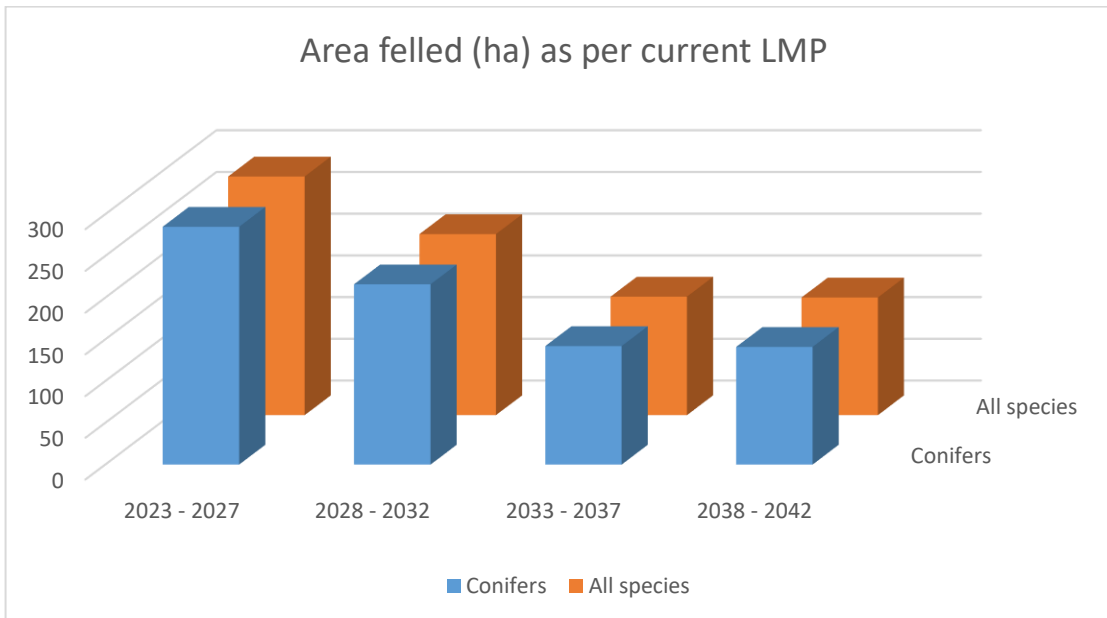


Figure 6 Area felled - current LMP

A 0.69 MW Hydro scheme is sited on the River Duror, developed by H2O Power Generation Ltd and a 0.1 MW extension on a main tributary in the NW part of the forest, by the same developers.

### Operational Access

The forest is well roaded, although some roads are no longer suitable for haulage without upgrade. Within the forested area, long distance / core paths run mainly along forest roads. New ATV tracks may be required at Lagnaha, to facilitate native woodland creation and management and deer control. The requirement for new tracks within the forested area at Duror will become apparent once coupes are harvested.

### Silvicultural Potential

Some of the forested area is on steep ground and various areas that remain to be felled may require winch extraction. Yield Classes throughout the forest are variable - mainly high but with some areas with lower YC (surveyed when crops were approximately 30 years old). 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.

Soils are variable across the forest block: upland and podzolic brown earths, iron pans and podzols with various surface water gleys (particularly in the eastern and southern sections) and intermittent bogs. Upper slopes are characterised by shallow soils, with rock outcrops and boulders. Predicted higher winter rainfall, lower summer rainfall and significantly warmer climate due to climate change will lead to soil changes. This may be a greater likelihood of soil moisture deficits in the summer months and a trend towards greater podzolisation on drier, free draining soils and perhaps more gleying on wetter soils. Decisions on restocking will need to take account of these predicted changes, as well as the greater potential for increased storm frequency and intensity.

Duror falls within the Blackmount Deer Management Group (DMG). Deer pressure (red and roe) is high and coupes show evidence of significant deer browsing with evidence of livestock in places; 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. A Deer Management Plan has been prepared for the Strategic Plan area.

## Achieving National Priorities Locally

The management of Scotland's National Forests and Land is guided by Scotland's Forestry Strategy 2019 – 2029 and FLS' Corporate Plan (2022 -2025) 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 Duror forest makes to our Priorities, Aims and Objectives are:

- Ecosystem services and additional public benefits – sustainable timber production; public access – resource well-used by local residents and by visitors, particularly on the long- distance routes and accessing munros; contributes to tourism income
- Other national commitments – PAWS restoration; Invasive Non-Native Species (INNS); dealing with the potential impact of P ramorum on larch; carbon reduction and climate change mitigation; forest resilience and peatland restoration; protection of water supplies
- Contribution to financial sustainability – range of softwood; hydro schemes

## Draft Land Management Objectives

1. Develop plans for the removal of all the larch from Duror, balancing the risk of disease spread with the needs of sustainable forest management and the safe recovery of the timber
2. Implement timely thinning and manage Low Impact Silviculture Systems (LISS) / Continuous Cover Forestry (CCF) where this is feasible and compatible with required larch removal
3. Build resilience by improving diversity of tree species and age categories; increasing the proportion of alternative conifers, as well as native broadleaves

4. Review the restocking in areas with low YC on wet soils and where peat may be present in discrete areas or in a mosaic
5. Grow some productive broadleaves, where this is accessible for management; compatible with safety, slope and soil conservation
6. Restore the Plantations on Ancient and long established Woodland Sites of high-medium ecological potential to native woodland (within the current rotation where appropriate) and protect Ancient Woodland Sites - balancing the need for economic sustainability with restocking and management of low ecological potential PAWS
7. Strengthen native broadleaves in riparian zones and develop a network of native broadleaved woodland that will eventually link through Duror, from Glenachulish to Bealach and Appin
8. Improve visual amenity and landscape impact of the woodland, with a particular focus on the highly visible frontage to the public roads and settlement
9. Recognise the importance of public access and the involvement of the community in developing the future design
10. 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
11. Design and manage the forest to deliver sustainable carbon management (adaptation, reduction, capture) throughout the rotation, while balancing productivity with resilience

### Key Issues Identified for the LMP

## Corporate outcomes relevant to the LMP are:

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 complex slopes. Protect slopes and conserve soils during and after harvesting.	Plan for the safe harvesting of the current stands of trees while protecting the slope and soils and optimising the return.

Issues	Challenges and Opportunities	Draft Objectives
	<p>Mitigate visual impact of felling coupes.</p> <p>Ensure restock is completed timeously and with appropriate species, to protect slope stability and conserve soils.</p> <p>Costs / benefits of harvesting timber on steep and difficult sites.</p>	<p>Design a restocking programme to protect steep slopes and conserve soils.</p>
<p>Maintain sustainable production volumes from the forest, in the context of the wider linked North Argyll forests.</p>	<p>Soils and other growing conditions on lower slopes are suitable for growing productive broadleaves.</p> <p>High yield classes of existing conifer crops on lower slopes</p>	<p>Continue productive woodland management, including some productive broadleaves, where this is compatible with safety, slope and soil conservation.</p>
<p>Evidence of significant browsing pressure on restock and natural regeneration.</p>	<p>Evidence of livestock ingress from adjacent land.</p> <p>Evidence of deer browsing throughout the forest - this is most significant on higher ground.</p>	<p>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.</p>

## Corporate outcomes relevant to the LMP are:

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
- Identify, protect and restore significant areas of peatland, compatible with continued timber production where there are suitable Yield Classes on mosaic soils

Issues	Challenges and Opportunities	Draft Objectives
Phytophthora ramorum in the area. (This is a key priority for the Duror LMP)	Recovery of standing trees on less sites. Some steep slopes – presenting challenges for felling, particularly in the event of a SPHN (important that felling on difficult slopes is pre-planned carefully). On some slopes (particularly on West side) visual impact of emergency felling in the event of a SPHN or if large areas need to be felled for larch removal.	Develop plans for the removal of all the larch from Duror, balancing the risk of disease spread with the needs of sustainable forest management and the safe recovery of the timber.
Areas of PAWS woodland.	Restoration of PAWS of moderate to high ecological value is a priority but browsing pressure and potential for regeneration of SS and other non -native conifers and invasive species present challenges.	Restore the PAWS of med-high ecological potential to native woodland and consider options for future expansion of native woodland on hillsides and in riparian zones. Deer control to protect young establishing trees.
Presence of ASNW, particularly at Lagnaha.	Browsing pressure is a threat to native woodland regeneration.	Protect ASNW in Duror forest. Protect ASNW at Lagnaha and expand the area of native woodland through natural regeneration and planting

Issues	Challenges and Opportunities	Draft Objectives
	Opportunities for native woodland expansion with existing seed sources.	appropriate native species of local provenance.
Presence of non-native broadleaves e.g. beech and sycamore.	Non- native broadleaves present that may have been planted in riparian zones and along rides.	Remove non- native species from riparian zones and ASNW/PAWS areas but retain and manage these in commercial crops where they do not impact on priority habitat and where they provide silvicultural or amenity benefits.
High visibility of western side of forest that faces the road.	Coupes on higher slopes in this part of the forest are visible from the surrounding area.	Improve visual amenity and landscape impacts of the woodland through design of felling and restock coupes – and where possible, through management as LISS.
Water flow and quality.	<p>Relatively fast flowing main watercourse and many feed tributaries on steep slopes, potentially impacted by harvesting operations – protection of watercourses during felling.</p> <p>SEPA flood maps identify small flood risk on lower reaches.</p> <p>Opportunities to create buffers around watercourses and to develop open canopied broadleaved woodland around main watercourses.</p>	<p>Maintain water quality and mitigate against excessive water runoff.</p> <p>Review restock in areas with large numbers of watercourses close together – consider restock with native broadleaves.</p> <p>Design and deliver felling and restocking programmes to protect water supplies and hydro schemes.</p>
Presence of small areas of peat in mosaic with other soil types.	Small areas of potentially deep peat that have previously been stocked with commercial crop; Yield Class (YC) acceptable for most such	Restock with conifers where high YC. Where YC is low, assess for potential peatland restoration; otherwise manage as open ground or

Issues	Challenges and Opportunities	Draft Objectives
	<p>areas but s/ome areas with low YC.</p> <p>Peatland related habitats present on open ground.</p>	<p>allow natural regeneration of native broadleaves.</p> <p>Avoid woodland creation on open hill in areas likely to be peatland.</p>
<p>Riparian woodland – large number of watercourses.</p>	<p>Presence of conifers on banks of watercourses and in riparian zones.</p> <p>Advance native regeneration on some watercourses – opportunities to promote natural regeneration of native broadleaves in riparian zones.</p> <p>Opportunity to create woodland habitat network linking from Glenachulish to Appin.</p> <p>Open canopied broadleaf riparian woodland will help protect watercourses and slow run-off.</p>	<p>Strengthen native broadleaves in riparian zones and on upper margins; aim to create habitat linkages.</p> <p>Remove non-native conifers and broadleaves from riparian zones.</p>
<p>Evidence of high levels of browsing / grazing of young trees in mid and higher slopes.</p>	<p>Evidence of high levels of browsing leading to failure of restock and natural regeneration on middle slopes and higher ground.</p>	<p>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.</p>
<p>Presence of non- native conifer regeneration in PAWS, in riparian zones and above conifer tree line on open hill.</p>	<p>Potentially, opportunities for local community or Conservation Volunteers to remove small non- native regeneration using hand tools.</p>	<p>Develop a plan to control non-native regeneration from key areas.</p> <p>Consider opportunities to work with volunteers.</p>

## Corporate outcomes relevant to the LMP are:

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, 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.	<p>Access through the forest, including to the James O’ the Glen Bothy and to the open hill is a key provision for the community and for local tourism.</p> <p>Develop more opportunities for the community to contribute to the future design and management of the forest.</p> <p>Consideration will be given to future proposals for community projects related to the forest area.</p>	<p>Recognise the importance of public access and the involvement of the community in developing the future design.</p> <p>Maintain access routes through the forest and open areas around the Bothy.</p> <p>Consider potential community involvement in new foot bridge across river.</p>

### Stakeholders and Consultation

Scottish Forestry - Highland Conservancy

NatureScot - South Highland Area Office

Highland Council – Access Officer

Highland Council – Roads

RSPB

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  
Neighbouring landowners  
Confor  
Highland Council Archaeologist  
Sustrans  
H<sub>2</sub>O Power Generation Ltd

## Appendix II: Analysis of Previous Plan

The previous Forest Design Plan covering the LMP area ran from 23/07/2012 to 22/07/2022 (extended to 31/03/2024)

The Objectives were not clearly stated in the Plan so have been summarised below.

Objectives	Achievements/Changes	Relevance to the plan revision
Produce quality timber sustainably, including broadening range of products through LISS.	Harvesting underway as per the felling programme with some exceptions. Coupe 40314 was scheduled for felling in P1 but not felled. Approx. 2.2 ha SS (1970) left when coupe 40583 felled in P1.	Management coupes are being revised in the new LMP. Area of SS can be felled with the adjacent coupe. It will be extremely important to fell all non- native CONs in riparian zones and upper margins where native woodland expansion or woodland edge habitat is planned.
Redesign upper margins to improve visual impact and links to open hill.	Some improvement of upper margins has been achieved during the felling cycle.	Fell and restock coupes are being redesigned in LMP revision, to improve shape of upper margins and develop woodland edge habitat where possible.
Review and consolidate PAWS woodland.	Coupes felled and restocked with MBL as per Plan. But coupe XXX restock has failed.	PAWS survey identified high ecological potential PAWS mostly in main riparian zone. Low value PAWS in South of forest – can be restocked with commercial crops. Failed BLs restock in XXX will be restocked

Objectives	Achievements/Changes	Relevance to the plan revision
<p>Review, consolidate and if possible extend, opportunities for continuous cover management.</p>	<p>Some thinning has taken place but then was not repeated in time and across most of the identified LISS, the thinning window was missed altogether. Consideration needs to be given to the feasibility of thinning on the very steep slopes in the NW part of the forest.</p>	<p>with commercial crop. Herbivore browsing pressure impacts establishment of BLs and alt. CONS – deer control and removal of livestock from the forest will be business critical. But in the short term, browsing will constrain the areas where BLs can be established.</p> <p>Coupes in the NW are now unsuitable for thinning and will be clear felled and the expectation is that thinning won't be feasible for future restock due to the very steep slopes. Existing young restock on lower slopes can be scheduled for thinning where windblow risk is sufficiently low.</p>
<p>Promote recreational use through maintenance of core and access route and link to long distance cycle route.</p>	<p>Recreational access through forest roads is being maintained but a bridge crossing the river as part of a loop route had failed and has been removed. External public consultation generated various requests for more link paths. Comments also received about surface of part of the Sustrans route through the forest.</p>	<p>Public access through the forest along forest roads will be maintained. An ATV track linking existing roads in the southern section of the forest may be considered, which would enable public access along circular routes of suitable length. Where possible, felling racks will be designed to assist access, where these are appropriate for forestry operations.</p>

Objectives	Achievements/Changes	Relevance to the plan revision
<p>Maintain open space around James of the Glen bothy.</p> <p>Establish long term views along access points.</p>	<p>Coupe design maintains space around the bothy but NR of trees within the open space.</p> <p>Limited improvement of views has been achieved as coupes are felled. Significant views will be opened up when coupes in the NW and SW of the forest are felled.</p>	<p>FLS has no plans to reinstate the footbridge but would consider requests from HC or the community for them to install and maintain a bridge under Agreement.</p> <p>The section of Sustrans track along the forest road is maintained to normal forest road standards, as agreed.</p> <p>Open space will continue to be factored into coupe design. Management of NR required to maintain the open space.</p> <p>Where possible, road margins will be opened up by selective felling to improve views.</p>

# Appendix III: Background Information

## Physical site factors

### Geology and Soils

The geology is complex - granite and diorite dominates to the East and North forming the high ground and at lower levels to the West, the Appin Quartzite formation runs through the forest, stretching from Appin and the western side of Bealach. Silica intrusions form intruded batholiths, plutons, dykes and sills, with igneous intrusions in the eastern part of the forest. A mozaic of schists, slates, psammities, pelites and semi pelites, with occasional mudstones and meta mudstones occur across the rest of the LMP area. These underlying rocks are overlain with hummocky glacial deposits (diamicton, sand and gravel) across most of the forested area with occasional alluvial deposits (clay, silt, sand and gravel) formed in shallow marine, estuary, swamp and delta environments.

Soils are similarly varied but are poorly draining, wet and waterlogged across most of the forested area. Soils range from brown earths and upland brown earths mainly to the West and scattered through the forest, and elsewhere, large areas of ironpans and gleys. There is limited evidence of scenario A peat types within the forested area, although there are significant bog and peaty soil types along watercourses and natural flood plains. These are avoided for restocking with commercial crops in riparian zones and where low Yield Classes are expected.

### Water

Loch Linnhe bounds the forest block to the West, it follows the path of the Great Glen fault and marks the geographical split between the North and South of the fault. The loch condition is Good, overall, with a High rating for some parameters. The River Duror runs through the forest with an overall length of 9.74 km, most of which is within the forest. The River was assessed in 2020 with "Moderate" overall status, with "High" assessments for lack of barriers to fish migration, and freedom from invasive species, but "Moderate" status for water flows and levels. Many watercourses run through the forest, N-S and E-W, most ultimately draining into the River Duror. Forest management will seek to improve riparian zones and to protect water courses during forestry operations.

Three drinking water supplies are present within the forest and the open ground, as shown on *map 12*. A minimum 50 m buffer will be maintained around the drinking water supplies in the forest and the supply on open ground will be buffered when new native woodland is established. Steps will be taken to protect these supplies and Forest and Water Guidelines will be always followed.

*See Maps 12a and b: Water and Water Supplies*

### Climate

Overall, the climate is mild, wet and windy, with average annual temperatures around 8 – 9 C and precipitation above 1800 mm per year. 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 on well drained soils and conversely, the development of gleys and bogs where soils are insufficiently free- draining.

Climate projections point to a warmer climate with lower summer rainfall and higher winter rainfall, which can potentially, support a wider range of species in future.

Climate types within the forested area vary from cool, moist, moderately exposed and cool, moist, highly exposed, to sub-alpine, wet, exposed and cool, wet, too exposed for forestry on the upper slopes on open ground. Establishment of alternative conifers and Continuous Cover Systems will be limited to the more sheltered areas on better soils. The intention is to encourage natural regeneration of native broadleaves on upper slopes where feasible, to create a natural woodland edge habit that transitions to open ground.

## The existing forest

### Age structure, species and yield class

Sixty-nine percent of the LMP area (including Lagnaha) is open hill (across the North Argyll Strategic Plan area, open ground accounts for 62% of the FLS land holding, compared with 33% of FLS land nationally). Only 27% of the land is covered with forestry, including ancient woodland, non- native broadleaves and native broadleaf regeneration:

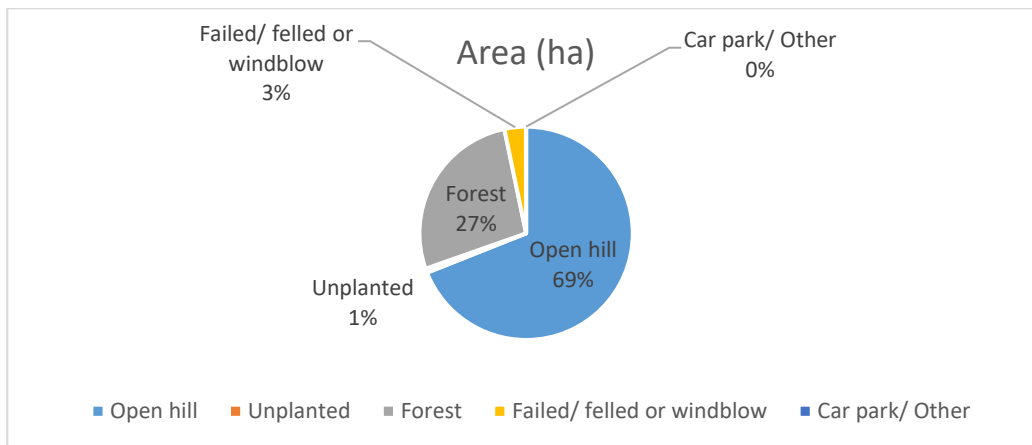


Figure 7: Land use in the Duror LMP area

Excluding the more recently acquired hill land at Lagnaha, the proportion of open hill reduces to 47% and the relative proportion under forest increases to 46%.

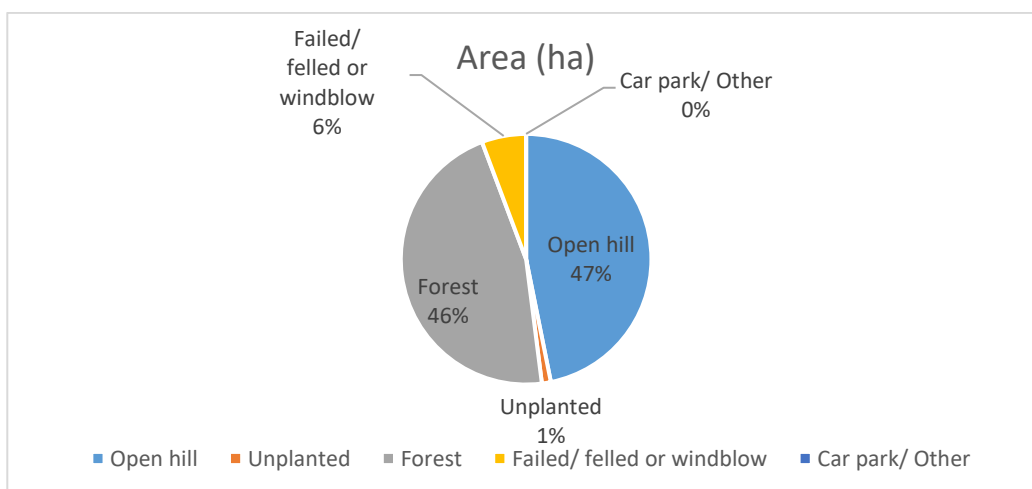


Figure 8 Land use excluding Lagnaha

Sitka spruce dominates the species mix, comprising 79% of all species. Larch is the next most prevalent species, comprising only 6% of the forested area. Removal of larch will be prioritised where possible in the felling programme, in response to the Phytophthora ramorum risk, as per the FLS larch strategy (2022) and in compliance with the Scottish Forestry Action Plan (June 2021). Duror lies within the more vulnerable Priority Action Zone, where the targets are to:

- remove at least 20% of the larch by April 2027 (against an April 2021 baseline and focusing on areas closest to the boundary of the Risk Reduction Zone);
- fell the difficult and complex larch coupes by April 2032 (starting with those at most risk of disease and maintaining a balanced annual programme) and
- construct access to at least 80% of all mature larch by April 2027.
- Restock will not include larch and alternative species will be selected to create diversity and colour.

A priority will be to diversify the species composition by introducing more alternative conifer species as well as broadleaves, to improve resilience - for example to climate change and the threats of pests and diseases. Climate change models suggest that the general trend will be towards a significantly warmer climate with higher winter rainfall and lower rainfall in the summer leading to a partial soil moisture deficit during the summer months. Although this may have limited impact in the next rotation, in the longer term this may widen the range of species potentially suitable for the site but may reduce the suitability of Sitka spruce as a timber species if significant summer droughts become normal. At the same time, warmer winters and higher average annual temperatures promotes an increase in the type and scale of tree diseases and pests, which increasingly impact species choice and forest management. The increased risk of wildfires also influence the need to increase species and age diversity and establish more open rides.

Native broadleaves comprise less than 7% of the tree species and a further priority will be to increase the proportion of native broadleaves along riparian zones and in the PAWS areas of high-medium ecological potential, as well as protecting ASNW.

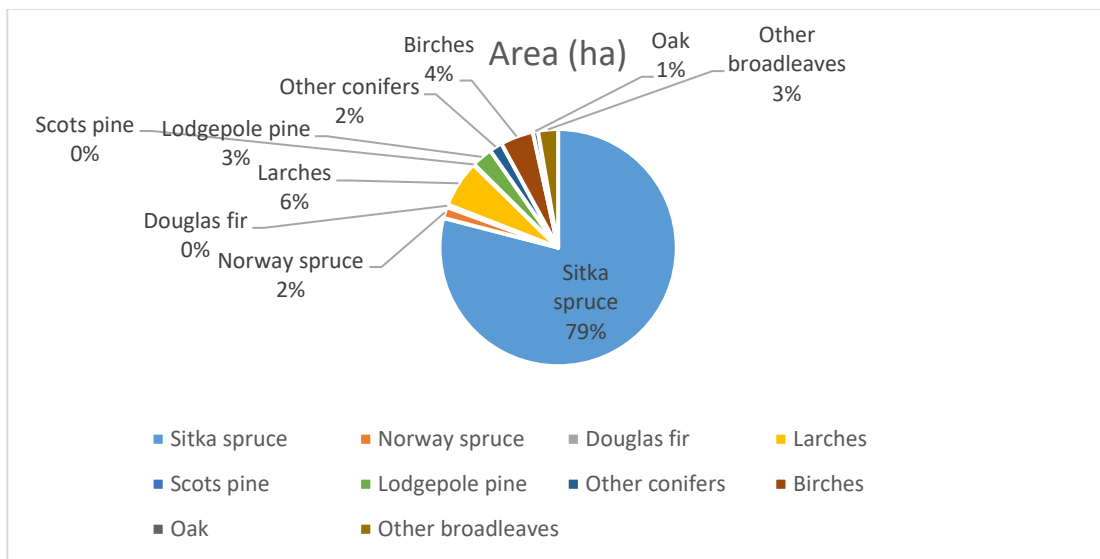


Figure 9 Current tree species composition

Some 85% of the forest cover (conifers and broadleaves) was planted or established in the last 60 years, while 15% of the forest is over 60 years old and only 4% is 80+ years old. 25% of the forest was established in the past 30 years whereas 59% was established between 30 and 60 years ago, reflecting the higher planting rates in the 1960s and the 1980s. A challenge will be to eventually broaden and smooth the age range further, avoiding the predominance of narrow age categories. This will be achieved by allowing a larger proportion of trees to reach over-maturity and old age, while continuing to promote recruitment into the younger age classes. *Map 15 shows planting years.*

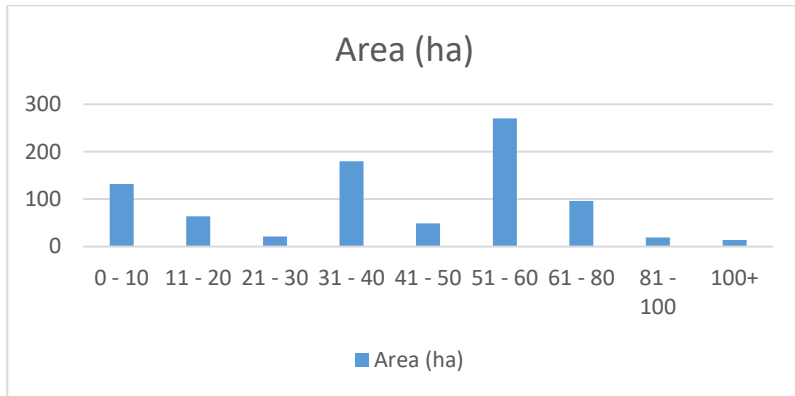


Figure 10 Age structure by all species (ha)

Considering conifers only, 43% were planted in the 1950s, with 39% planted in the past 50 years and less than 10% in the past 30 years. There is a lack of older conifers – only 3% are more than 80 years old.

Total standing volume (June 2024) is 297,292 m<sup>3</sup> across all species (295,844 m<sup>3</sup> conifers). Future production volume (including restock) across the whole rotation as per the current FDP is 406,000 m<sup>3</sup> across all species, 401,000 m<sup>3</sup> of which is accounted for by conifer species. Current standing volume per ha under tree cover (excluding failed, felled and windblown areas) is approximately 400 m<sup>3</sup>/ha for all conifers and 476 m<sup>3</sup> / ha for Sitka spruce. This output is lower than some other blocks in the area (such as Brecklet or Bealach) and reflects significant areas where Yield Class is low. More than 78,000 m<sup>3</sup> will be produced over the 10 year lifespan of the LMP.

A 0.69 MW Hydro scheme is sited on the River Duror, developed by H2O Power Generation Ltd and a 0.1 MW extension on a main tributary in the NW part of the forest, by the same developers.

## Neighbouring Land Use

The forest is surrounded by FLS ground to the North, South and East, with a small length of the march in the north-east adjoining privately owned open hill ground that is grazed by sheep. Private houses, a farm and public roads lie to the West of the forest block and the Sustrans Regional Cycle route runs through and adjacent to the forest here.



# Landscape

## Landscape character assessment

The Scottish Natural Heritage (now NatureScot) Landscape Assessment classifies four distinct Landscape Character Types across the Duror LMP area. Part of the area is classed as Rugged Massif and part as Craggy Upland, with Lowland Ridges and Mosses on adjacent lower ground. Part of the north-west area of the forest is classed as Mountain Massif, which also includes the open ground at Lagnaha, which stretches to Glenachulish and the summits of Beinn a Beithir. The steep sided enclosed glen provides a contrast to the adjacent more open coast and expansive seascape, as well as the openness and rugged grandeur of the high tops, including several munro summits which overlook the glen from the north.

The Rugged Massif Landscape Character Type (LCT 238) can be seen on the lower reaches of Beinn a Beithir, forming the transition between the lower ridges and the higher more mountainous areas. The key characteristics are:

- 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

The forested area in Duror covers small extents of this landscape type on the lower slopes.

Craggy Upland (LCT 244) extends along the side of Loch Linnhe up to the Mountain Massif of Beinn a Beithir. This landscape type is underlain with quartzite and mica-schists and is characterized by a “jumbled craggy landform with rounded rocky knolls, and lochs and isolated lochans retained in rounded hollows”. The patchy mosaic of rock outcrops, heather and moorland grass gives the uplands a characteristic mottled appearance. Key characteristics are:

- Upland moor with an irregular, amorphous landform
- Rounded rocky knolls and upland lochs
- Open moor with conifer forests along glens and extending onto moors, camouflaging the landscape
- Stone dykes enclosing an irregular patchwork of pastures within glens
- Oak-birch woodland within the shelter of lower slopes and within glens
- Isolated farmsteads and small villages within sheltered glens
- Archaeological features sited on edges of high ground

- Short distance views across Loch Linnhe

The Mountain Massif landscape type includes granite peaks with sweeping landscape forms that create strong visual forces. Steep smooth rock faces sweep down from summits in a landscape of vast imposing scale and steep glen sides that rise from a flat base. Key characteristics:

- Grey craggy peaks of vast and imposing scale with sweeping concave slopes of steep, smooth rock faces which plummet into glaciated valleys
- Strong visual force created by the shape profile and accentuated by fans of scree and bracken, which draws the eye up and down the slopes
- Typical glacial forms such as aretes and corries within the hills, and moraine and erratics along the glen floors
- Dense patches of coniferous woodland along the base and sides of the glens, often broken by brown plots of clear-felled forest
- Deep rocky clefts within the hillside and highlighted by silvery burns and shadows, sometimes packed with birch trees, forming meandering mossy veins on the rock face
- Glens affording a small scale refuge from the vast mountainous masses and often containing roads, footpaths, settlement and picnic areas
- Rivers along the glen floor that are wide and shingly near the mouth, steep and rocky higher up the glen; these are often highlighted by clumps of alder, rowan and birch
- Single track roads, often with dead ends, small bridges and stone dykes, concentrated along the small scale glens; their scale provides a contrast to the experience of the vast scale of the landscape

The area to the West of the forest, on the peninsula enclosing Cuil Bay, is Lowland Ridges and Moss (LCT 243). This is characterised by bands of metamorphic limestone within quartzite, slate and mica-schist, orientated south-west to north-east as low rocky ridges. This small scale landscape with distinct linear pattern and diverse land uses contrasts with the wilder character of the forest area.

The forest design must fit with these varying landscapes across a diversity of landforms, taking consideration of limitations to tree growth and constraints to operating conditions.

## Landscape Guidelines

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.

## Landscape designations

Part of the LMP area at Lagnaha (all open hill ground) lies within the Ben Nevis and Glen Coe National Scenic Area.

## Environmental designations

See Map 11b: Conservation and designations.

### Special Site of Scientific Interest (SSSI), SAC, SPA

The Glen Etive and Glen Fyne SPA covers the open hill ground and extends into the forested zones in places, mainly in the north-east section of the forest, which was planted in 2004 and 2010. Operations in the upper zones of the forest may impact on priority species on which the designation is based.

A small area of open ground at Lagnaha lies within the Kentallen geological SSSI, which also takes in a very small part of the Glenachulish LMP area. The SSSI management plan (including the area of SSSI in the Glenachulish LMP area) will be considered as part of the proposed woodland creation scheme at Lagnaha, which will form an amendment to the Duror LMP process. The major part of the designation sits within Lagnaha. NatureScot have advised that a designated sites management plan will not be required for this SSSI site.

### Archaeology: Scheduled Monuments / Unscheduled

There are no Scheduled Monuments or Listed Buildings within the forest.

The James of the Glen Bothy lies in a clearing in the northern part of the forested area - an eighteenth century building on a post-medieval farmstead, which has been occupied through the eighteenth and nineteenth centuries and is recognised as the birthplace of James Stewart (1698 to 1752) “James o’ the Glen”, a clansman who was hanged for the murder of Colin Roy Campbell, a government agent. The building is now maintained as a bothy by the Mountain Bothies Association.

Heritage features found through the forest include remains of settlements and buildings, a disused fank, stone rings, cup marks and an old quarry at Lagnaha. See map 11c: heritage features

These features will be protected during forestry operations, with a marked buffer created and pre-commencement site checks conducted by the FLS Environment team.

## Habitats

The River Duror runs through the forest and has Good to High classification for most parameters, other than for Hydrology and Hydromorphology. The river drains into Loch Linnhe, which currently has an overall Good classification. Many watercourses of differing scale drain into the river, predominantly in a N-S / NE-SW or S-N / SE-NW direction.

ASNW only covers 1.5 ha and most of this is on the hill ground at Lagnaha, above Glenachulish forest - although technically within the Duror LMP area. A small proportion of the ASNW runs along the River Duror in the centre of the forest. However, large areas of native woodland exist in riparian zones, along gullies and on the seaward facing slopes at Lagnaha. There is about 132 ha of PAWS of high ecological potential along the river, which will be restored but elsewhere, ecological potential is low to moderate and these areas will be restocked with commercial species.

The open hill was surveyed in 2017 for priority open habitats. Lower slopes are mainly upland heath and acid grassland, which may be suitable for native woodland expansion. Above the upper margins of both Duror and Glenachulish forests (on land that comprises Lagnaha) there are ASNW remnants, notably W17 *Quercus petraea* – *Betula pubescens*- *Dicranum major* woodland. On higher slopes, montane heath has developed, including some dwarf juniper (above the South side of the commercial forest) as well as various bog and mire habitats, wet flushes and springs.

Important habitats include:

M1 Sphagnum auriculatum bog pool (at boundary with Glen Creran)

M11 *Carex demissa* – *Saxifraga aizoides* mire

M10 *Carex dioica* – *Pinguicula vulgaris* mire

M 17a *Scirpus cespitosus* – *Eriophorum vaginatum* blanket mire ( *Drosera rotundifolia* – *Sphagnum* spp. sub-community)

M17c *Scirpus cespitosus* – *Eriophorum vaginatum* blanket mire, *Juncus squarrosus* – *Rhitiadelphus loreus* sub-community

M19 *Calluna vulgaris* – *Eriophorum vaginatum* blanket mire

M31 *Anthelia julacea*- *Sphagnum auriculatum* springs

M32 *Philonotis fontana* – *saxifraga stellaris* spring (minerotrophic spring)

U16 *Luzula sylvatica* – *Vaccinium myrtillus* tall herb communities (tall herbs within a sink hole including *Angelica sylvestris*, *Succisa pratensis*, *Filipendula ulmaria*, *Saxifraga ulmaria*, *Luzula sylvatica*, *Rumex acetosa*, *Vaccinium myrtillus*)

Minimal active management of these habitats is planned, other than to try to achieve grazing browsing levels that benefit them and prevent the development of rank vegetation. The aim is to achieve this through management of sustainable deer populations and by excluding livestock. The woodland expansion that is planned for the seaward facing slopes at Lagnaha between Duror and Glenachulish will take account of these habitats; planting will be avoided in these areas and natural regeneration controlled where necessary. Priority habitats will be monitored by survey as required, overseen the FLS Environment team. See Map 11b: *Conservation features*

## Species

Golden eagle are found on the open hill, which is covered by the SPA for Glen Etive and Glen Fyne. Black grouse have been recorded at the woodland margins in places. There is evidence of Pine marten activity across the forest. Red grouse and Rock ptarmigan have been recorded on the open hill outwith the forest.

These species will be largely unaffected by forestry operations, although there is potential for impact on Golden eagles if they were to nest in the vicinity of the upper forest margins when harvesting takes

place. Recorded pine marten activity relates to resting places but there could be potential for disturbance when some coupes are felled.

There are records of Wood ant nests at the margin of a coupe in the southern part of the forest. Forestry operations will need to protect these sites, which will be checked and if necessary marked, by the FLS Environment team of Environment Clerk of Works ahead of operations. FLS operates a work planning system where all issues are covered and which provides for pre-commencement meetings or site checks where required, prior to sign-off of the works.

The FLS Environment team or the contract Environment Clerk of Works will conduct site checks prior to work commencing.

## Biodiversity

The open hill and native broadleaved woodland support a relatively diverse mosaic of habitats and related biodiversity, contrasting with the even-aged conifer stands. These habitats will be monitored and any required action taken to ensure that they retain favourable condition.

As outlined, open habitat surveys in 2017 and 2018 identified a range of priority habitats including blanket bog, calcareous grassland, montane heath and springs and wet flushes of various types. The aim will be to protect these habitats. There are extensive areas of upland heath and acid grassland with bracken that are suitable for native woodland creation and the intention is to expand the native woodland cover from the deep gully to the north-west of the forested area, along the seaward facing slopes, to link with the PAWS restoration in Glenachulish.

Priorities to maintain and improve biodiversity will include:

- Through the harvesting programme, clear felling non-native species in riparian zones and restocking with native broadleaves using natural regeneration with enhancement planting where necessary
- Early harvesting of conifers in the large gully in the north-west part of the forest, followed by expansion of native woodland to the North
- Where possible, halo thinning any veteran broadleaves where access, slope conditions and windthrow risk permit this approach
- Protecting important bryophyte and lichen assemblages during harvesting and other operations
- Control of invasive species
- Removal of non-native regeneration along the main riparian zones
- Monitoring priority open habitats and where necessary, controlling tree regeneration or grazing to favour priority habitats
- Improving structural diversity in the younger areas of conifer plantation as early as possible, ahead of eventual harvesting
- Eventual removal of commercial species from significant areas of deep peat and restoration and / or establishment of peatland edge woodland habitat

## Social factors

### Recreation & Community

Approximately 1000 people reside within five miles of the forest but tourism increases the population size significantly in the summer months and the A828 brings high numbers of travellers past the forest. The steep slopes at the north-west end of the forest create a backdrop to the Duror village but the rest of the forest is largely hidden from the roadside.

The commercial forest is well used by local residents for walking, cycling and horse-riding and the Sustrans track runs adjacent to part of the western boundary. A long distance walking route follows the forest roads, exiting to the East and enabling access to the Munros and through to Glencoe. A further candidate core path runs along forest roads in the southern part of the forest. The Mountain Bothies Association maintain the James O' the Glen bothy, which is accessed via a path off the main forest road.

Visitor access is via the forest road and track network. There are no formed footpaths, other than the path to the bothy, although there several desire lines, short in length, that link between roads and ATV tracks. These will be retained at restocking wherever possible. An old footbridge that crossed the river and created a circular route has been removed. FLS has no plans to replace the bridge but may consider proposals for community ownership.

The Duror and Kentallen Community Council have led the preparation of a Local Place Plan, which indicates various sites of interest in Duror forest. A request for the creation of circular routes has been noted, including both the bridge replacement across the River Duror and a link path from the Sustrans cycle route to the parking area at the head of Kentallen bay. As noted above, FLS is unable to provide any new paths but the community may consider progressing community owned assets, under Agreement. A potential path above the shore between the old pier and the Holly Tree Hotel appears not to run along FLS land for most of its length.

The small car park at the forest entrance is increasingly being used as an overnight park-up spot for campervans and motorhomes, which creates problems for residents and other forest users. Horse boxes are sometimes parked within the forest gate if this is left open, due to difficulties with parking in the official car park. Operational management will need to ensure that the gate is always closed. Indications are that visitor numbers will increase; the popularity of the area reflecting the growing visitor numbers in North Argyll and Lochaber. Where possible. FLS will seek to support sustainable visitor use of the forest.

Recreation provision will be maintained and improved where possible. *See Map 10: Visitor zones.*

## Appendix IV: Land Management Plan Consultation Record

### Scoping Brief - consultation

Public consultation on the Scoping Brief was undertaken in July 2023. The Brief was made available for download from the FLS website with hard copies posted to anyone who requested it. Statutory consultees contacted by email and letter. A public consultation event on the Scoping Brief was held on 25<sup>th</sup> July 2023, the report on which is provided separately.

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
Naturescot	14/07/2023	08/08/2023	...Golden Eagle reports ....will be critical in developing the plan to avoid adverse effects on golden eagle feature of the Glen Etive and Glen Fyne SPA. We welcome the plan to improve the visual amenity of the woodland . A very small section of the plan area is within The Ben Nevis and Glen Coe National Scenic Area and the proposals will not affect the special qualities of the NSA.	During LMP preparation and ahead of operations, FLS refers to the Golden Eagle reports mentioned. The FLS Environment team advise and undertake site checks at the work plan stage and pre-commencement. The plan area that lies within the NSA is open ground at Lagnaha. FLS plans to expand the native woodland along the seaward facing slopes here between Duror and Glenachulish forests, a small area of which will lie within the NSA. These woodland creation proposals will be submitted for approval later as an Amendment to the LMP.
SEPA	14/07/2023	14/07/2023	The Plan should maximise opportunities to improve the riparian zone along main rivers, burns and small tributaries to encourage native broadleaf planting and follow the principles as outlined in the Riverwoods In accordance with the published Scottish Forestry "Cultivation of Upland Woodland Creation Sites - Applicants Guide, 2021", the Plan should incorporate low risk ground preparation techniques during new	The LMP proposes to establish native broadleaved woodland along riparian zones through natural regeneration and enhancement planting. Native woodland will also be established along the main gully in the northern part of the forest and above the existing tree line in places, to protect watercourses, improve habitat and create a network of wildlife corridors

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
			<p>planting and/or restocking to minimise soil and carbon losses to air and water.</p> <p>SEPA does not hold information on private water supplies [PWS]. It is therefore imperative to contact the Local Authority Environmental Health Department to establish whether they hold any details on any private water supplies in or around your Plan area.</p> <p>Whilst the 50m minimum buffer is intended to afford protection to public and private water supplies, the forest planting design is crucial to protect these supplies from water quantity changes due to forest establishment. Whilst low density broadleaf trees are acceptable around the edges of the water supply source area boundary, conifers should be kept back from the source area due to the water scarcity pressures they may place upon the supply.</p> <p>Any access tracks should ideally avoid areas of shallow and deep peat to avoid disturbance of peatland ecosystem which may also cause pollution.</p> <p>Prior to site departure, all machinery working within the forest block should be power washed as per good forestry practice to avoid the accidental spread of invasive species. This practice also allows machines to be inspected and repairs identified e.g. oil leaks, tyre wear and metal fatigue. Photographic record of this wash down should be kept for UKWAS audit inspection purposes.</p> <p>For thinning operations, the right machine for the right job is important in order to complete operations</p>	<p>through the forest. This will link to the native woodland that is planned at Lagnaha and with Glenachulish forest, which will be restored to native woodland over the course of the current rotation.</p> <p>The Cultivation of Upland Woodland Creation Sites – Applicants Guide 2021 and the Forest and Water Guidelines will be followed.</p> <p>PWS and their catchments have been identified and mapped and felling and restocking plans take account of these.</p> <p>Significant areas of deep peat have been identified and following felling, they will either be left open or restocked with scattered broadleaves to create peatland edge habitat. However, these areas won't be felled during the 10 year LMP.</p> <p>The only ATV track that is currently being considered does not cross soils indicative of peat. Any other ATV / access tracks will avoid peat where possible or will involve appropriate mitigation measures to minimise peat disturbance.</p> <p>All operational practices will follow UKFS and UKWAS standards.</p> <p>These comments relate to operational matters and are not covered in a LMP.</p>



Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
			<p>without causing pollution issues on site from using oversized machines.</p> <p>For some thinning compartments, brash and/or product availability is limited, therefore the ability to move product around the whole site to address pollution mitigation will form a key part of work planning and execution. In addition, having a selection of pipes on site will provide good back up for water management to separate clean water from dirty tracks.</p> <p>Any fish barriers should be identified such as old impoundments or abandoned weir structures. This would also include old pipe bridges where multiple smooth lined pipes of small diameter covered with a concrete screed are used to cross watercourses. Any identified features should be flagged for upgrade or removal.</p> <p>If there are any old 'fords' these should be mapped, but only used as follows: intermittent quad bike crossings are acceptable, but heavy forestry machinery traversing watercourses is likely to cause pollution. SEPA would therefore expect to see log bridges as per good forestry practice or culverted water crossings in full compliance with the CAR Regulation</p> <p>All drainage from quarries and/or borrow pits must be collected and treated via settlement sumps and natural soakaway areas. This potentially highly polluting effluent must not be allowed to drain directly from site to a watercourse.</p>	<p>These comments relate to operational matters and are not covered in a LMP. However, FLS installs log bridges on watercourse crossing points and standard practice.</p> <p>These are operational matters and are not covered in a LMP.</p>

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
			<p>If the plan is to use tree guard tubes and/or vole guards, then these must come with a tree guard removal plan after the trees are established. Leaving the plastic-based tree/vole guards lying on the landscape is not acceptable and is likely to constitute unauthorised waste disposal. In addition, SEPA fully supports using biodegradable alternatives rather than polypropylene.</p> <p>All waste materials MUST be removed from site for reuse, recycling or disposal upon work completion.</p>	
Highland Council - Access	14/07/2023	14/07/2023	<p>Thanks for the consultation and for the mention of the paths of interest and the community's and Council's aspirations for a replacement bridge on the 4 Mile walk core path (Failed bridge linking trail on your Analysis map). The Council is trying to secure funding for an engineer to develop options for the site which we'd share with FLS.</p> <p>There are a few existing core paths in the area as you say. The route you describe through to Ballachuish is currently a candidate core path. I don't recall anyone objecting to that proposal so it is likely to become a core path if and when all the proposals go through the inevitable Public inquiry into outstanding objections. NCN 78 is also a candidate core path.</p> <p>We'd obviously hope that any thinning or felling also took access management into consideration and that FLS ran any proposed diversions of core paths past us well in advance of any work starting.</p>	<p>FLS will consider proposals from HC, the community or others, for an appropriate body to install and maintain a footbridge under an Agreement.</p> <p>FLS will maintain access along core path routes, which run along the forest roads for most of their length through the forest.</p> <p>FLS will liaise with HC as appropriate, regarding any required diversions of core paths in advance of any felling or thinning operations.</p> <p>All routes will be signed appropriately in advance of, and during, operations and banks people will be deployed as necessary.</p>

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
Scottish Water	14/07/2023	14/07/2023	<p>Thank you for consulting with Scottish Water regarding the above activity.</p> <p><b>Drinking Water Protected Areas</b></p> <p>A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.</p> <p><b>Scottish Water Assets</b></p> <p>A review of our records indicates that there are no Scottish Water <i>assets (including water supply and sewer pipes, water and waste water treatment works, reservoirs, etc.)</i> in the area. This should be confirmed however through obtaining plans from our Asset Plan Providers, listed in the SW list of precautions for assets, which can be found on the activities within our catchments page of our website at <a href="http://www.scottishwater.co.uk/slm">www.scottishwater.co.uk/slm</a>.</p> <p><i>In the event that asset conflicts are identified then early contact should be made with the HAUC Diversions Team via the Development Services portal - <a href="http://www.scottishwater.co.uk/portal">www.scottishwater.co.uk/portal</a></i></p>	No operational public water catchments in Duror forest.
Historic Environment Scotland	14/07/2023	17/07/2023	<p>Historic Environment Scotland is the lead public body established to investigate, care for and promote Scotland's historic environment. Our comments here concentrate on our statutory remit for world heritage sites, scheduled monuments and their setting,</p>	Heritage features will be protected as outlined in the LMP.

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
			category A-listed buildings and their settings, and historic battlefields and gardens and designed landscapes appearing in their respective Inventories. We note that there are no scheduled monuments, category A-listed buildings or Inventory gardens and designed landscapes within the boundary of the Duror Land Management Plan Scoping Brief and therefore we have no locus regarding this consultation. You may also wish to seek information and advice on matters including impacts on unscheduled archaeology and category B and C listed buildings from your local authority's archaeology and conservation services if you have not already done so	
Highland Council – Roads HC Archaeology HC Forest Planning Scotways Sustrans Mountaineering Scotland RSPB Ramblers' Assoc SSE VisitScotland Lochaber DSFB Lochaber FT	14/07/2023		No responses received but may prefer to comment at the draft Plan stage	

Statutory Consultee	Date contacted	Date response received	Issue raised	FLS Response
Butterfly Conservation Trust				

**DUROR LMP SCOPING – DROP-IN PUBLIC CONSULTATION EVENT**  
**3 – 6.45 pm 25<sup>TH</sup> July 2023 at Duror and Kentallen Community Centre**

24 people from the community attended

FLS staff present: Mandie Currie, Douglas Cook, Chris Tracey

The issues raised / comments below were received at the consultation event and separately by individuals following the event:

Issues raised/ Comments	FLS response
<p>Deer control – concerns about numbers of deer seen locally and evidence of browsing  Deer move across the A828 to and from the West  10 stags seen in Cuil Bay</p>	<p>FLS has developed a Deer Management Plan for the whole Strategic Plan area that includes Duror. Cull targets are increasing and deer numbers / impacts will be monitored and cull levels reviewed.  Duror lies within a strategic deer fence, which will be repaired and maintained as necessary.</p>
<p>Presence of livestock in the forest – 4 sheep with 2 lambs seen at back of Kentallen and other sheep seen within forest</p>	<p>A new boundary livestock fence will be constructed between Duror / Glenachulish and the neighbouring ground, as close to the march as is practicable. This requirement has already been identified in the Glenachulish and Strategic Plans.</p>
<p>Request that the large conifers at the entrance are retained</p>	<p>This will be considered during the plan process, provided they remain windfirm and safe. May need to remove some to allow more light for the development of the understorey trees.</p>
<p>Comments regarding visual impacts of felling on the visible steep slopes and on restocking plans</p>	<p>Larch removal is a priority due to risks from Phytophthora and technical issues will determine the size of the felling areas on these steep slopes. Where possible, the intention is to retain the remaining crop in this area for the normal rotation time. Restocking will aim to diversify the species mix as much as possible and broadleaves will be strengthened along watercourses and forest margins. In the longer term, visual amenity will improve.</p>
<p>Comments about windthrow and slope stability; including stability of slope above the car park</p>	<p>There is windthrow throughout the forest. Most of this will be removed when the particular coupe is harvested but hanging trees will be monitored and if necessary, removed if they are unsafe.  There is no evidence of slope instability but pre – planning work on steep slopes will be undertaken to inform harvesting plans</p>
<p>Concerns about impacts of large trees blocking light to residential property in the SW part of the forest.</p>	<p>Impacts of trees (other than safety issues) growing on forest margins will be considered when planning the felling programme, where possible.</p>
<p>Would like the failed bridge that was removed to be retained, enabling a circular walk through the forest. Potential for new conservation group (that is being established) to look at taking on costs / liabilities?  Would like to create a coast to forest walk</p>	<p>FLS has already had some contact with the community and with the Highland Council Access Officer on the bridge. FLS have no plans to replace the bridge but are open to discussions on potentially the community taking responsibility, through a legal agreement, for construction, maintenance and liability of a footbridge.</p>

Issues raised/ Comments	FLS response
Would like the two roads at the southern end of the forest to be linked by a path, enabling a circular route	An ATV track linking the two roads has been identified as an operational benefit and will be considered in the plan.
Support for creation of wildlife corridors between forest areas, especially along the coastal facing margins	Options for creating a native woodland network by strengthening broadleaves in riparian areas and along woodland and track margins is being considered in the plan.
Keep the footpath clear that leads to Ballachulish / Creran	Most of the path route is along the forest roads. There is commitment to retain a route through the forest that links to Ballachulish and Creran,
Request reinstatement of path from Bothy to Ballachulish – section from Bothy that links to roads in NE?	The FLS Visitor Services and Forest Management teams will investigate the work required.
If the drain in ditch at approx. 0507543 could be covered, this would facilitate a circular route	This will be investigated and considered in the plan process.
Request that rides be created at restock to facilitate informal walking through the forest (not asking for more surfaced paths)	This will be considered in the plan process.
Many paths / trails have high use, including unmarked routes. Request to retain some mature trees around these routes to maintain their value.	The aim is to retain native broadleaved trees during harvesting. The retention of mature conifers near paths when the rest of the coupe is felled, may be considered where they provided amenity benefits, provided the windblow risk is low and unless operational or environmental reasons preclude it.
Priority to control / remove INNS Himalayan balsam Rhododendron Japanese knotweed (spreading up Salachan and Duror rivers) Gunnera	INNS work is ongoing but the plan process will identify and evaluate the work required. Most INNS is found outwith the main forested area.
Management of land behind houses – how will this land be used with power lines at 40 – 50 m spacings? Sheep fold in good condition – will this be left open as native woodland is created? Is there scope for lease for small numbers of rare breed sheep?	This will be considered in the plan process. The seaward facing slopes at Lagnaha between Duror and Glenachulish have been identified as suitable for native woodland expansion. The process will involve assessing the open habitats and protecting priority open habitats and key features. Any requests / scope for leasing would be handled by the FLS Estates team through standard processes.
Conservation group interested in partnership working on Atlantic rainforest projects; education and habitat restoration in coastal areas Also interested in wildlife hides – in partnership with community	Options for partnership working with community groups will always be considered by FLS if proposals are put forward.

Issues raised/ Comments	FLS response
Increase in timber traffic may impact on potential developments locally due to limitations of trunk road junction.	The road in question at the trunk road junction is a consultation route. The Local Authority will be consulted and it may be necessary to agree limits of timing, tonnage etc.
Potential impacts of felling on reducing buffering of noise from hydro scheme.	Due to slope steepness, coupe size and design are driven by safety and technical issues but tree cover in coupes waiting to be felled and in establishing restock will provide some continued buffering. Concerns about noise levels from the hydro scheme should be directed to the developers; FLS will seek to raise issues with them during liaison contacts.
Loss of amenity and wildlife corridors from felling.	Felling commercial crops will create visual impacts until the new restocked crop establishes. Native broadleaves will be retained during harvesting and strengthened along riparian zones through natural regeneration and planting. The broadleaved habitat network that will eventually establish will provide a net positive benefit to wildlife.
Potential impacts of forestry operations on Private Water Supplies (PWS) and the need to protect sources. Previous impacts when hydro scheme was being constructed.	All PWS need to be identified and mapped so that the abstraction / source point and the related catchment can be protected during forestry operations and through forest design.
<p>Safety and wellbeing concerns:</p> <p>Amount of traffic passing through residential areas – harvesting and roads contractors, haulage, hydro etc</p> <p>Speed of some traffic (silver pickup seen morning and evening) – The lorry drivers slow down and drive well</p> <p>Forest gate not being locked so camper vans and revellers staying overnight in forest</p> <p>Bothy has been used for parties; Police previously involved in removing them</p> <p>Noise from the second turbine house still not been resolved</p> <p>Taped tree overhanging the A828 between Kentallen and the Hollytree – is it FLS?</p> <p>Sustrans track going along the forest road to the south-west is potholed again and not a suitable surface for cycling/wheelchairs etc.</p> <p>Drainage, maintenance and lack of footway along road adopted by Council from speed limit sign to forest entrance.</p> <p>Concerns about water gathering near houses, below the road leading to the houses.</p>	<p>These are operational issues, which will be addressed as an immediate priority.</p> <p>Contractors and merchants have been reminded about closing and locking gates. Once gates are open, shutting them may be problematic at times, as members of the public sometimes park cars inside the gate. Contractors have also been spoken to about speed.</p> <p>FLS will raise the issue of noise from the hydro turbine house with the developers, who are responsible for this matter.</p> <p>FLS will investigate the taped tree and remove it if necessary if it lies on FLS ground.</p> <p>The FLS Civil Engineers have checked the section of forest road where the Sustrans track runs along it and are satisfied that it meets acceptable FLS road standard, as per the agreement with Sustrans.</p> <p>FLS is not responsible for the public road up to the forest entrance.</p> <p>FLS is not responsible for the road leading to the houses but has assisted by clearing drains, which were blocked.</p> <p>FLS recognises that fly camping in vehicles in the car park creates problems for residents. FLS promotes</p>



Issues raised/ Comments	FLS response
Fly camping in forest car park so residents unable to use it.	sensible use of its forests but lack resources to manage parking in all its forests, where car parks are informal.

## Consultation on Draft LMP

A public consultation on the draft LMP commenced on 24/05/2024 and is ongoing. The draft LMP summary document, full text and maps are available on the FLS website, with instructions on how to provide feedback. A link to the documents was sent to statutory stakeholders and individuals who had attended the public scoping event and had expressed an interest in being kept informed.

Consultee	Date contacted	Date response received	Issue raised	Forestry and Land Scotland Response
Duror and Kentallen Community Council	11/07/24	11/07/24	<p>A meeting was held with the DKCC Convenor, to discuss issues raised at the public consultation event:</p> <ul style="list-style-type: none"> <li>• Replacing the footbridge across the River Duror, which was removed due to its poor condition</li> <li>• Potential to create circular routes, for example paths that link between roads</li> <li>• Possibility of creating a short link path from the cycleway to the road around Ardsheal (NN0071 5726)</li> <li>• Possibility of opening up a route (currently a desire line?) above the shore from the old pier North towards the Holly Tree Hotel</li> <li>• Car park area to allow access to Kiel chapel via old railway (refers to the Bealach forest entrance)</li> </ul>	<p>FLS does not plan to replace the footbridge but may consider proposals for the Community, Highland Council or other relevant bodies, to construct, own and maintain a footbridge under an Agreement.</p> <p>An ATV track linking the two forest roads South of the River Duror may be considered for operational reasons. This would benefit forest users but the track would not be maintained to forest path specifications.</p> <p>Where possible, restocking designs will leave existing desire lines unplanted to enable continued use of these informal routes.</p> <p>A short link from the cycleway would improve visitor access. FLS does not have sufficient budget to implement this but would consider proposals from the community or relevant bodies, which would require external funding.</p>

Consultee	Date contacted	Date response received	Issue raised	Forestry and Land Scotland Response
				<p>Much of the route above the shore northwards from the old pier is not in FLS ownership.</p> <p>The car parking referred to lies within the Bealach LMP area. Informal car parking takes place at Bealach but FLS does not hold data on the level of use. FLS does not have plans to increase parking provision. FLS do not own the road here but do have responsibility to maintain it.</p>

**A drop-in public consultation event was held on 24<sup>th</sup> May 2024 via a FLS stand at the community Local Place Plan consultation event.**

Parameters	Notes / FLS response
<b>Event Date / Time</b>	Duror and Kentallen Local Place Plan – community run event
<b>Venue</b>	Duror and Kentallen Community Hall
<b>FLS Staff Present</b>	Chris Tracey
<b>Summary</b>	Well - attended event. The issues raised were generally of a localised nature with a positive response to the overall proposals for more broadleaf and mixed conifers along the western area of the forest. The protection and enhancement of the riparian areas to create a link from the shore through the forest to the open hill was also welcomed.
<b>Members Public Attended</b>	30+
<b>Issues Raised / Comments</b>	<b>FLS Response</b>
Concern from neighbouring property regarding the retention of the area of fir	The retention of the Noble fir coupe will be revisited in the final scenario. Native broadleaves will be retained.

Parameters	Notes / FLS response
(40977) and its stability given the existing windblow and the greater exposure once the phase 1 coupe 40976 is felled	
The visual impact of the felling of 40976 particularly if material is left on site. Welcomed the species change but would want to see this established quickly	The management coupe size and design is partly driven by operational and safety issues. There will be visual impact for a period until the restocked trees establish. Material will be removed where possible, but brush is commonly needed to help protect soils from heavy machinery. The aim will be to restock this site quickly (hot plant) to help minimise landscape impacts and to protect slopes. The retention of existing broadleaves and restocking with native broadleaves on the forest margin and along watercourses, together with a mixed species conifer crop across the rest of the coupe, will improve visual amenity in the longer term.
Problem with water flowing down the track into the garden of property near main forest entrance.	FLS Civil Engineers have assessed the issue and have determined that the water emanates from the access road / track to the houses, which is the responsibility of users, not FLS. There are no issues in relation to the forest road or crop. FLS have assisted by clearing drains along the access road.
Water supply from the burn for the farm, cottages, campsite and stock. All the other houses here are on the mains.	See earlier comments on PWS. Source points and catchments will be protected during forestry operations and by coupe design. Forest and Water Guidelines will be always followed.
Queries about potential to lease or buy the fank or land on the open hill.	A direct sale of public land is very unlikely here and any decisions on potential lease would be considered once the plan for woodland creation has been developed.
Interest in the management of birch on the FLS open ground and how this might tie in with broadleaved woodland on adjacent land. When will the plan for the Lagnaha woodland creation be started?	Management of existing native woodland will be considered as part of the woodland expansion plans, which will be developed as soon as possible. However, the current priority is to revise LMPs where these are expired / close to expiry.
Sustrans route should be shown on the maps (not on the OS backdrop)	The Sustrans route will be shown on the Recreation and Access map for the draft LMP.

Parameters	Notes / FLS response
Further requests for reinstatement of the footbridge across the River Duror.	This has been covered elsewhere. FLS do not have plans to replace the bridge but may consider proposals from the community or other suitable third parties to install and maintain a footbridge under an Agreement, with external funding.
Short section of path to allow people to cross from the Sustrans track to the road around Ardsheal (NN0071 5726)	It is recognised that this would open up a good walking route. However, due to budget restrictions, FLS do not have capacity to extend access for recreation. FLS may consider proposals from the community or others, which would need external funding.
Linking of the end of roads and tracks to create circular routes.	This is also covered elsewhere. An ATV track linking the two roads on the South side of the river may be considered for operational reasons, which would also benefit people accessing the forest. However, this would not be to a forest walk specification.
Very positive response to the removal of the conifer from the northern gully (NB water supply below) and the establishment of oak	Felling conifers along the northern gully followed by establishment of native woodland here is planned for phase 1 of the LMP. However, this will be challenging work due to the steepness of the ground and accessibility. The successful establishment of broadleaves will be highly dependent on the reduction in browsing pressure (the exclusion of livestock from the forest and deer management).
Question regarding how much larch is being removed in the first phase.	21.35 ha of larch will be removed in phase 1, with 9.52 ha in phase two. A total of 30.87 ha larch will be removed during the 10 year plan period. The remaining larch is accessible and amendments would be sought to remove either by Clear Fell or Fell To Recycle in the event of a SPHN.

## Appendix V: Deer Management Plan

North Argyll Forests Strategic Plan Area

(available as a separate document)

## Appendix VI: Provenance guidance chart

Species	Guidance
SS	Improved QSS standard throughout Alaska (ASS) provenance may be considered (if available) for its slower growing properties in specific locations. i.e. Short Rotation Forestry (SRF) in Windfarm renewables developments.
VPSS	Limited use in best locations
SP	High rainfall type specified as standard. W20
NSP	From the nearest appropriate zone near CFR areas
LP	Only ALP being used in mixture with SS on poorer sites
DF	Seed stand or coastal origin
ESF	Czech or central European
NF	Registered seed stands
GF	Scottish registered seed stands
WH	Registered seed stands with low fluting
WRC	Scottish seed stands
NS	Seed stands, Eastern European or Harz
JCR	Northern Japanese range
NBL	Region of Provenance 10, Native Seed Zone 106
XC	PSSB will advise on any other minor species
<p>Notes: PSSB can provide the most up to date guidance on provenance selection including advice on best suited seed stands. Virtually all seed supplied by PSSB comes from registered seed stands and is based on geographic area compatibility. Use of VPSS has declined as seed orchard QSS improves and this also has a wider genetic base for resilience purposes.</p>	

## Appendix VII: Abbreviations used in the plan

Abbreviation	Meaning
ASNW	Ancient Semi-Natural Woodland
ATV	All-Terrain Vehicle
CCF	Continuous Cover Forestry
DAMS	Detailed Aspect Method of Scoring (A modelled windiness score used to calculate the probability of damaging winds occurring)
ESC	Ecological Site Classification (based on soil and climate information, aids tree species choice)
EIA	Environmental Impact Assessment
FSC	Forest Stewardship Council
FLS	Forestry and Land Scotland
Ha	Hectare
LISS	Low Impact Silvicultural System
LMP	Land Management Plan
MAI	Mean Annual Increment (Average annual growth a tree of stand of trees has experienced to a specific age)
MI	Minimum intervention (minimum level of management)
NR	Natural Reserve
NSA	National Scenic Area
PAWS	Plantation on Ancient Woodland Site
PEFC	Programme for the endorsement of forest certification
RBMP	River Basin Management Plan
SAC	Special Area of Conservation (habitats)
SEPA	Scottish Environmental Protection Agency
SF	Scottish Forestry
SSSI	Site of Special Scientific Interest
SPA	Special Protection Area (birds)
SPHN	Statutory Plant Health Notice
UKBAP	UK Biodiversity Action Plan
UKFS	UK Forestry Standard
UKWAS	UK Woodland Assurance Standard
YC	Yield Class (Index of potential productivity of even-aged stands of trees. Measured in units of cubic metres per hectare per year)



### Species abbreviations

AR = Alder  
BI = Birch (downy/silver)  
CAR = Common Alder  
DF = Douglas Fir  
EL = European Larch  
HAW = Hawthorn  
GF= Grand Fir  
GWL = Goat Willow  
HAZ = Hazel  
HL = Hybrid Larch  
JL = Japanese Larch  
LP = Lodgepole Pine  
MB = Mixed Broadleaves  
MC = Mixed Conifers  
MCP = Macedonian Pine  
NBL = native broadleaves (including SP where suitable for conservation)  
NF = Noble Fir  
NS = Norway Spruce  
OK = Oak (robur/petreae)  
RC = Western Red Cedar  
ROW = Rowan  
SP = Scots Pine  
SS = Sitka spruce  
WCH = Wild Cherry / Gean  
WH = Western Hemlock  
XL = Larch  
XWL = Other Willows

## Appendix VIII: Unexpired EIA determinations / PNs

<b>EIA/ PN</b>	<b>Reference</b>	<b>Map reference</b>	<b>Details</b>	<b>Regulatory body</b>
PN	100679987	NN 0317 5295	Three ATV tracks: 270 m, 370 m and 250 m	Argyll and Bute Council



## Appendix IX: Productive Forestry: Species Selection

Soil Group	Soil Types Relevant to IRS FD	Characteristics	Species Prescription for Commercial Restocking
1	Brown Earths	Soils with typically good aeration and drainage throughout the profile and well-incorporated organic matter. These soils range from very rich to poor and usually allow deep rooting. Likely vegetation to be encountered includes broad leaved grasses, (e.g. Yorkshire fog, Bent), bracken, bramble, foxgloves, violets and a diverse range of herbs.	<p>Douglas Fir on Poor (must be without heather) to Rich fertility with Moist to Dry soil moisture. Desirable intimate or group mixture; European Larch*, Norway Spruce or Western Red Cedar. Generally in sheltered areas with sufficient rainfall</p> <p>Sitka or Norway Spruce on Poor to Medium fertility with Wet to Fresh soil moisture. Desirable intimate or group mixture; each other or European/Hybrid Larch</p> <p>Scot's Pine in Podzolised areas on Poor to Medium fertility with Moist to Dry soil moisture. Desirable intimate or group mixture; Japanese/Hybrid or European Larch*</p> <p>European Larch on Medium to Rich fertility with moist to Moderately Dry soil moisture. Desirable intimate or group mixture; Scot's Pine or Douglas Fir</p> <p>Japanese/Hybrid Larch* on Poor to Medium fertility with Very Moist to Fresh moisture. Desirable intimate or group mixture; Scot's Pine</p> <p>Sycamore on Medium to Rich fertility with Moist to Fresh soil moisture. Desirable intimate mixture: Ash† or European Larch*</p> <p>Where improved climatic conditions allow:</p> <p>Sessile Oak on Medium to Rich fertility with Moist to Slightly Dry soil moisture. Pedunculate Oak (Local seed source if possible) on Medium to Rich with Very Moist to Fresh soil moisture. Desirable intimate/group or blocky mixtures include; Norway Spruce, European Larch*, Western Red Cedar, Silver Birch or Ash</p> <p>Silver Birch on Poor to Medium with Very Moist to Fresh soil moisture. Desirable intimate or group mixture: Oak or Scot's Pine</p> <p>*Ash on Rich fertility with moist to Fresh soil moisture and less acidic sites. Mix in groups with; Sycamore, Oak or Beech</p>
3	Podzols	<p>Develop on unfertile acid soils with high rainfall where nutrients are flushed into the lower horizons of the soil profile. Very poor fertility. Induration or an impenetrable pan will prevent good drainage, resulting in a need to break this impediment with suitable cultivation that will allow freer draining and greater rooting depth.</p> <p>Vegetation common to these soils are ericaceous plants, grasses including Wavy hair, Matt and Purple moor grass. Light bracken and feather mosses may also be present.</p>	<p>Scot's Pine with Moist to Dry soil moisture. Desirable mixture; intimate mixture with Hybrid Larch*</p> <p>Sitka Spruce with Wet to Moist soil moisture. Mix with; Lodgepole Pine in wetter areas or Japanese/Hybrid Larch*</p> <p>Japanese/Hybrid Larch* with Very Moist to Fresh soil moisture</p> <p>Where improved climatic conditions allow:</p> <p>Sessile Oak (not on 3m) with Moist to Fresh soil moisture. Desirable mixture; Hybrid Larch, Scot's Pine or limited Norway Spruce</p>
4	Ironpans	<p>Develop on free draining acid soils with high rainfall. The transfer of aluminium and iron in solution down through the soil profile develops an ironpan that is impervious to water and root penetration. Breaking of the ironpan is desirable, so as to allow drainage of the site and a potential increase in soil rooting volume and nutrient availability.</p> <p>Vegetation and fertility is similar to that of Podzols above</p>	<p>Scot's Pine with Moist to Dry soil moisture. Desirable mixture; Japanese/Hybrid Larch</p> <p>Japanese/Hybrid Larch* with Very Moist to Fresh soil moisture. Desirable mixture; Scot's Pine</p> <p>Lodgepole Pine in elevated areas with Wet to Fresh soil moisture</p> <p>Sitka or Norway Spruce (4 &amp; 4b) with Wet to Fresh soil moisture. Desirable intimate or group mixture; Lodgepole Pine in wetter areas or Japanese/Hybrid Larch or Scot's Pine.</p> <p>Sycamore (4b only) with Moist to Fresh soil moisture. Consider intimate mixture with Japanese/Hybrid Larch*</p> <p>Cultivation that includes amelioration of the ironpan will be considered.</p>
5	Groundwater Gleys	Dominant vegetation is commonly Tufted hair grass, Willows and herbs. Occurring where a shallow water table causes waterlogging and therefore subject to compaction and poorly oxygenated. The soil is permeable but is affected by a fluctuating ground-water table. Moderate nutrient availability.	<p>These areas are generally presumed to be open or riparian zones.. Where rooting depth is adequate:</p> <p>Sitka or Norway Spruce on Medium to Rich fertility with Very Wet to Moist soil moisture. Consider adding blocks of Downy Birch and Alder</p> <p>Intimate mix of Downy Birch and Common Alder on Poor fertility with Very Wet to Moist soil moisture</p>

6	Peaty Gleys	Very Poor to Rich nutritional availability, these soils are indicated by Purple moor grass, Calluna and Cross-leaved heath, with sphagnum prevalent in the North and West.  High winter water table can be expected and good drainage will be required to achieve best results.	Sitka Spruce on Poor to Medium fertility with Wet to Fresh moisture. Experience in IRS FD suggests this crop will rarely establish as a pure stand without fertiliser input. Intimate mix with Lodgepole Pine in wetter and poorer areas or with Japanese/Hybrid Larch* in more Pozolised areas. Consider adding blocks of Downy Birch  Downy Birch on Poor to Medium fertility with Very Moist to Fresh soil moisture
7	Surface Water Gleys	Differing from groundwater gleys in that waterlogging is caused not by a high water table, but by lateral surface-water movement through the soil profile developing a seasonally fluctuating water table. Resulting anaerobic conditions will restrict rooting. Indicative vegetation includes Tussock grass and Creeping Buttercup. Again poor to moderate nutritional availability can be expected.  Drainage will be required along with micro site cultivation such as mounding.	Sitka or Norway Spruce on Medium fertility with Wet to Fresh soil moisture. Desirable mixture; each other, Japanese/Hybrid Larch* or with Lodgepole Pine in wetter poorer areas  Where improved climatic conditions allow:  Pedunculate Oak on 7b Medium to Rich fertility with Moist to Fresh soil moisture. Desirable group or blocky mixture; Norway Spruce
8	Flushed Basin Bogs	Rushes are prevalent. A shallower peat type, nutrient rich and containing some mineral grains. Peat is black in colour.	Please note that there is a presumption against planting areas of deep peats where reasonable productive growth rates are not achievable due to intact hydrology and/or challenging climate.  Forestry Commission Scotland is currently forming a policy for dealing with these soil types. Forest Enterprise Scotland will issue Guidance once a policy is in place. It may be considered that more fertile, flushed peats and areas of deeper peat where hydrology has been irreversibly compromised will remain suitable for restocking.  Where areas of deeper peat are encountered in intimate mosaic with more favourable soils Sitka Spruce (QSS) will be favoured in a mixture with Lodgepole Pine of disease resistant provenance or hybrid larch. On these more nutritionally challenged sites a proportion (up to 20%) of soil improving species such as birch will be considered.
9	Molinia Bogs	Often existing on hillsides where flushing is more pronounced. Moderate nutrition available.	
10	Unflushed Flat or Raised Bogs	Sphagnum Moss dominated bogs, formed as peat levels rose to form a dome, reliant on precipitation for moisture and nutrients. Mineral grains are absent and the peat is reddish-brown and tends to be deeper.	
11	Unflushed Blanket Bogs	Calluna, cotton-grass, deer grass bogs including the hill peats located on upland plateaux and hillsides deeply dissected by burns.	
14	Eroded Bogs	Very poor nutritional status characterised by bog asphodel, deer grass, bog cotton etc. Can be dominated by either deep and frequent eroded areas (haggs) or frequent pools of standing water (flows). Very deep peat.	
15	Littoral Soils	Formed on coastal sands and shingles, such as the dunes found at Morrich More near Tain. The category is split into shingle (15s), dunes (15d) and then sands with varying water table depths (15e,w,g,i). These sands can be distinguished by various levels of mottling. Coastal grasses and heathland plants predominate.	Corsican cannot be considered due to the current DNB moratorium on planting therefore Scot's Pine either pure or in intimate, group or blocky mixture with Birch.  Downy/Silver Birch depending on climate

- NB – These prescriptions must be adopted within the local context set out in the main body of this Forest Design Plan. Climate, (along with soils) must be included as **the** determining factor in final species selection.
- Planting will generally become a mosaic of the species recommended above and will include areas of non-productive open ground and broadleaf riparian zones. Species choice will be dictated by local conditions and agreed after site visits by management staff.
  - No commercial forestry type likely to be suitable on sites wetter than SMR "Very Moist" and vegetation indicating SNR <4.5
  - Origin for SS is QSS. However where conditions are sub-alpine then ASS is preferred
  - Mixed stands mean that each species occupies at least 20% of the canopy. Blocky areas should aim to cover the area that 3-4 mature trees would cover. Mixtures may need management to favour one or more species. Intimate mixtures of broadleaves with Sitka Spruce or Scot's Pine will normally result in the conifer's dominating overtime so planting in blocks is often the better option.
  - \* Due to plant health restrictions there will be no planting of Larch species, Ash or Lodge pole pine (with the exemption of Alaskan provenance Lodge pole pine)

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