



Forestry and
Land Scotland
Coilltearachd agus
Fearann Alba

Strathdon

Long Term Plan 2026 - 2035

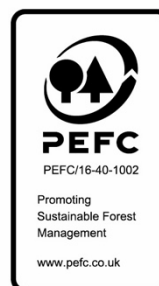
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We manage Scotland's national forests and land to the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification. We are independently audited.

Our land management plans bring together key information, enable us to evaluate options and plan responsibly for the future. We welcome comments on these plans at any time.



The mark of
responsible forestry



Applicant's details	
Applicant:	Forestry and Land Scotland
Address:	East Region, Newton Nursery, Newton, Elgin, IV30 8XR
Agent's name:	Deborah Halliday
Agent's position:	Forest Planner
Agent's contact number:	0300 067 6600
Agent's email:	Deborah.Halliday@forestryandland.gov.scot

I hereby apply for a permission to fell the trees described in this application and I certify that:

I have notified all stakeholders that may be affected by the felling in this application and sought their views prior to submitting this application;

I am authorised to sign legal contracts on behalf of Forestry and Land Scotland;

Any necessary consents from any other person(s) if required, have been obtained;

I have made the necessary checks with the local planning authorities regarding Tree Preservation Orders and Conservation Areas;

I hereby acknowledge that Scottish Ministers may process any of my personal data contained in or relating to this application in accordance with the terms of Scottish Forestry's Privacy Notice, a copy of which is available at www.forestry.gov.scot;

Where applicable and appropriate I have submitted an EIA screening opinion form for operations contained within this application under the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017.

I have read and understand this application fully and, to the best of my knowledge and belief, the information given in this application is complete, true, and accurate;

I accept that any false or misleading information provided in this application constitutes an offence and may result in any felling permission based on this application being revoked at any time;

I have read and understand Scottish Forestry's Privacy Notice, a copy of which is available at <https://forestry.gov.scot/privacy-complaints-freedom-of-information-and-requests-for-information>.

Signed, Pp Regional Manager		Signed, Pp Conservator	
FLS Region		SF Conservancy	
Date		Date of Approval	
		Date Approval Ends	
		Plan Ref. No.	

A. Description of Woodlands

A.1 Property Details

Property (LTP) Name:	Strathdon
Grid Reference (main entrance):	NJ 354131
Nearest town or locality:	Bellabeg
Local Authority:	Aberdeenshire Council

A.2 Location and Background

The Strathdon Long Term Plan (LTP) area is located to the South West of Huntly and is situated within the Cairngorms National Park. The LTP area is 1,986 hectares in size and is split into two blocks, known locally as the Bunzeach and Auchernoch. This area has reduced by 144 hectares from the previous plan, as some areas have been sold off, such as Tom Na Wan (see **Map 1 – Location and Viewpoints**).

The previous plan looked at addressing the issue of the LTP area’s even aged structure, which was a result of the trees being planted in the 1950s and 60s. The new plan intends to maintain this direction of travel and work towards the continuation of age structure diversity within the LTP area. Areas of long-established woodlands of plantation origin (LEPO) are also present within the LTP area.

The presence of Dothistroma Needle Blight (DNB) has heavily influenced past fellings in the LTP area and this plant health issue will continue to be monitored going into the next plan period.

The LTP area provides important habitat for numerous species, with the main block (locally known as the Bunzeach) being identified as a red squirrel stronghold. On the southern boundary of the Bunzeach, a small section of the Morven and Mullachdubh Site of Special Scientific Interest (SSSI) is present on our ground. In addition to this, the LTP area is adjacent to the Green Hill of Strathdon SSSI and Special Area of Conservation (SAC); and Morven and Mullachdubh SAC.

A.3 Existing Schemes and Permissions

The previous Long Term Plan (LTP) approval expired on 06 May 2024. There is an active felling permission in Strathdon’s Bunzeach Block.

Type: Felling Permission

Ref. No: FPA-11286

Details: Felling permission was obtained to enable areas that have been impacted by windblow to be felled during the expiry period of the plan, whilst the new LTP is under review. The felling permission expires on 29 May 2026.

A.4 Stakeholder Engagement

Please see **Appendix 1 – Consultation Record** for full details of consultation carried out during the LTP renewal, all issues raised by consultees, and how they have been addressed in the new LTP.

A.5 Long Term Vision and Management Objectives

Vision

Over the next 20 years, this forest will continue to be managed as a commercial forest. The management of the forest will look to improve the habitat connectivity and the integrity of the red squirrel stronghold by selecting appropriate species and developing permanent riparian habitat corridors of native mixed broadleaves. The larch on the north facing slopes of the Bunzeach offers seasonal variety within the local landscape and will be replaced with diverse conifers and broadleaves to maintain this diversity, if *Phytophthora ramorum* necessitates its removal. Efforts will be made to improve water quality in the catchment by undertaking concentrated areas of broadleaved planting and completing peatland restoration works to facilitate flood management. Commercial crops will remain spruce dominated with Lodgepole pine being used to nurse the Sitka spruce. Scots pine will also remain a key commercial species, but with an increased focus on establishing areas of Scots pine as buffers to open areas. Species will be chosen to match site conditions and will be thinned where appropriate to improve timber quality. Silvicultural systems other than felling and replanting will be used where they are appropriate to meet the plan's objectives.

Long-term Vision

To establish areas of Caledonian pine wood type forest in upland margins and develop a successful network of riparian corridors to improve habitat connectivity within the LTP area. To support a successful, diverse commercial forest, through active thinning in appropriate areas to maximise crop quality and economic returns.

Management Objectives

Due to the variation in site characteristics and differences in management objectives it has been decided that the Bunzeach and Auchernoch blocks should be individually zoned (see **Maps 2 – Zoned Objectives and Table 1 and Table 2**).

Table 1: Bunzeach Management Objectives

Zones	Primary Objectives	Critical Success Factors
1	Retain and enhance the landscape character of the River Don side slopes.	Ensure that agreed coupe shapes which have considered the landform are felled.
1&2	Manage to produce a steady supply of small round wood and logs, whilst also supporting habitat connectivity.	- Undertake the planned thinning and felling programme during the plan period to increase the quality of final product. - Undertake the planned species planting to increase diversity within the LTP area and use Lodgepole pine to nurse Sitka spruce, with deer management being essential to the establishment of diverse species.
1-4	- Ensure Larch remains accessible to ease our ability to respond to a Statutory Plant Health Notice (SPHN) in the future. - Protect and enhance red squirrel habitat. - Improve water quality and flood management.	- Undertake the planned thinning programme to maintain airflow through forest and review ride network at planting to improve internal wind resiliency. - Complete quarry extension to facilitate the required road maintenance to ensure Larch remains accessible. - Chosen species should complement red squirrels, and planted broadleaves must be small seeded. - Develop a permanent riparian network of mixed native broadleaves corridors.
3	Restore deep peat for carbon sequestration and flood management benefits.	Undertake the planned peatland restoration works.
4	Improve the integrity of the Morven & Mullachduch SSSI and adjacent SAC.	- Adjacent felled area established with a Scots pine and native broadleaved mixture to help buffer the spruce regeneration. - Monitor and remove any non-native regeneration on area of SSSI on our landholding.

Zones	Secondary Objectives	Critical Success Factors
4	Protect and keep open the Newe's Craig Still Scheduled Monument	Maintain the 5-year monitoring programme, retaining the juniper, and removing other scrub species as required.

Table 2: Auchernoch Management Objectives

Zones	Primary Objectives	Critical Success Factors
1	Maintain the character of the estate's historical environment.	In appropriate areas plant diverse conifers and retain mature broadleaves along roadside.
1-3	Create riparian corridors to improve water quality, increase habitat diversity and connectivity.	Develop a permanent riparian network of mixed native broadleaves corridors and protect them from deer.
2	Continue to manage this area commercially for the purposes of producing a sustainable supply of small round wood and logs, whilst also supporting habitat connectivity.	Undertake the planned thinning and felling programme during the plan period to increase the quality of final product.
3	The long-term aspiration is to convert this area into a native 'Caledonian Pinewood' type forest with the inclusion of appropriate riparian habitat.	Budget and plan operations to facilitate the removal of the present Larch crop (in preparation to respond to receiving an SPHN in the future) and restock with a Scots pine and native broadleaved mixture.
3	Ensure the Larch remains accessible to ease our ability to respond to a SPHNs in the future.	Complete required road maintenance to ensure Larch remains accessible.

A.6 General Site Description

A.6.1 Topography and Landscape

The elevation of Bunzeach runs from about 280 metres along the river Don, to approximately 650 meters towards the top of Mullachdubh in the south. While Auchernoch runs from about 330 metres along the Water of Nocht, to approximately 510 meters towards the top of Moss Hill in the north.

A.6.2 Geology and Soils

Geology - According to the British Geological Survey 1:625,000 scale survey, the majority of the Bunzeach is situated on gabbros and allied types of igneous rocks. These rocks lead to the creation of soils with a high level of nitrogen availability. The remainder of Bunzeach and about half of Auchernoch are underlain with quartzose-mica-schist, also an igneous rock but one that produces soils with medium nitrogen availability. The final areas of Auchernoch are on graphitic schist and slate, part of the Argyll group of the Dalradian supergroup. This again produces soils with medium nitrogen availability.

Soils - See Maps 3 – Soils for maps showing the soil types present with the LTP area.

A.6.3 Climate

The climate data for Strathdon has been obtained from the Ecological Site Classification (ESC) system. The climate ranges from being a subalpine, severely exposed wet climate towards the Mullachdubh to having a cool, sheltered and wet climate on the North facing slopes of the Bunzeach. Auchernoch has a cool, moderately exposed to highly exposed, wet climate.

The current local climate is described below and highlighted in Figure 1.

- **Accumulated Temperature (AT)** is a measure of the “warmth” of a site. Specifically, it is the sum of “day-degrees” above 5 °C — i.e., how much (and for how long) the temperature exceeds 5 °C. For the Bunzeach, the AT ranges from 540-928 and for Auchernoch the AT ranges from 671-858.
- **Moisture Deficit (MD)** is an index that reflects the dryness of the growing season. It is calculated as the difference between potential evaporation and precipitation. Higher MD values indicate drier sites. For the Bunzeach, the MD ranges from 0-66 and for Auchernoch the MD ranges from 11-51.

The north-east of Scotland is predicted to see a change in climate in the future which will impact forest management. According to the Forest Research Climate Matching tool, the accumulated temperature and the moisture deficit will both have increased slightly by 2050 matching most closely with the current climate of northern Germany, the Netherlands and the east coast of England (Forest Research, 2024).

Furthermore, UK Climate Projections indicate the climate is expected to become more extreme with increased summer drought, winter flooding, and storm events (UKCP, 2024).

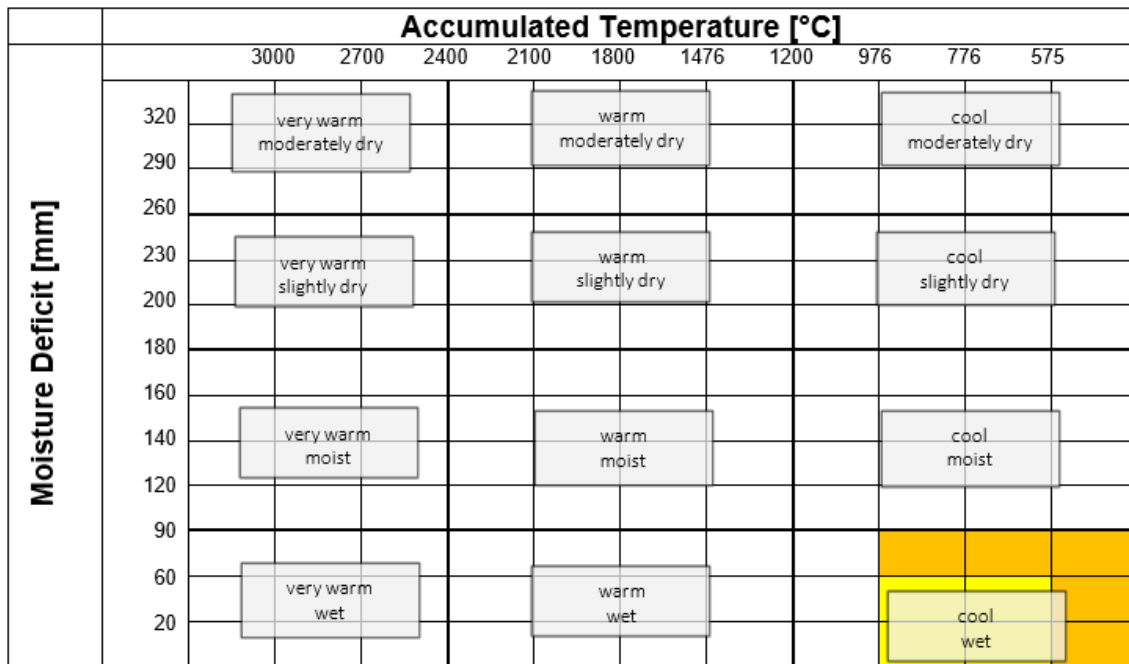


Figure 1: Local climate for Strathdon highlighted in orange for the Bunzeach and yellow for Auchernoch.

A.6.4 Hydrology

The Bunzeach and Auchernoch Blocks are situated within the River Don catchment. The Scottish Environment Protection Agency's (SEPA) Water Classification Hub have identified the River Don as being in a 'Good' overall condition. Bunzeach drains into watercourses such as Deskry Water and Water of Carvie with Auchernoch draining into the Water of Nochtly which flows into the River Don. These watercourses are also classified as being in a 'Good' overall condition.

The Strathdon LTP area is upstream of five of SEPA's objective target areas (OTA): Inverurie, Kintore, Bridge of Don, Kemnay and Dyce, for more information see on Flood Risk Management Plans see <https://www2.sepa.org.uk/frmplans/>. As none of these catchments are highly forested, the proposed small area of felling and restocking within a large catchment will not have a negative impact on the areas prone to flooding downstream. Furthermore, the UK Forest Standard 5th Edition (2024) (UKFS) includes a standard requirement to buffer around watercourses, to slow the flow and reduce the peak flow downstream facilitating with flood management, which we are looking to implement through the creation of riparian corridors. These riparian buffers also strengthen nature conservation more generally. We will also be undertaking an area of peatland restoration which will assist in retaining water on site during the heavy rainfall and releasing it slowly in the days after the storm.

A.6.5 Windthrow

Strathdon has been impacted by windthrow post Storm Arwen and a felling permission which expires in May 2026 is currently in place to salvage some of this windblown timber.

The wind throw risk is measured by the DAMS score for the forest area. DAMS is the Detailed Aspect Method of Scoring. This represents the amount of physically damaging wind that forest stands experience in the year. The range of DAMS is from 3 – 36 and windiness is the most likely limiting factor to tree growth at higher elevations in Britain. The DAMS score along with other site factors will be used to inform on thinning decisions and the design and timing of felling coupes, to minimise the risk of windthrow.

The DAMS in the Bunzeach ranges from 11 -21 (sheltered to severely exposed) and Auchernoch ranges from 13 -17(moderately to highly exposed). See Section C.1 and C.2.2 which informs on how DAMS has been considered.

A.6.6 Adjacent Land Use

The two forest areas of Strathdon LTP fall within the Cairngorm National Park (CNP), a reflection of the quality and value of the area's landscape setting. Given the woodland's location and visibility, landscape is regarded a high priority in the plan objectives and proposals.

Landscape character, as defined by Nature Scot, 2019, varies across the plan area. Many of the hillslopes and uplands are categorised as Upland Glen, Cairngorms character. The most prominent area of the plan, on the valley floor and side slopes of Strathdon is of Broad Glen with Estates Landscape Character Type. For more detail see **Appendix 2 - Landscape**

The plan will complement and strengthen CNP's landscape special qualities and landscape character by:

- Favouring Scots pine on western slopes of Auchernoch where it bounds the adjacent moorland.
- Increasing riparian woodland on lower slopes bordering rivers and burns alongside Water of Nocht.
- Establishing a buffer of open ground, into which Scots pine can spread naturally, above the planted commercial forest and open moorland.
- Establishing native species buffers around exposed upper forest boundaries to limit the spread of non-native trees onto adjacent designated open habitats.
- Renewing the 'Policy' type qualities of the forests in the north of Bunzeach and centre of Auchernoch by favouring a variety of less common conifers and broadleaves with autumn colour
- Managing the forest sustainably as a part of the wider landscape, applying forest design principles to inform felling and planting layout.
- Designing felling to accentuate the rounded nature of the hillsides in the immediate visual envelope of Strathdon near Bellabeg and from the A944 road.
- Maintaining an almost seamless transition between the natural upland and lower lying cultural landscapes.

Viewpoints used in this LTP are positioned at vantage points along the public road network. They are representative and serve to check whether the future forest will sit harmoniously in the landscape and complement the qualities of the NP. Viewpoint locations are shown on **Map 1 – Location and Viewpoints**.

A.6.7 Access

Recreation in Strathdon is low, but it is relatively well used by the local community for the purposes of: dog walking, bird watching, cycling and enjoying nature.

A public right of way runs parallel to a section of the core path in the Bunzeach, and the part near Bluefold had been impassable since Storm Arwen due to wind blow. Operations have recently been undertaken to reclaim this wind blow, making this area accessible for local users.

There is a public right of way through the Bunzeach to access the summit of Morven and another through Auchernoch to access the Ladder hills.

The blocks will continue to be used under the auspices of the Scottish Outdoor Access Code as per the Land Reform act.

See Maps 4 – Key features and Issues

A.6.8 Historic Environment

The plan area contains one scheduled monument, Newe's Craig still, which is on the open ground 3,950m northeast of Morven Lodge. The monument comprises a small, sunken hut interpreted as the site of an illicit still dating to the 18th or early 19th century. It is characteristically isolated and well concealed, in a small gully to the NW of the Deskry Water.

Tulloch Cupmarks is a large erratic boulder bearing cup-markings, enigmatic prehistoric symbols between 3,500 and 5,000 years old, and is situated immediately outside the LTP area. The forest area adjacent to this scheduled monument is not due to be felled until 2060 at which point the scheduled monument buffer that falls within our landholding will not be restocked.

See **Map 5 - Heritage** to see location of scheduled monuments and **Appendix 3 - Historic Environment Records**.

Relevant heritage features (using information held in Forester Web Heritage Data and associated archaeological reports) will be marked out and protected during forestry operations.

A.6.9 Biodiversity

A few areas within the long-established plantation of woodland origin (LEPO) areas have been identified as high conservation value. Peaty soils are present within the plan area that require assessment for potential restoration. The Bunzeach has also been identified as a red squirrel stronghold. Red squirrels are a Scottish Biodiversity List and FLS key species. Red squirrels are protected under the Wildlife and Countryside Act 1981.

A small section of the Bunzeach falls within the Morven and Mullachdubh SSSI. The site supports a wide range of upland habitats. The exposed upper slopes, high top and ridges hold excellent examples of wind-clipped dwarf shrub heath. The slopes hold exceptionally extensive juniper scrub, amongst sub-montane acidic grassland and dwarf-shrub heath. The deep peats hold well-developed examples of blanket bog.

Springs, flushes, fen-meadows, and snow-bed habitats are also found. This wide range of habitats supports

important assemblages of vascular plants and breeding birds. Efforts will be made to remove non-native regeneration in the Morvern and Mullachdubh SSSI. See **Appendix 4 – Designated Site Plan** for more details. Any plans to complete work within this SSSI will first be agreed with NatureScot.

Twinflower is a priority species for conservation. There are thought to only be 500 clones remaining in Scotland, with the Caledonian pinewoods and Scots pine plantations of the western Cairngorms as the main 'strong hold'. Most clones are isolated individuals which poses difficulties for long-term survival as this species rarely sets viable seed when self-fertilised. The Bunzeach contains one of only 3 multi-clonal patches outside the western Cairngorms and should be able to produce a significant amount of viable seed. There are also several other single clone patches. This species needs dappled shade and limited competition from other vascular plants. A varied coupe structure is desirable so that there are different stages of stand development in proximity, allowing twinflower to spread into adjacent patches. However, as Scots pine is light demanding, achieving this balance is challenging. It is best delivered by irregular group shelterwood, with groups being on the larger side. If there is risk of loss of any individual clone, this should be translocated to more suitable habitat. Some disturbance through operations may be helpful to move vegetative material around and redistribute/mix genotypes.

A.6.10 Herbivore Pressures

Deer pressures have historically been managed via culling, with broadleaves being typically planted with tubes and where necessary fencing has been erected to protect palatable trees species. At present deer management is completed via contract, but in the past this has been completed in house via our Wildlife Ranger.

Rabbits and hares present an additional browsing pressure within the Strathdon LTP.

- Auchernoch: Lost Gallery and Rhynstock have historic rabbit damage and high hare presence in restocks
- Bunzeach: Predominantly hare related browsing pressure

Past Rabbit and Hare Population Control:

- Rabbit and hare control was completed in house via our Wildlife Ranger

A.6.11 Invasive Species

There are no records of invasive species within Strathdon.

A.6.12. Utilities, Renewables, and other developments

A.6.12.1 Telephone Mast

There is a telephone mast in Auchernoch, and the owners are seeking to lay a new cable in the block.

A.6.12.2 Public Water Supplies and Associated Pipelines

There is no known Scottish Water infrastructure within the Strathdon blocks.

A.6.12.3 Private Water Supplies and Associated Pipelines

Private water supplies (PWS) are located within the forest. They are a combination of Type A and Type B supplies; each governed by separate legislation. Unregistered water supplies serving individual properties also exist within the LTP area. The management of these PWS will be addressed in a separate confidential appendix submitted separately to Scottish Forestry.

A.6.12.4 Electricity Lines

SSEN have distribution lines surrounding the LTP area. There is a historic wayleave in the central strip of the Bunzeach for an overhead powerline which is not present.

A.7 Woodland Description

Maps 7 – Current Species which shows the current tree species composition and pattern.

Sitka spruce, Scots pine and Norway spruce are the most common tree species, making up over 60% of the current forest cover with open ground making up 15.6%. Larch currently accounts for 4% of the forest cover. The broadleaf coverage is currently 3%, which is below the UKFS target of 5%

Table 3: LTP area by species.

Species	Current Area (ha)	Current Area (%)	Year 10 Area (ha)	Year 10 Area (%)	Year 20 Area (ha)	Year 20 Area (%)
Sitka spruce	806.3	40.4	658.7	33.1	634.5	32
Scots pine	257.4	13	268.7	13.5	332.3	16.7
Norway spruce	177.8	9	189.6	9.5	226.4	11.4
Lodgepole pine	130.7	6.6	72.1	3.6	106.5	5.4
Larch	86.7	4.4	63	3.2	52.1	2.6
Other conifers	58.6	3	70.8	3.6	92.2	4.6
Native mixed broadleaves	61.2	3.1	107.2	5.4	180.5	9.1
Other broadleaves	2	0.1	2	0.1	2	0.1
Open ground	310.3	15.6	302.4	15.2	311	15.7
Felled awaiting restock	95	4.8	251.5	12.7	48.5	2.4
Total	1,986	100	1,986	100	1,986	100

Chart 1: LTP Area by species

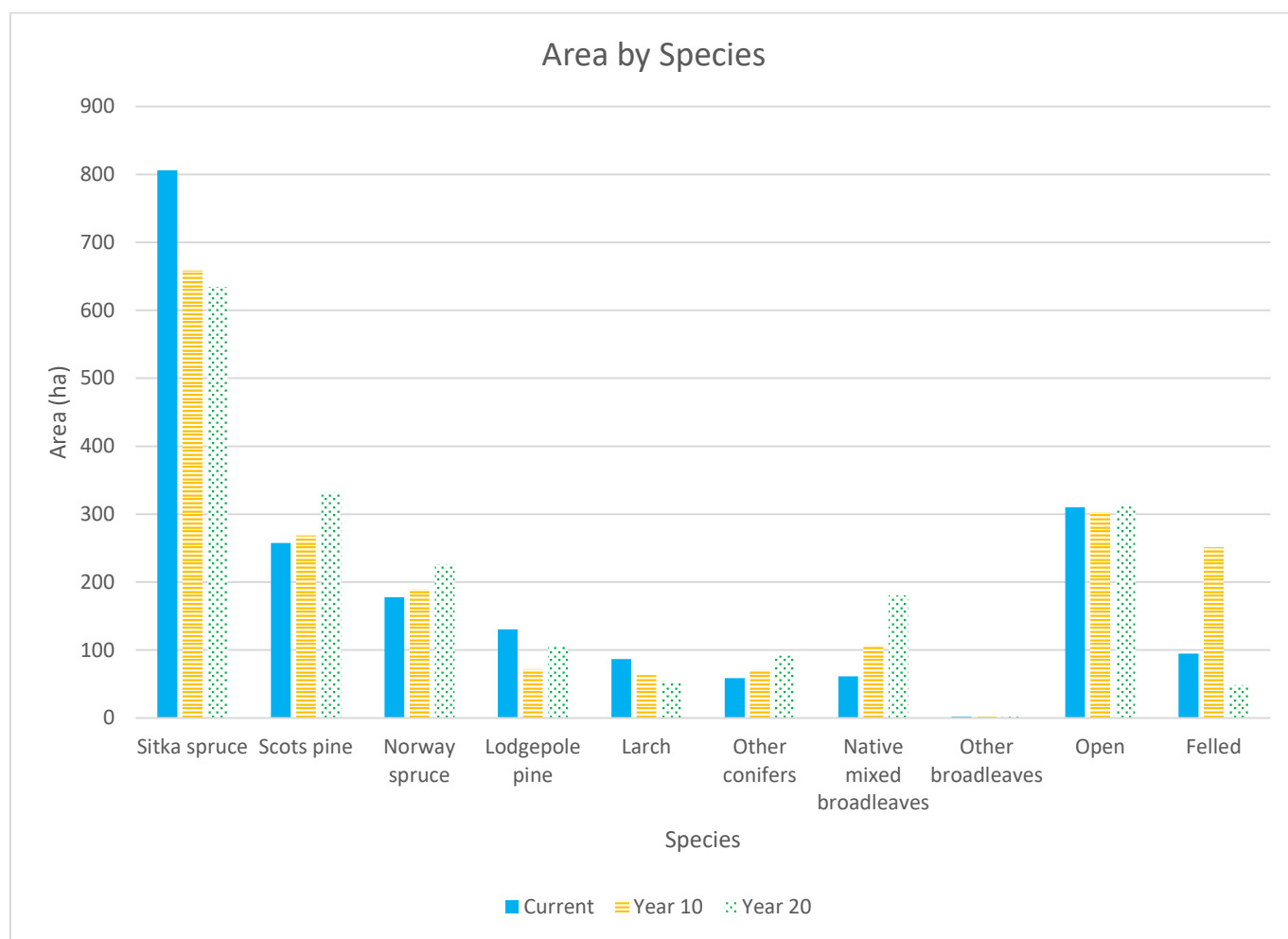
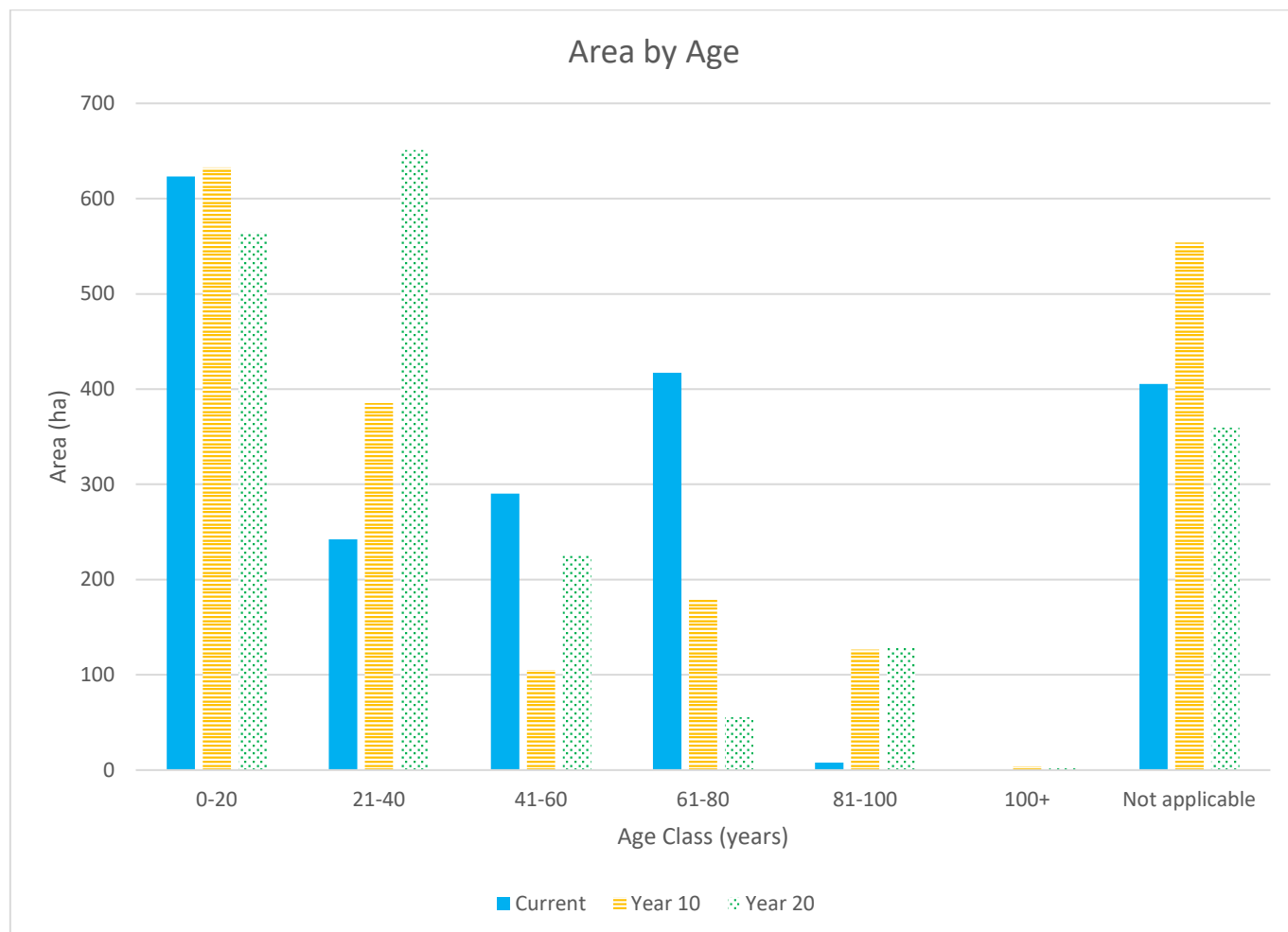


Table 4: LTP Area by age

Age Class (years)	Current Area (ha)	Current Area (%)	Year 10 Area (ha)	Current Area (%)	Year 20 Area (ha)	Current Area (%)
0 – 20	623.2	31.4	632.7	31.8	564.3	28.4
21 – 40	242.3	12.2	385.4	19.4	651	32.8
41 – 60	290.3	14.6	104.5	5.3	225.1	11.3
61 – 80	417.1	21	179.4	9	55.5	2.8
81 - 100	7.8	0.4	126.6	6.4	128.4	6.5
100+	0	0	3.5	0.2	2.2	0.1
Not applicable (open and felled)	405.3	20.4	553.9	27.9	359.5	18.1
Total	1,986	100	1,986	100	1,986	100

Chart 2: Area by age



A.8 Plant Health

A.8.1. Dothistroma Needle Blight (DNB)

DNB, first found in the UK in 1954, is the major threat and damaging agent for pine species. It causes premature needle defoliation, resulting in loss of timber yield and, in severe cases, tree death. It is also known as red band needle blight because of the colourful symptoms it shows on pine trees. Moisture is required for natural dispersal of the fungus, and long-distance dispersal is thought to occur in moist winds and mists. In the last plan DNB influenced the design of felling coupes, with the severity of DNB ranging from dropping a couple of yield classes to high levels of mortality within the stand. Presently there are no known hotspots of DNB in the Strathdon LTP.

A.8.2. Large Pine Weevil (*Hylobius abietis*)

The Large Pine Weevil (*Hylobius abietis*) can cause extensive feeding damage to young trees used to restock clearfell sites, but damage is often highly variable. This species lays its eggs in deadwood/stumps on clearfell sites and the emerging adults feed on the bark of young trees, often with devastating effect on newly planted conifer crops.

FLS is following a chemical reduction strategy. This involves limiting chemical applications only to occasions when they are essential. To allow this strategy to be followed we carry out *Hylobius* monitoring surveys which informs the minimum recommended fallow period is used prior to restocking.

Restocking is typically expected to have taken place within 6 -12 months of the site being felled. However, the site should be evaluated for its *Hylobius* risk through monitoring and where *Hylobius* populations are high a fallow period up to 5 years should be considered.

A.8.3. Fungal plant pathogen *Phytophthora ramorum*

Strathdon is situated in the Priority Action Zone for *Phytophthora ramorum*. *Phytophthora ramorum* is a fungus-like plant pathogen which attacks a wide range of tree and shrub species. European and Hybrid larch are particularly susceptible to *P. ramorum*, but current evidence indicates that the impact of the disease is greatest on Japanese larch, which can die within one to two seasons, with consequential economic, environmental and amenity impacts. Therefore, there is currently a moratorium on the planting of Larch within FLS woodlands, to try and help slow the spread of the disease. Strathdon is located within the *Phytophthora ramorum* risk zone 3 ([Crown 2026](#)) which has been identified in the FLS Larch strategy as being a less vulnerable area to *P. ramorum* and natural regeneration of Larch in this zone may be accepted and respaced to promote Larch as a future mature species. To accept Larch regen it must: be suited to site conditions, support the achievement of management objectives and be accessible. Despite the risk of *P. ramorum* being lower in this zone FLS staff will remain vigilant to signs of *P. ramorum* and will take the required action to remove any trees found to be infected. We will try to retain existing Larch stands where practical to maintain the species diversity within Strathdon and accept Larch regeneration where it occurs.

A.8.5. *Phytophthora austrocedrae*

Phytophthora austrocedrae has been identified in the Juniper within the plan area (around NJ 361069). When initially discovered a 400m buffer zone was put in place and there was a policy of not entering this area. This restriction has since been lifted and now only those entering the actual juniper area must undertake the bio-security measures put in place. There are no plans to try to eradicate the infected plants, but no additional juniper is to be planted. The situation will continue to be monitored, and all future actions will be taken in line with the developing scientific research and recommendations.

B. Analysis of Information

B.1 Constraints and Opportunities – and Concept

Tables 5 and 6 detail the objectives identified, the opportunities and constraints that these present and the concepts detailing how they will be addressed. The Bunzeach and Auchernoch blocks have been zoned into 4 and 3 zones respectively. The zoned boundaries can be seen on the zoned objectives maps. Due to the variation in site characteristics and differences in management objectives it has been decided that the Bunzeach and Auchernoch blocks should be individually zoned. The Bunzeach and Auchernoch blocks have respectively been separated into four and three zones. The objectives for each zone and relevant block can be seen in tables 1 and 2. Please refer to the zoned objectives maps which depicts these zones (see **Maps 2 – Zoned Objectives**). The key features and issues are outlined on **Maps 4 -Key Features and Issues**. The Concept maps (see **Maps 8 – Concept**) illustrates how the plan concept incorporates the important constraints and opportunities into the management objectives.

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
Landscape				
Retain and enhance the landscape character of the River Don side slopes.	- Removal of Larch will have a visual impact on local landscape character. - Potential loss of Larch through an SPHN will impact the seasonal diversity found within the landscape. - The intimate/diverse scale of the landscape limits the appropriateness of largescale clearfells informed by landform analysis. - Area is highly visible within the local landscape (including local community and public road). - Area of wind blow is visible from the public road. - Operations to remove sporadic wind blow could have a negative impact on landscape.	- Restructure and increase the component of native broadleaves through planting to maintain the seasonal diversity and compensate for the potential loss of the Larch element. - Restore the attractive local landscape by clear-felling an area of significant, unsightly windblow. - Remove visible areas of sporadic windblow.	- Design to maintain seasonal diversity using mixed broadleaves to replace Larch. - Maintain commercial element via thinnings and designing coupes that respond to landform. - Large trees will be retained through LISS management/Minimal interventions. - Prioritise wind blow clearance on visible slopes and sympathetically remove sporadic wind blow via thinning operations and clearfell with seed trees.	1

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
Commercial				
Manage to produce steady supply of small round wood and logs, whilst also supporting habitat connectivity.	- Budgeting/environmental constraints on site enhancement via use of fertiliser. - Existing second rotation crops (spruce) are under performing due to water and heather check in places. - Present Hylobius issues in restock areas are likely to be exacerbated by future felling operations. - Highly constrained uplands due to waterlogging, heather, and low nutrient soils. - Roads are in mixed condition with some requiring road maintenance before felling can proceed. - Wet areas – restrictions on site adaptations reduces capacity to drain wetter	- On upland areas where appropriate have larger clearfells that are more commercially viable. - Thin to improve quality of final crop in areas where DAMS is low. - Design felling coupes to pick up areas most impacted by wind blow. - Match species to site to maximise output/commercial return (minimise inputs). - Good accessibility with road network reaching all parts of the forest.	- Prioritise thinning in suitable areas and conduct alongside fellings and wind blow clearance. - Stagger felling to avoid adjacency issues. - Reassess areas for commercial viability and restructure forest accordingly (diversify species mix from spruce). - Budget for road maintenance to coincide with felling phases. - Accept retention of areas beyond MAI for habitat connectivity, until adjacent areas can support the red squirrel population. - Assess viability to drain for commercial crop or	1&2

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
	soils, limiting species crop viability and yield. • Wind blow is present in areas of crop at Mean Annual Increment (MAI) – to maximise income these areas would require felling soon. • Present habitat fragmentation necessitates retaining some areas beyond MAI, increasing the risk of wind blow and reduced financial returns. • Current budget constraints limit ability to fence establishing crops (form and success rate). • Priority open habitats limits the opportunity to extend commercial plantation.	• Increase financial resiliency through diversifying crop species. • Expand quarry to source material locally to undertake required maintenance.	accept reduced yield/ convert to environment habitat. • Budget for fencing where it is deemed a priority along boundary fence and deliver within 5 years. • Seek SOR from Scottish Expand the quarry. • Restock with species more suited to site conditions, such as Scots pine. • Restock Spruce in mixtures with Lodgepole pine on nutrient poor sites and sites affected by heather. • Determine likelihood of the crop closing canopy and consider removal	

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
			and restocking with a suitable alternative.	
Environment				
• Ensure Larch remains accessible to ease our ability to respond to a Statutory Plant Health Notice in the future. • Protect and enhance red squirrel habitat. • Improve water quality and flood management.	• Larch is mixed in with other commercial crop and in zone 1. It is situated on steep slopes and road will require maintenance to access it. • DNB has historically influenced felling coupes in this block. • The threat of DNB prevents the planting areas of 100% Lodgepole pine. • Increasing the broadleaf component and planting more diverse species will incur higher establishment/protection cost. • Protecting planted broadleaved corridors from	• Thin appropriate areas to maintain air flow within crop. • Clearfell and redesign at restock to improve wind resiliency through amending ride network and crop density. • Restocking Larch with appropriate broadleaves and diverse conifers will retain diversity. • Match species / restock to site conditions to maximise productivity, reducing the need to fertilise.	• Thin and monitor larch and ensure permissions are in place to expand quarry to maintain roads as required. • Review ride network at planting to improve internal wind resiliency. • Alter species density on upland margins to increase wind resilience. • Design felling phases and future species to promote age and species diversity to maintain and expand the red squirrel habitat. • Establish/expand riparian buffers around viable OS mappable watercourses.	1-4

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
	browsing pressures will be expensive. • Broadleaves to be planted are restricted to small, seeded broadleaves to favour the red squirrel. • The broadleaf component is low across the LTP. • Spruce seed source is challenging and costly as removal of regeneration is required on open ground, including priority habitats and along water edges, previously opened for riparian habitat.	• Open water courses through thinning and appropriately phased clearfells. • Engage with stakeholders regarding water quality and management in the Don Catchment. • Areas of peaty soils in zone 3 have the potential to be converted to wet woodland habitat. • Retain sufficient standing timber to maintain habitat connectivity. • Establishing concentrated areas of broadleaves will ensure future habitat	• Contribute to ongoing catchment remediation via improvements to the riparian habitat to compliment neighbouring landowners' efforts. • Monitor spruce regeneration on priority open habitats and take action to remove once it is 1 m.	

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
		connectivity for the red squirrels. Increasing the proportion of broadleaves and bring the plan in closer alignment with the UKFS.		
Environment Restore deep peat for carbon sequestration and flood management benefits.	Peat restoration reduces area of commercial crop.	- A survey has identified deep peat is present and has potential to be restored. - Restore peatland in area of failed crop to function as a carbon sink.	- To restore all viable areas of deep peat. - The extent of the peatland restoration will be determined by an assessment of the area's hydrological unit once the overstorey is removed.	3
Environment	Signs of spruce regeneration on open ground has	Replant felled area immediately adjacent to a priority open	Establish a moorland edge woodland habitat to function as a buffer	4

Table 5 - Bunzeach objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
Improve the integrity of the Morven & Mullachduch SSSI and adjacent SAC.	potential to spread on to SSSI & SAC.	habitat with Scots pine and native broadleaves instead of restocking with the planned Sitka spruce.	area to mitigate the likelihood of Sitka spruce regenerating onto the Morven & Mullachduch SSSI and adjacent SAC. Monitor spruce regeneration on priority open habitats and take action to remove once it is 1 m.	
Secondary Objectives				
Cultural				
Protect and keep open the Newe's Craig Still Scheduled Monument	Restrictions will apply to forest operations.	To protect a locally historically important monument.	Operations will be UKFS and UK Woodland Assurance Standard (2024) (UKWAS) compliant.	4

Table 6: Auchernoch objectives, opportunities, constraints, and the resulting concept that addresses these.

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
Landscape				
Maintain the character of the estate's historical environment.	- Herbivore pressures within the block may make the establishment of diverse species challenging. - Fencing may be required, as an additional level of protection, which increases establishment costs.	- Take advantage of brown earth soils to plant more diverse conifers in the presently felled areas. - Mature trees in avenue along the roadside and neighbouring walled gardens are in keeping with the historical estate's environment.	Maintain the area's character through planting of appropriate diverse species that are in keeping with the area's historic aesthetic and LEPO classification.	1
Commercial				
Continue to manage this area commercially for	Environmental constraints such as a	Younger crops have the potential to be managed under	Design and programme	2

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
the purposes of producing a sustainable supply of small round wood and logs, whilst also supporting habitat connectivity	nesting raptor in the block, severely restrict times of harvesting operations. - Habitat connectivity within the block is already fragmented, so further felling of mature trees in this area would exacerbate this issue. - Retaining the mature trees beyond their economic felling age for habitat connectivity, will increase the risk of windblow and future economic losses. - Residents who have property within the block require to use forest roads; this may restrict timber haulage.	a LISS fell system through thinnings. - Maintaining a thinning cycle will help produce revenue throughout the crops' rotation and has the potential to increase the volume of logs as the desired product. - There is access to an agreed timber transport route which will facilitate timber haulage. - Mature trees are ready for harvest in this area for revenue. - Keeping mature trees past their economic felling age will enable food source and habitat connectivity for the red squirrels to persist, whilst the younger areas of crop mature.	couples to preserve habitat connectivity and enable operational flexibility in the event of the arrival of a nesting species and carefully plan the timing of thinning operations to ensure the forest area remains commercially productive, whilst minimising disruption to residents.	

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
Environment				
Create riparian corridors to improve water quality, increase habitat diversity and connectivity.	• Mature crops sited on steep slopes have been planted up to watercourse edges and are operationally and financially challenging to remove. • Stream sides which have been left unplanted next to younger restock plantations are regenerating with spruce, which is expensive to remove. • Herbivore pressures within the block present an issue for protecting strips of broadleaves along watercourses. • Additional fencing protection will be	• Several watercourses are present in the area which could benefit from having their riparian zones improved through restructuring. • Create permanent riparian corridors of broadleaved species to enhance habitat connectivity and food source for the red squirrels. • Improve resilience within the forest in terms of both species' diversity and fire resiliency as broadleaved breaks will help function as fire breaks in the future. • Planting alder along watercourses, as it is less palatable to deer, will help with the initial establishment of the riparian habitat.	• Establish a programme for non-native species removal along watercourses to enable broadleaved species to establish through natural regeneration, with the supplementary planting of alder, to assist with the initial development of the riparian corridors.	1-3

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
	required to ensure the successful establishment of broadleaves around the Water of Nocht. Diverse species are more palatable making them harder to establish and greater wildlife management costs will be incurred.	- Establish a concentrated area of broadleaves along the Water of Nocht to address the issue of a low broadleaf component in LTP area. - Maintain the access routes present to ensure successful protection of the crop from deer. - Improve water quality and habitat around the Water of Nocht. Collaborating with external stakeholders in a joined up approach to see improvements to the Don Catchment at a wider landscape scale. - Plant more diverse species to increase resiliency and structural diversity.	Improve water quality within the Don Catchment through the concentrated planting of broadleaves along the Water of Nocht to compliment the work of neighbouring landowners who are actively working to improve the riparian habitat in the catchment and engage in restoring the habitat at a	

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
			wider landscape scale.	
Environment The long-term aspiration is to convert this area into a native 'Caledonian Pinewood' type forest with the inclusion of appropriate riparian habitat.	- Larch is situated on steep slopes and will require investment to make it accessible. - Operationally the site is challenging due to environmental factors.	- Larch removal is inevitable if it becomes infected with <i>Phytophthora ramorum</i> and there is an opportunity to restructure this area into a more native pinewood forest and remove wind blow. - Restructure non-native conifers along the watercourse to improve riparian habitat.	Coupe up the western edge of Larch and budget and plan operations to facilitate the removal of this area and restock with Scots pine and native broadleaves to retain an element of the seasonal diversity.	3
Ensure the Larch remains accessible to ease our ability to respond to a SPHN in the future.	Road in poor condition and requires maintenance to complete operations.	Part of the road up to quarry is to be maintained. However, to minimise maintenance cost a section of the road will be used	Plan for the delivery of the required road maintenance to	3

Factor	Constraints	Opportunities	Concept (how we are going to do it)	Zone(s)
		for forwarder operations. This will be reinstated after works are completed due to it being part of a ScotsWay Rights of Way.	make the Larch accessible.	

C. Management Proposals

C.1 Silvicultural Practice

This plan has been designed in accordance with sound silvicultural and environmental principles within the framework outlined by the 5th edition of the UKFS and the UKWAS 5.

The plan area has been divided into a system of coupes to reflect the varying management strategies being applied. The precise system of management for each coupe will be tailored to suit the current and subsequent species in the rotation.

The areas identified as LISS are to promote structural diversity, habitat connectivity and support landscape amenity.

Restocking will be advised by FLS' current Establishment Strategy. The commercial conifer species selected for planting within the plan period has been guided by the strategy's list of primary productive conifers. The primary productive conifers listed in the establishment strategy relevant to this plan include: Sitka spruce, Scots pine, Norway spruce and Douglas fir.

Restocking will in general will require ground preparation in the form of hinge or inverted mounding on the gleys and scarification on the podzols and brown earths see page 43. Lower density planting of broadleaved species will be conducted along watercourses, where habitat connectivity is possible, and to establish windfirm edges in the upper margins of the block.

C.2 Prescriptions

C.2.1 Felling

Sites proposed for clear felling in the plan period are identified as Phase 1 and Phase 2 management coupes on **Maps 9 – Management Coupes**. Refer to Table 7 for scale of felling.

Table 7: Scale of Proposed Felling Areas

Total Plan area: 1,986ha

Felling	Phase 1	%	Phase 2	%	Phase 3	%	Phase 4	%	LTR (including CCF)	%
Area (ha)	92.6	4.7	116.2*	5.9	196.6	9.9	93.9	4.7	0	0

* The Phase 2 felling area is expected to be 47.6 ha smaller than shown in the table. This is because the western edge of Auchernoch has been couped in case an SPHN is issued. If no SPHN is received, this area will not be felled.

Table 8: Species to be felled in plan period

Felling phase	Coupe Number	Larch	Lodgepole pine	Noble fir	Norway spruce	Scots pine	Sitka spruce	Total (ha)
1	43017						0.2	0.2
1	43761		0.6			0.5	12.9	14
1	43894	1.1	0.1		0.2	1.3	1.8	4.5
1	43907						1	1
1	43910		29.9	0.1		0.7	17	47.7
1	43931				4.8	0.2	8.7	13.7
1	43935						0.6	0.6
1	43949		0.1		4.2	0.1	3.1	7.5
2	43915	10.1	9.6		3.6	4	18.5	45.8
2	43928	0.7				12.6		13.3
2	43932	3.2			0.1	0.7	3.7	7.7
2	43933	1.2	1.7	0.5	1.6	5.3	4.8	15.1
2	43975				0.6		31.5	32.1
Total (ha):		16.3	42	0.6	15.1	25.4	103.8	203.2

Stands adjoining felled areas will be retained until the restocking of the first coupe has reached a minimum height of 2m. For any future clearfell coupes where adjacency is not possible, and there is no exemption under the Scottish Forestry Act, an amendment will be discussed and agreed with Scottish Forestry before the coupe is felled.

Brash mats (or alternative measures) will be used to protect sensitive soils such as peaty soils and gley soils. There will be minimal soil disturbance and machine movement on sites with clayey soils to reduce the risk of compaction or damage to the soil structure. Felling residue will usually be left on site to allow nutrient recycling, with consideration for the practicalities of restocking.

Other tree felling in exceptional circumstances

FLS will normally seek to map and identify all planned tree felling in advance through the LTP process.

However, there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying the felling.

Felling permission is therefore sought for the LTP approval period to cover the following circumstances:

- Individual trees, rows of trees or small groups of trees that are impacting on important infrastructure (as defined below*), either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage, or impeded drainage.

*Infrastructure includes forest roads, footpaths, access (vehicle, cycle, horse walking) routes, buildings, utilities and services, and drains.

- The maximum volume of felling in exceptional circumstances over the plan area covered by this approval is 75 cubic metres per calendar year.

A record of the volume felled in this way will be maintained and will be considered during the five-year Long-Term Plan review.

N.B. Trees may be felled without permission if they: are of less than 10 cm diameter at breast height (1.3 m); pose immediate danger to persons or property; are completely dead; or are part of Authorised Planning Permission works or wayleave agreements.

C.2.2 Thinning

Potential sites for thinning in the plan period are identified on **Maps 10 – Thinning Coupes** and **Maps 11 – Thinning Approvals**. Table 4 indicates the potential area.

Species	Thinning (ha)
Sitka spruce	325.5
Scots pine	292.8
Norway spruce	61.7
Larch	91.5
Lodgepole pine	14.9
Noble fir	7.7
Serbian spruce	1.7
Total	795.8

Wherever possible the region will continue to maximise the area managed through thinning. FLS policy assumes that all productive conifer crops will be thinned. The only exceptions are where:

- Thinning is likely to significantly increase the risk of windblow.
- A single thinning operation is likely to require an unacceptably large initial investment in relation to the potential benefits due to access or market considerations.
- Thinning is unlikely to improve poorly stocked or poor-quality crops.

Thinning will normally be carried out at, or below, the level of marginal thinning intensity (i.e. removing no more than 70% of the maximum MAI, or YC, per year). Higher intensities (no more than 140 % of maximum MAI, or YC, per year) may be applied where thinning has been delayed, larger tree sizes are being sought or as part of a LISS prescription. In all cases work plans will define the detailed thinning prescription before work is carried out and operations will be monitored by checking pre and post thinning basal areas for the key crop components.

Windthrow risk will be considered when assessing the stand for stability prior to undertaking any thinning operations.

C.2.3 Low Impact Silvicultural Systems (LISS)

Areas identified for LISS management are shown on **Maps 9 – Management Map**.

10.9% of the Strathdon LTP has been identified as being under LISS management. Some of the northern slopes of the Bunzeach will be managed under the irregular shelterwood prescription. This involves the irregular opening of the canopy and is similar to a group system which promotes good timber quality and natural regeneration ([Forest Research 2026](#)). This prescription will help promote structural diversity and continuity of habitat for the red squirrels and for landscape amenity benefits. This prescription will also enable us to target areas where Sitka spruce regeneration is occurring and remove this understorey to promote Scots pine in the area. Equally the irregular shelterwood system has been applied in Auchernoch to target the removal of spruce regeneration with the intention being to favour native species.

Coupe 43936 is to be managed under a group shelter wood system. This has been chosen to maintain a variety of light levels, retaining a pine canopy to preserve the twinflower population found in this area. Twinflower (*Linnaea borealis*) is associated with woodland conditions providing structural diversity and moderate shade ([Plantlife 2026](#)). Group shelterwood systems help to promote regeneration beneath a retained canopy through the creation of scattered gaps in the canopy ([Forest Research 2026](#)). As such, group shelterwood is well suited to maintaining dappled light and low-disturbance conditions required by this species.

C.2.4 Long Term Retentions (LTR) / Natural Reserves

31.8 ha (1.6%) of Strathdon is managed as Long-Term Retentions (LTR) found in the LTP area (see **Maps 9 Management Map**). This is where individual, stable stands and clumps of trees are retained for environmental benefit significantly beyond the age or size adopted by woodland enterprise. Some of these consist of broadleaf species with the main objective of these areas being to provide environmental benefits or riparian areas.

Coupe 43762 which consists of Sitka spruce and Norway spruce has been retained for red squirrel habitat. The intention is to review its felling year once surrounding crops are more mature.

We are looking to establish an area of broadleaved riparian habitat along the Water of Nocht, in phase 1, as an area of to be managed in the future as Long-Term Retention.

69.3 ha (3.5%) is managed as Minimum Intervention (MI), this is where there is no systematic felling or planting of trees to develop semi-natural habitats that could transition into Natural Reserves over time.

No areas in Strathdon are designated as Natural Reserves. This is where biodiversity is the primary objective, and we are prepared to commit the area of land in question to minimum intervention management in perpetuity.

C.2.5 Restocking Proposals

The 'felled awaiting restock' consists of seven restock coupes, three of which are carried out in the previous LTP, with four restock coupes being attributed to the current felling permissions that are in place. The area awaiting restock also includes two coupes where we are accepting natural regeneration of conifers on open ground and a clearfell with seed trees coupe (43900) which we are expecting to be restocked via natural regeneration. The remaining area awaiting restock includes six coupes that are moving from managed open to being restocked. These areas were previously forested but were moved to managed open. Now we are returning four coupes in Auchernoch towards riparian habitat creation around the Water of Nocht. The remaining two coupes are in the Bunzeach, and these are being converted back to native woodland trees species with open space.

Scrub is to be removed from Newe's Craig Still and it is to be actively managed in open space.

Planned restocking of felled areas, and proposals for the future habitats and tree species over the whole plan area are shown on **Map 12 - Future Species**. See Table 9 for areas, establishment, and mix proportions. Timing of restocking will comply with the plan tolerance table shown in section C.4. if not in a four-year fallow due to *Hylobius*. However, as many saplings on recent restock sites in Strathdon have been damaged or killed by the *H. abietis*, with nearly 90% of a site being lost due to *Hylobius*, restocking is anticipated to occur four years following felling in Strathdon. The extended restock period will assist in reducing the use of insecticides and will enable us to deal with the present issue of *Hylobius*. When the system becomes available we will use Forest Research's *Hylobius* Management Support System to support the justification for a longer fallow period. As established in **Section A.8.2**, *Hylobius* has contributed to high mortality rates of young trees planted on recent restock sites. This four-year fallow will help reduce the amount of pesticides used on site.

Stocking densities will be at least 2,500 stems per ha (sph) for conifers, with broadleaves typically being stocked at 1,600 sph. The stocking density of both conifers and broadleaves species is expected to decrease in areas where the upland margins are being restocked. This decision has been made to try and establish windfirm edges around the block boundary. The stocking density of broadleaved species in riparian areas and planting around ponds is expected to be completed at a lower density to create a matrix of open space within these riparian zones. The creation of peat edge woodland on peaty soils which were assessed as being too small, once operational buffers were applied to the watercourses, to merit full restoration. These will also be planted at a low density with native mixed broadleaves being planted at 50% with 50% open to create a low-density wet woodland in matrix with open space.

Table 9: Restocking

Felling phase	Coupe Number	Larch**	Juniper**	Lodgepole pine	Mixed conifers	Native mixed broadleaves	Norway spruce	Open	Scots pine	Sitka Spruce	Total
Felled	43143					2.3		1.3			3.6
Felled	43144					1.7		0.4			2.1
Felled	43412					3.1		1.1			4.2
Felled	43422					4.7		1.4			6.1
Felled	43885								0.6	0.6	1.2
Felled	43901				2	1.1		0.5	0.5		4.1
Felled	43903			0.3		2.3	6.6	16		0.3	25.5
Felled	43904			5.1		2.9		0.9	8.7	5.1	22.7
Felled	43912				1.5		1.5				3
Felled	43937					3.5			14		17.5
Felled	43954					3.1		0.8			3.9
Felled	43955					1.8	3.7	0.8			6.3
Felled	43961									1.5	1.5
Felled	43977			0.4			2.4			0.4	3.2
Felled	43978		1.4			2.8	0.2	3.3	1.4		9.1
Felled	43900	5.2			2.6				18.2		26
Felled	43981					1.8		1.2			3

Felling phase	Coupe Number	Larch**	Juniper**	Lodgepole pine	Mixed conifers	Native mixed broadleaves	Norway spruce	Open	Scots pine	Sitka Spruce	Total
Felled	43993					2.2		0.6			2.8
1	43017					0.1		0.2			0.3
1	43761			2.9		2		1.2	5.8	2.9	14.8
1	43894					0.2	4.9	0.1			5.2
1	43907							1			1
1	43910			23.5			0.5			24	48
1	43931				6.6	3.5		3.7	1.2		15
1	43932				1.7	5.2		1.3			8.2
1	43933					3	7.3	1.4	2.9		14.6
1	43935							1			1
1	43949					0.9	5.2	0.9	0.3	0.3	7.6
2	43928	0.1							0.7	6.3	7.1
2*	43915					20.7	0.3	1.6	25		47.6
2*	43975					2.1	13.4	2.1	1.9	12.6	32.1
Total (ha):		5.3	1.4	32.2	14.4	71	46	42.8	81.2	54	348.3

*These coupes will be restocked out with the plan period based on the four-year fallow for *Hylobius*.

**Larch and Juniper are accepted in natural regeneration. These species will not be planted.

43915: the long term vision is to convert this western section of Auchernoch into a Caledonian Pine type forest. However, this area will only be restocked if this area receives an SPHN, as it will otherwise not be felled.

43761: has had a 60 m buffer of Scots pine and birch applied to its upland margin, where it adjoins the neighbouring estate's moorland. This decision has been undertaken to try and mitigate the spread of spruce seed regenerating on their ground.

Strathdon falls into the 202 seed zone. Native broadleaves of local origin will be preferred if available. If not available, then trees from an alternative origin will be used provided this origin makes them suitable to grow and thrive in the prevailing site conditions.

If restock or natural regeneration fails to reach these levels the site will be beaten-up to the required planting density. This will be assessed at year 3 and year 5 after planting with beat-up by at least year 5.

All areas identified for restocking by natural regeneration will be recorded and programmed for inspection in accordance with the East Region Policy on Restocking Felled Ground. This policy sets out that, for Natural Regeneration, the sites are to be under effective management by year 4 after felling. At this point it is necessary to have trees across the site at a suitable density with a reasonable expectation of establishment to 30cm within 2 years. Where this is unlikely to occur after monitoring at years 3-4, the site will be changed to restocking by planting. If there is a clear indication that regeneration is likely to reach the required densities but out with the five-year limit, permission will be sought from the regulator for an extension to the establishment period.

Where required, the choice of ground cultivation technique will consider the short-term benefits for establishment against any long-term side effects on tree stability, access for future forest operations and the environment. There will be a preference for the least intensive technique.

The choice of ground preparation for each site will be decided at the operational planning stage by the relevant establishment forester. Ground preparation techniques can vary greatly even across individual sites, so the most up to date advice will be applied at the time of the operation to ensure that soil structure and water quality is preserved whilst also providing an optimal environment for establishment depending on the species and site conditions. Forest and Water Guidelines, UKFS and UKWAS can all be used to help with the decision-making process if required.

Forest Research's Field Guide to Soil Cultivation (Jens Haufe, 2019) and Scottish Forestry's Cultivation for upland productive woodland creation sites will be referenced where

necessary to help aid in the specific choice applied across any restock sites. The below table is a good indication of what ground preparation techniques will be applied, with the “Best Practice” option the target if possible. Rstock operations within the plan period take place on a wide range of soil types, best practice options for these soil types set out below:

- Brown earths: Scarification, mulching or no cultivation if site conditions are suitable.
- Podzolic brown earths: Scarification, mulching or no cultivation if site conditions are suitable.
- Podzols: Disk scarification or mulching if weed competition is high, no cultivation if site conditions suitable.
- Surface water gleys: Inverted mounding or no cultivation, depending on nutrient availability on individual sites.
- Peaty gleys: Inverted mounding, mulching or no cultivation.

Table 10: Soil types and preferred ground preparation methods

			least intensive most intensive									
			No cultivation	Subsoiling / Ripping	Inverted mounding	Patch scarification	Disc scarification (linear)	Mulching	Hinge mounding	Trench mounding	Shallow strip ploughing (linear)	Deep complete ploughing
Legend: +++ ... recommended best practice ++ ... possible alternative + ... acceptable under certain circumstances, e.g. on small areas * ... manual screening only ** ... clay soils only												
freely draining variable waterlogged	Brown earth	SNR Poor or Medium	++			+++	+++	++			+	
	Brown earth	SNR Rich or Very Rich	+++			+	+					
	Podzol		++		++	++	+++	+++	+		+	
	Ironpan	Pan poses no obstacle to rooting	++	++	+++	+	+	+	+		+	
	Ironpan	Pan limits root growth		+++	+++							+
	Ironpan	Pan is out of reach		Treat like gley / peaty gley depending on presence of organic layer								
	Ranker		+++			++*						
	Gley	SNR Poor or Medium	++	+++*	+++	+		+	+	+		
	Gley	SNR Rich or Very Rich	+++	+++*	+	+			+	+		
	Peaty gley		+		+++			+				

The Restocking Strategy for Scotland’s National Forest Estate explains that we will minimise chemical usage in restocking (insecticides and herbicides) by considering options at the site scale and using tactics such as delayed planting to achieve this. The extended four-year fallow will assist FLS in reducing the amount of chemical applied to deal with Hylobius.

C.2.6 Protection

Management of deer is an underpinning activity essential for the delivery of benefits from Scotland's National Forest Estate. The aim is to manage healthy wild deer populations and manage deer impacts across the Estate consistent with the carrying capacity of the land and successful delivery of LTP objectives.

Red and Roe deer are the predominant species in Strathdon. There is a level of recruitment into the LTP area due to migration from neighbouring land holdings. This is changeable depending on the direction of land use the surrounding estates focus on over a particular period. Browsing of young trees does take place and palatable broadleaved species will require additional protection, via tree tubes. Deer control will be conducted by FLS employees and/or contractor stalkers, and a mix of daytime and night-time stalking will be used.

Please see **Appendix 6 – Deer Management Plan** for a detailed Deer Management Plan for the LTP area.

Current Control Measures for Rabbits and Hares:

- Both the Auchernoch and Bunzeach blocks are managed via external contractors for deer management and presently there is no contract to manage for hares and rabbits.
- Our FLS Wildlife Ranger still completes ad hoc visual checks on the ground surveys for signs of damage.
- If damage from rabbits and hares was found to be significant FLS would pause the contract for shooting and our Wildlife Ranger would undertake the required rabbit and hare control. A licence would be obtained from NatureScot to shoot the hares.

C.2.7 Fence erection / removal

There is currently no plans for fencing for Strathdon. Small scale enclosures or tubes might be used to establish particularly palatable species, for example rowan, willow, aspen etc. These protection measures will be of a temporary nature and will be removed once the broadleaves have sufficiently established. We will regularly check protection measures to ensure they provide sufficient protection. Where fencing is used in areas known to be accessed by the public for recreational use, pedestrian access gates will be included in the fence design.

Materials will be removed from site once no longer necessary and where possible recycled on other sites. If they cannot be recycled, they will be disposed of through appropriate waste channels.

C.2.8 Road Operations

Maps 13 - Haulage shows the existing forest road network and any associated quarries, timber haulage egress points, and any local 'Agreed Timber Transport Routes'. The planned 1 ha quarry expansion in the Bunzeach is shown on this map and an EIA Scoping Opinion Request (EIA SOR) to carry out the proposed works has been submitted with this plan.

As part of FLS's responsibilities, during haulage activities they will:

- Monitor the condition of all roads during the haulage operations and advise Aberdeenshire Council Roads of any concerns about road surface condition as soon as possible.
- Monitor the public road and ensure that any mud or other destruction on the public road because of timber extraction operations is swept up as soon as reasonably possible and as a minimum by the end of each working day.
- Where appropriate direct neighbours will be notified of the anticipated haulage operations commencing.

The main entrance at Auchernoch has recently been widened to facilitate the safety of timber lorries accessing the public road which is an Agreed timber transport route.

Road maintenance will be carried out to facilitate forest operations if needed in the future. Local material will be sourced for completing any required road maintenance during the plan.

C.2.9 Public Access

Members of the public are welcome to explore Forestry and Land Scotland's land; however, they may be asked to avoid certain routes if there is a concern for the health and safety of visitors or workers in an area (e.g., tree felling, civil engineering works etc.).

Scotland's outdoors provides great opportunities for open-air recreation and education, with great benefits for people's enjoyment, and their health and well-being. The Land Reform (Scotland) Act 2003 ensures everyone has statutory access rights to most of Scotland's outdoors, these rights are to be exercised responsibly, with respect for people's privacy, safety, and livelihoods, and for Scotland's environment as per the Scottish Outdoor Access Code. Equally, land managers must manage their land and water responsibly in

relation to access rights, and FLS will only restrict public access where it is necessary and will keep disruption to a minimum.

We will ensure the safety of core paths and existing public rights of way, [promoted](#) paths in Strathdon (not an FLS initiative) will be kept safe where they are on our land. If any paths are damaged because of our forest operations, then we have a duty to repair them to the same standard. Should opportunities arise to improve paths whilst other work is being conducted in the vicinity this will be considered. However, as routes are not promoted/managed directly as a FLS Visitor Service asset we will not be actively upgrading or improving paths during the plan period.

We encourage local communities to engage with them to take responsibility for community paths through community asset transfers, legal agreements etc.

C.2.10 Historic Environment

Our Long-Term Planning Process is informed by desk-based assessment, stakeholder consultation and professional archaeological walkover surveys where required.

Our key priorities for archaeology and the historic environment are to undertake conservation management, condition monitoring, and archaeological recording at our significant historic assets; and to seek opportunities to work in partnership to help to deliver ‘Our Past, Our Future: the Historic Environment Strategy for Scotland and Scotland’s Archaeology Strategy’. Significant heritage features will be protected and managed following the UKFS and UKWAS.

Harvesting coupes, access roads and fence lines will be surveyed prior to any work being undertaken to ensure that upstanding heritage features can be marked out and avoided. At establishment and restocking, work prescriptions remove relevant heritage features from ground disturbing operations and replanting. Where appropriate, significant heritage features are recorded by archaeological measured survey, see active conservation management and may be presented to the public with interpretation panels and access paths. Opportunities to enhance the setting up of important sites and landscapes will be considered on a case-by-case basis (such as the views to and from a significantly designated historic asset).

The Regional Historic Asset Management Plan includes conservation management intentions for designated historic assets on Scotland’s National Forests and Land.

Details of all known historic environment features are held in FLS’s Heritage Dataset and included within work plans for specific operations to ensure damage is avoided. Significant

historic environmental features will be depicted on all relevant operational maps. Areas of historic environment interest will be checked both on FLS's records and with the Council's HER prior to the commencement of forestry activities. Any upstanding features will be clearly marked, both on the ground and on operational maps. Care will be taken to avoid any damage to surviving structural elements.

The plan area contains one scheduled monument, Newe's Craig still, which is in open ground. This monument will continue to be managed in open ground and regen will be removed from it. Tulloch cupmarks is a scheduled monument that is adjacent to the forest area. This will receive no active management during the plan as the forest area adjacent to this scheduled monument is not due to be felled until 2060. When it comes to felling this area, the scheduled monument buffer which falls within our landholding will not be restocked. **Appendix 3 - Historic Environment Records** and **Maps 5 - Heritage** provide more information about the historic environment features within and immediately adjacent to the plan area.

C.2.11 Biodiversity

UK Forestry Standard guidance is to manage a minimum of 15% of the forest management unit with conservation and the enhancement of biodiversity as a major objective. The figure for this plan is currently 20.9%. This is anticipated to rise to 22.4% during LTP because of the creation of riparian areas.

The proposed management within this plan will seek to develop opportunities to create and add resilience to nature networks within the Don catchment. We are also keen to explore the possibility of managing some open areas via cattle grazing.

A few areas within the long-established plantation of woodland origin (LEPO) areas have been identified as high conservation value. These areas are managed under Low Impact Silvicultural Systems (LISS) and a clearfell with seed trees operation. The intention of the clearfell with seed trees operation is to retain stable mature Scots pine. All other LEPO sites will be surveyed through the workplan process and any veteran trees, native trees and scrub will be protected. LEPO makes up 473.9 ha, making up 23.9% of the total plan area, see **Maps 4 – Key features and Issues**.

During this plan we will be undertaking approximately 9.5 ha of peatland restoration and intend to take this opportunity to join this new open area up with the Craig of Bunzeach to create a continuous area of managed open ground. See **Map 6 – Peatland Restoration** for location and see **Appendix 5 – Peatland Restoration Plan** for more details. This peatland restoration will help improve flood management within the Don Catchment. Deer pressures are intended to be managed via culling.

We are also allocating 8.9 ha towards the creation of deadwood habitat in the Bunzeach. We are planning to contribute towards wider Don catchment improvements that are occurring around the Water of Nocht by planting strips of native mixed broadleaves around the section of the Water of Nocht that falls within our landholding. We welcome the opportunity to work in partnership with the Don District Salmon Fishery Board to contribute towards landscape scale change occurring in the wider Don catchment.

The Bunzeach has been identified as a red squirrel stronghold. Red squirrels are a Scottish Biodiversity List and FLS key species. Efforts will be made to preserve habitat corridors for the red squirrel population in the Bunzeach and Auchernoch. This will include establishing permanent riparian corridors and conducting survey work to identify dreys prior to felling operations.

The Scottish Biodiversity List is a list of animals, plants, and habitats that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. Several Scottish Biodiversity List species and FLS Key Species are recorded in Strathdon, these include:

- Twinflower is present within Strathdon in the Bunzeach block. We are collaborating with members of the twinflower working group and internal national specialists to assess, monitor and enhance areas with key twinflower clones within the Strathdon block. Areas identified as having twinflower are managed under LISS systems. Where these areas fall within clearfell coupes the trees around the twinflower will be retained.
- Red Squirrel is present in the woods in and around Strathdon, operational practice will be undertaken to benefit red squirrels. This will include planning forest operations to minimise damage to red squirrel dreys and populations, including survey work to locate dreys prior to felling operations and the planning of the forest structure and composition specifically to suit red squirrels. LISS will be used where appropriate to enhance the habitat for red squirrels.

The plan also helps to support other species on the Scottish Biodiversity Strategy by:

- helping forests regenerate naturally
- planting a wider mix of tree species
- improving woodland cover and understorey
- connecting forest habitats and other land uses

C.2.12 Tree Health

Dothistroma needle blight (DNB)

It is up to the forest manager to make the final management prescriptions at the forest block and management coupe level through the workplan process prior to management operations. This particularly includes thinning of stands of pine trees in accordance with good silvicultural practice to promote air circulation in the tree crowns. This will help to reduce humidity levels in the crowns, thereby making conditions less conducive to fungus development. Although this will not prevent infection, it can help to reduce the impact. No-thin regimes and delayed first thinning have been shown in public forests to lead to significant numbers of tree deaths.

Large Pine Weevil (*Hylobius abietis*)

The large pine weevil (*Hylobius abietis*) is likely to be the only major tree health issue encountered in this plan. We are following a chemical reduction strategy, this involves limiting chemical applications only to occasions when they are essential. To allow this strategy to be followed we carry out *Hylobius* monitoring surveys which inform us that the minimum recommended fallow period is used prior to restocking. Restocking will take place four years after felling to enable us to establish the crop successfully, given the pressures of *Hylobius* in the Strathdon.

C.2.13 Invasive Species

There are no records of invasive species within Strathdon. We are vigilant to the presence of invasive species, and should they be identified a management strategy for control and eradication will be developed.

C.2.14 New Planting

There are no areas of new or proposed woodland creation in Strathdon.

C.2.15 Other

Wildfire

FLS continue to work closely with Scottish Fire and Rescue Service (SFRS) to prevent and tackle wildfires that threaten Scotland's National Forests and Land. FLS support SFRS in their lead role for fire prevention and suppression through creating annual fire plans, maintaining a duty rota, and providing additional logistical support. FLS' primary objective is always to protect people's health, safety and wellbeing.

As part of the LTP review process a risk analysis has been carried out and some factors have been identified as increasing the likelihood of wildfire within Strathdon.

- The primary external wildfire risk is via spread from moorland.
- The Bunzeach's eastern, southern and western boundaries have been identified as moderate to high risk, due to adjoining moor and like wind directions in the event of a fire.
- Auchernoch's boundary holds low fire risk. There is adjacent moorland but a northerly or north-westerly wind is less likely in a wildfire incident and the fire would have to be pushed downhill.
- Areas of high-risk conifer were assessed as crop currently at thicket age.
- Areas classified as medium to high risk include current young restock and felled areas as these have the potential to reach thicket stage during the plan period.
- The upland heathland areas identified on **Map 14 – Wildfire Risks and Mitigations** have been identified as being high risk due to the presence of juniper which is highly flammable.
- The internal risk for wildfire has been identified as low risk, as there have been no reports of campfires within Strathdon.

The design of the forest and future management proposals help mitigate these risks in several ways:

- Strathdon is generally well structured, with a range of tree species, age classes, and silvicultural systems present.
- Existing priority open areas (Upland Flush Fen & Swamp) present low fire risk.
- The proposed peatland restoration in the centre of the Bunzeach also present low fire risk once this area has been restored as it will function as a natural fire break.
- Plans to increase riparian zones with a matrix of open space will help increase their effectiveness as fire breaks.
- The present road network provides good access for firefighting equipment to reach boundaries and provides regular opportunities for fire breaks to be established.

Some more general factors which reduce the likelihood of serious wildfire impact within Strathdon include:

- While the New Craig's Still scheduled monument is located within the Bunzeach and Tulloch cupmarks scheduled monument is immediately adjacent to our land holding, our Regional Archaeologist was consulted, and it was determined that these features do not require any special protection.
- Much of the Bunzeach's Northern block boundary's surrounding land use is for agriculture and is a low fire risk.

Please see **Map 14 – Wildfire Risks and Mitigations** for an illustration of the risks and Mitigations identified for the Strathdon LTP area.

Analysis of the risks and mitigations present has led FLS to classify Strathdon as currently being at a medium risk of wildfire. At the 5-year review of this LTP, the risks and mitigations will be reassessed to ensure the current classification is still suitable and identify any additional measures required if necessary.

Private Water Supplies

Private water supplies (PWS) are located within the forest. They are a combination of Type A or Type B supply; each being governed by separate legislation.

- Type A supplies – serving more than 5 people or used as part of a commercial or public activity (e.g. holiday accommodation). Such supplies are subject to wider reaching statutory controls and must be risk assessed by the local authority every 12 months.
- Type B supplies – All other private water supplies being the large majority of those on land managed by FLS. These supplies are subject to different Regulations and whilst they must be registered with the local authority, it is not a statutory requirement for them to be risk assessed.

As part of consultation, it was established that there are several unregistered private water supplies in and surrounding the Strathdon forest blocks. Efforts have been made to ground truth these and some site visits with property owners have been undertaken.

Duty of care extends to all PWS including those not registered.

The beneficiaries of PWS owe a duty of care to themselves to safeguard the PWS through adequate and effective maintenance, repair, and renewal. However, where a registered PWS is on land managed by FLS we share a duty of care to protect the original water source and the supply network (pipes, tanks, lades etc.) to safeguard the quality and quantity of water.

FLS is required to comply with good practice water and PWS management standards set out in the following:

- [UK Forestry Standard \(UKFS\)](#)
- Confor: [Forest and Water Scotland Initiative](#) and [Know the Rules 2nd Edition](#).

As per [Managing Forestry Operations to Protect Private Water Supplies](#), all PWS will be protected by a 50 m and water pipelines by a 20 m (10 m either side) operational buffer see **Maps 15 – Private Water Supplies (confidential)**, managed as open with an allowance of 20% native mixed broadleaves. PWS that is either surface fed or shallow (spring fed) will have a catchment identified, machine trafficking and brash heaps will be minimised within the catchment boundary. **Appendix 8 – Private Water Supplies (Confidential)** contains supplementary information regarding private water supplies that will see active work in the plan period.

C.3 Environmental Impact Assessment (EIA) and Permitted Development Notifications

An Environmental Impact Assessment Screening Opinion Request (SOR) will be submitted for the following for Phase 1 (2026-2030):

- Deforestation for peatland restoration
- Quarries

Table 6 – EIA projects (in Phase 1)

Total area (hectares) for each project type and details by sensitive or non-sensitive area.

Type of Project	Sensitive Area	Sensitive Area	Non-sensitive Area	Non-sensitive Area	Total
Afforestation	0% Con	0% BL	0% Con	0% BL	0 ha
Deforestation	100% Con	0% BL	0% Con	0% BL	13.3 ha
Forest Roads	0 ha	0 ha	0 ha	0 ha	0 ha
Quarries	1 ha	0 ha	0 ha	0 ha	1 ha

Provide further details on your project if required.

9.5ha which consisted of an area of failed second rotation spruce and lodgepole crop was assessed as being suitable for peatland restoration. A further 2.8 ha of open was established as being critical for deer management to ensure the successful establishment of bog species.

The requested 1 ha quarry expansion is to allow us to use locally sourced material to undertake the required road maintenance within the LTP area.

For more details regarding the peatland restoration, open habitat creation and quarry expansion please refer to Appendix 9 – EIA SOR.

Tolerance Table

	Map Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of restock	Change to restocking species	Changes to roadline	Designed open ground ***	Windblow clearance ****
SF approval not normally required	N	Felling date can be moved within 5 year period where separation or other constraints are met	Up to 10% of coupe area	Up to 2 planting seasons after felling	Change within species group e.g. evergreen conifers or broadleaves	-	Increase by up to 5% of coupe area	-
SF approval by exchange of email and map	Y	-	Up to 15% of coupe area	Between 2 and 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised	-	Additional felling of trees not agreed in plan. Departures of more than 60m in either direction from centre of road	Increase by up to 10% Any reduction in open ground within coupe area	Up to 5 ha

	Map Required (Y/N)	Adjustment to felling period *	Adjustment to felling coupe boundaries **	Timing of restock	Change to restocking species	Changes to roadline	Designed open ground ***	Windblow clearance ****
SF approval by formal plan amendment may be required	Y	Felling delayed into second or later 5 year period Advance felling into current or 2 nd 5 year period	More than 15% of coupe area	More than 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised	Change from specified native species Change between species groups	As above, depending on sensitivity	More than 10% of coupe area Colonisation of open areas agreed as critical	More than 5 ha

Tree Felling in Exceptional Circumstances	FLS will normally seek to map and identify all planned tree felling in advance through the LTP Process. However there are some circumstances requiring small scale tree felling where this may not be possible and where it may be impractical to apply for separate felling permission due to the risks or impacts of delaying felling. Felling permission is therefore sought for the LTP approval period to cover the following circumstances: Individual, rows or small groups of trees that are impacting on important infrastructure (ie. Forest roads, footpaths, access routes (vehicular, cycle, equestrian or pedestrian), Buildings, Utilities and services and drains) either because they are now encroaching on or have been destabilised or made unsafe by wind, physical damage or impede drainage. The maximum volume of felling in exceptional circumstances covered by this approval is 75 cubic metres per Land Management Plan per calendar year. A record of the volume felled in this manner will be maintained and will be considered during the five year LTP review.
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- * Felling sequence must not compromise UKFS in particular felling coupe adjacency. Felling progress and impact will be reviewed against UKFS at 5 year review.
- ** No more than 1 ha, without consultation with SF, where the location is defined as 'sensitive' within the Environmental Impact Assessment (Forestry) 1999 Regulations (EIA).
- *** Tolerance subject to an overriding maximum of 20% designed open ground
- **** Where windblow occurs, SF must be informed of extent prior to clearance and consulted on clearance of any standing trees

Appendices

Map 1 – Location and Viewpoints

Map 2 – Zoned Objectives

Map 3 – Soils

Map 4 – Key Features and Issues

Map 5 – Heritage

Map 6 – Peatland Restoration

Map 7 – Current Species

Map 8 - Concept

Map 9 – Management Coupes

Map 10 – Thinning Coupes

Map 11 – Thinning Approvals

Map 12 – Future Species

Map 13– Haulage

Map 14 – Wildfire Risks and Mitigations

Map 15 – Private Water Supplies (Confidential)

Appendix 1 – Consultation Record (Confidential)

Appendix 2 – Landscape

Appendix 3 - Historic Environment Records

Appendix 4 – Designated Site Plan

Appendix 5– Peatland Restoration Plan

Appendix 6 – Deer Management Plan

Appendix 7– Visualisations

Appendix 8 – Private Water Supplies (Confidential)

Appendix 9 – EIA SOR