Forestry and Land Scotland
Coilltearachd agus Fearann Alba

South Region

Piperhill

Land Management Plan

Approval date: 26/05/2021

Plan Reference No: 032/21/03

Plan Approval Date: 26/05/2021

Plan Expiry Date: 25/05/2031

Scotland's national forests and land are responsibly managed to the UK Woodland Assurance Standard.

FSC www.fsc.org FSC® C123223 The mark of responsible forestry

PEFC PEFC/16-40-1002 Promoting Sustainable Forest Management www.pefc.org

Land Management Plan Details			
LMP Name:	Piperhill		
Grid Reference:	NS 4951 1557	Nearest town or locality:	Sinclairston
Local Authority:		East Ayrshire Council	
Land Management Plan area (hectares):		348	

Owner's Details				
Title:	Mr	Forename:	Nick	
Surname:	Hill			
Organisation:	Forestry and Land Scotland	Position:	Woodland Creation Forester	
Primary Contact Number:	07760 391131	Alternative Contact Number:	0300 067 6900	
Email:	Nicholas.hill@forestryandland.gov.scot			
Address:	Forestry and Land Scotland, Ae Village, Parkgate, Dumfries			
Postcode:	DG1 1QB	Country:	Scotland	

Approval - to be completed by Scottish Forestry staff:			
LMP Reference Number:	032/21/03		
Plan Period: (ten years) (day/month/year)	From: 26/05/2021	To: 25/05/2021	
Operations Manager Signature:	KWShaw	Approval Date: (dd/mm/yyyy)	26/05/2021

Contents

1 Summary of Proposals

This Land Management Plan sets out proposals to create new areas of productive and resilient mixed woodland on a previous opencast coal mine site. Structural and species diversity of existing conifer stands onsite will be improved through a series of felling and restock interventions. Site suitable species are selected to ensure long-term resilience and productivity.

New native broadleaf woodland will link neighbouring areas of similar habitat and establish a seed source for continued expansion in the future. A significant portion of the site will be managed as open habitat to enhance existing priority habitat. Further corridors of open space and forest edge habitat will link several existing ponds on site, already in use by aquatic species. This new mixed woodland will complement the existing network of tracks to provide an interesting setting for increased recreational use by local communities. These proposals are sensitive and in keeping with the diversity and aesthetics of the surrounding landscape.

Implementation of this plan will transform a previous industrial site into a multiuse forest, which will improve recreational opportunities for local communities, provide a range of wildlife habitats and contribute to long-term sustainable timber supply. These proposals are consistent with the North Kyle Masterplan (2016) which covers Piperhill, the North Kyle forest block and several other derelict coalfields in the wider landscape.

This land management plan delivers against Scottish Government woodland expansion targets. Piperhill is within the Central Scotland Green Network (CSGN) and delivers against several of the project principles and themes, principally associated with regeneration of former industrial land to provide a high quality environment for the benefit of people and wildlife.

This land management plan covers forestry operations which will commence once Forestry and Land Scotland (FLS) acquire the site. Land forming and soil restoration operations were undertaken by Hargreaves Ltd. prior to FLS site acquisition, and are thus covered by a separate planning process.

The Concept and Future Habitat and Species maps illustrate the long-term vision for the site's transformation.

2 FCS Regulatory Requirements

2.1 Summary of planned operations

Planned Operations	2021-2031
Felling	11.7 ha
Thinning	0 ha
Restock	59.9 ha
Woodland Creation (afforestation)	160.8 ha
Habitat Restoration (deforestation)	0 ha
Road Construction	0.05 ha
Quarry expansion	0 ha

2.2 Proposed felling in years 2021 - 2031

11.7 ha of Sitka spruce plantation is scheduled for felling in phase 1 (2023/24). This will represent 4.4% of the total forested area on site.

2.3 Proposed restocking in years 2021 - 2031

48.1 ha of the site is currently felled, awaiting restock. This will be carried out during 2020/21 – 2021/22. A further 11.7 ha of Sitka spruce plantation will be felled in phase 1 and subsequently restocked.

	2014 - 2016		2023/24	
Gross area felled	48.1 ha		11.7 ha	
Productive Conifer (SS/LP)	30.9 ha	64%	9.4 ha	80%
Open	10.9 ha	23%	1.2 ha	10%
Wet woodland (CAR, BI, WIL, MB)	6.3 ha	13%	1.2 ha	10%

Further details of the restock prescriptions are provided in section 7.2.2 and illustrated in the Future Habitats and Species map.

2.4 Woodland Creation 2021 - 2031

160.8 ha of woodland creation is proposed in this plan. 133.0 ha of which is on remediated former mine ground. 24.9 ha is on former agricultural, rough grazing ground. Species prescriptions are described in section 7.2 and the spatial layout is illustrated in the Planting Design map.

2.5 Access and roading 2021 - 2031

0.12 km of new road will be installed as a spur off the existing North Kyle Haul road, to facilitate the Phase 1 felling and roadside stacking of timber. This new spur road will total 0.05 ha.

An additional 0.73 km of new ATV track will link the existing forest road in the northwest of the site with the power line service road in the north east. This will allow ATV access for the transport of materials during woodland establishment and for deer management operations. It will also improve recreational access, by linking established forest road networks.

These new roading proposals are illustrated in the Management and Felling Map.

2.6 Departure from UKFS Guidelines

The UKFS standards will be met through the delivery of this plan.

2.7 Standards and guidance on which this LMP is based

This land management plan has been produced in accordance with a range of government and industry standards and guidance as well as recent research outputs. A full list of these standards and guidance can be found here: https://forestryandland.gov.scot/what-we-do/planning/links

2.8 Tolerance table

	Map Required (Y/N)	Adjustment to felling period	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Wind throw response	Adjustment to road lines	Designed open ground
SF Approval not normally required (record and notify SF)	N	Fell date can be moved within 5 year period where separation or other constraints are met	<10% of coupe size.	Up to 5 planting seasons after felling (allowing fallow periods for hylobius).	Change within species group E.g. Scots pine to birch, Non-native conifers e.g. Sitka spruce to Douglas fir, Non-native to native species (allowing for changes to facilitate Ancient Woodland policy).			Location of temporary open ground e.g. deer glades if still within overall open ground design Increase by 0.5 ha or 5% of area - whichever is less
Approval by exchange of letters and map	Y		10-15% of coupe size.	5 years +	Change of coupe objective that is likely to be consistent with current policy (e.g. from productive to open, open to native species).	Up to 5 Ha	Departures of greater than 60 m from the centre of the road line	Increase of 0.5 ha to 2 ha or 10% - whichever is less Any reduction in open ground
Approval by formal plan amendment	Y	Felling delayed into second or later 5 year period Advance felling into current or 2nd 5 year period	>15% of coupe size.		Major change of objective likely to be contrary to policy, E.g. native to non-native species, open to non-native,	More than 5 Ha	As above, depending on sensitivity	More than 2 ha or 10% Any reduction in open ground in sensitive areas Colonisation of open Areas agreed as critical

3 EIA Screening Determination for forestry projects

3.1 Proposed deforestation

There is no deforestation proposed within the 10 year period of this plan.

3.2 Proposed forest road works

0.12 km (0.05 ha) of new road and 0.73 km of new ATV track are proposed, within this planning period. These are detailed in section 7.7 and illustrated in the Management and Felling Map.

3.3 Proposed forest quarries

There are no proposals to develop forest quarries within the 10 year period of this plan.

3.4 Proposed afforestation

160.8 ha of woodland creation is proposed in this plan. Species prescriptions are described in section 7.2 and the spatial layout is illustrated in the Planting Design map.

4 Introduction

Piperhill is a 348 ha former opencast coalmine site worked by Scottish Coal in the 1990s until 1996. Prior to Forestry and Land Scotland's acquisition of the site in 2019/2020, Hargreaves Ltd. Owned and restored the former coalmining area to a condition fit for tree planting, as described in 4.1.

Coal mining is a common thread in the local heritage and landscape. There are several former surrounding the North Kyle block as well as scattered bings and deep shafts. Post-industrial restoration and rejuvenation of the local landscape is indeed a key objective in local landscape plans and interest groups, including the Coalfield Communities Landscape Partnership and the North Kyle Masterplan (detailed further in section 4.2 and Appendix II).

Historic Ordnance Survey maps (Appendix II) illustrate the last two centuries of land use on the Piperhill site. This has largely been open rough grazing with the transient presence of planted woodland. In the second half of the 19th century Auchincloigh High Wood was establish along the northern boundary of what is now Piperhill site. In the early 20th century, a linear strip of woodland ran for approximately 2 km along what is now the western boundary of the Piperhill site. A remnant of this woodland is present in the south western corner of the site. The rest of the existing plantation in the southern third of the site was established in the 1980s.

4.1 The existing land holding

As is illustrated in the chart below, the site at initiation of this plan is approximately one third open remediated coalmine, one third open rough grazing ground and one third existing woodland. Just under half of the existing woodland area is felled and awaiting restock.

Since 2018, Hargreaves Ltd. have worked to restore the mined ground via mechanical soil de-compaction, nutrient enrichment and drain installation. FLS have acted as a key consultee, providing technical specifications to ensure that resulting soils are fit for woodland establishment and sustained tree growth. These soils are largely a mixed texture of clay and coarse stone, de-compacted and enriched to a depth of 60 - 100 cm. Such mechanical remediation can be seen as a first stage in soil restoration. With the application of suitable tree species (detailed in section 7.2), the recovery of the soil microbiological, hydrological and nutrient cycle functions will continue over the coming decades.

The open rough grazing ground is a mosaic of open habitats including acid grassland, upland heathland, blanket bog and fen, marsh and swamp. The soils are largely peaty gley (<45 cm peat depth) with minor components of deep peat (>45 cm peat depth) and standard surface water gley (>5 cm organic soil depth). The condition of each of these habitats is variable, having been subject to historic drainage, burning and grazing.

Existing Sitka spruce plantation on the site almost entirely of circa 1982 planting, with exception of a small remnant 1940s Sitka spruce stand. The older stand forms a strip along the south-western boundary. The standing crop is variable in quality and vigour. This variation mirrors the soils across the site. The majority peaty gley soils drain from raised peat adjacent to the bisecting forest road, down to a flushed deep peat in the south eastern corner of the site or northward into Burnton Burn, as illustrated in the accompanying soils map. Apart from the felled area awaiting restock, the only designed open space currently within the block are few straight rides.

Further details of each of these site elements are found in Appendix II. Additionally, the accompanying concept map and soils map illustrates their spatial distribution.

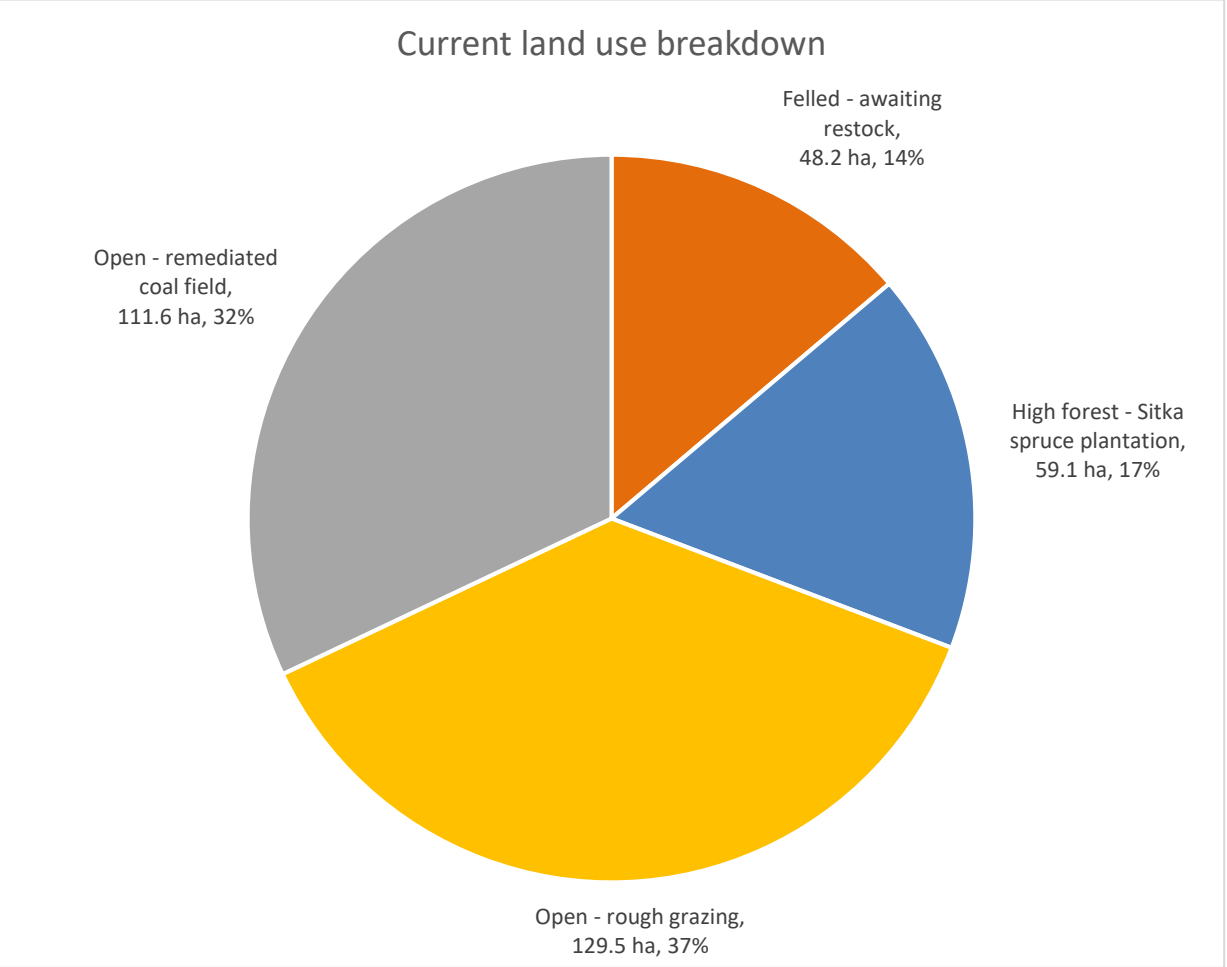


Figure 1: Pie chart illustrating the relative and absolute areas under each land use at Piperhill, at the inception of this Land Management Plan (2021).

4.2 Setting and context

Directly to the south of Piperhill is the FLS North Kyle forest block. Piperhill is one of a several former coal mine sites surrounding and within the North Kyle forest block. As detailed in the

North Kyle Mater Plan 2016, FLS have long-term ambitions to play a part in large scale restoration of the former mining ground across the local landscape. The FLS contributions will generally consist of woodland expansion with objectives to better serve the local communities with recreation and economic opportunities, and wildlife with improved habitat networks and diversity. These aims are consistent with objectives set out by the Central Scotland Green Network, the project area of which covers both Piperhill and the wider North Kyle Forest Block.

Piperhill represents a relatively minor element of a predominantly large scale, open landscape as viewed from local villages, towns and transport routes (detailed in Appendix II). Landscape impacts from afforestation at Piperhill site alone can therefore be considered relatively minor. However, as detailed in the North Kyle Masterplan, Piperhill is the first of several former coalfield sites in the local landscape earmarked for new woodland creation. Landscape impacts will thus accumulate. Careful consideration must therefore be made to ensure that woodland design is in keeping with the local settings on a site-by-site basis, to ensure that the collective impacts remain positive.

Local habitation is scattered housing, farms and the hamlets of Sinclairston (1.5 miles northwest of site) and Skares (2 miles northeast). The closest villages are Drongan (3 miles northwest, population c. 3,200) and Ochiltree (3.5 miles northeast, population c. 700). Further afield are Cumnock (6 miles east) and Ayr (10 miles west).

Burnton Burn and Closs Burn both originate within the site, and flow north to joint Burnock Water, which in turn joins Lugar Water at Ochiltree.

4.3 LMP Presentation

Given the relatively small scale of the site there is no requirement for zoning.

5 Plan Objectives

The Land Management Plan Brief (Appendix III) illustrates objectives derived from the Forestry and Land Scotland Corporate Plan 2019-2022 and how these relate to Piperhill. Management Objectives listed in section 5.3 will deliver the LMP objectives, with the following site specific Issues and Key Challenges considered.

5.1 Issues

The key features and management considerations for Piperhill are illustrated in the Concept and Settings and Context maps, and detailed in Appendix II. They are summarised in the following list:

- Populations of UK Biodiversity Action Plan Priority Species in the local landscape including black grouse, red squirrel, otter and various raptor species.
- Various priority habitats present on former rough grazing area within the site.
- Landscape impacts of conifer woodland and former industrial brown field sites in the local landscape.
- Forestry and Land Scotland's contribution to Scottish Government woodland expansion targets, the Central Scotland Green Network (CSGN) and the North Kyle Masterplan (further detail in Appendix III).

5.2 Key challenges

Key challenges associated with this site and the LMP Objectives as detailed in the Plan Brief (Appendix III) and below, revolve around the legacy of opencast mining. These include:

- Appropriate species selection with tolerance to recovering soils, including compromised soil functionality and localised variability.
- Timely establishment of vegetation on restored soils to minimise risks associated with erosion, compaction and rapid weed growth.

5.3 Management objectives

Establish a new productive and resilient woodland, which contributes to the long term recovery of former mining ground for the sustainable supply of timber.

Maintain productivity of existing woodland through sound silvicultural practice, including timely restocking with site suitable species and considered harvest coupe design and scheduling.

Increase biodiversity provision through well-connected forest habitat networks, and improved structural and species diversity.

Protect the priority habitats present and enhance them where possible, in the context of priority habitats managed by FLS nationally.

Provide an interesting, diverse and accessible setting for a long-term increase in recreational use and community engagement, in accordance with ambitions set out in the North Kyle Masterplan 2016.

6 Analysis and concept

6.1 Analysis

Table 1: Illustration of how the analysis of the opportunities and constraints of an objective leads to the plan concept

Objective	Opportunities	Constraints	Concept
Establish a new productive and resilient woodland, which contributes to the long term recovery of former mining ground for the sustainable supply of timber.	Soils restoration operations on the site have provided an adequate substrate for new woodland creation, through mechanical de-compaction and enrichment. New woodland creation on previous industrial sites will contribute to Scottish Government woodland expansion targets without sacrificing productive agricultural area. Bringing Piperhill into a formal deer management will protect new woodland from browsing damage and improve opportunities for natural regeneration of both herbaceous and woody species.	Restored soils generally suffer from impeded functionality and altered nutrient availability, due to destruction of natural soil structure. The range of site suitable tree species and the initial productivity potential of the soil is subsequently altered. Tree planting area must be balanced with open space and to contribute toward other habitat, water and recreation objectives and to fulfil UKFS and UKWAS requirements. Landscape scale buy-in is required to achieve effective deer control.	Productive conifer areas on restored ground will be established with a nurse of pioneer broadleaf species which will improve soil nutrient regime, structure and microbiology. Mixed productive broadleaf and alternative conifer species will be established in the north of the site where exposure levels and soils types are more favourable. Piperhill will be subject to formal and strategic deer management programme, guided by population surveys and Herbivore Impact Assessment. This will include the installation of linear open space and access infrastructure to facilitate operations. Tree species particularly vulnerable to browsing damage will be strategically located where protection operations are most practicable.
Maintain productivity of existing woodland through sound silvicultural practice, including timely restocking with site suitable species and considered harvest coupe design and scheduling.	Existing woodland on site is largely well stocked, pure Sitka spruce of circa 1982 planting. Growth rates are variable. Areas harvested in 2016 are relatively clear of brash and await restock.	Productivity and appropriate tree species selection is generally limited across the site by wet, peaty gley soils and high exposure. Some minor areas of deep peat on site were formerly planted with Sitka spruce, but are not considered appropriate for continued productive conifer forestry under modern guidelines.	Felling sequence of the existing woodland designed with time of maximum mean annual increment, windthrow risk and landscape impacts considered. Productive elements of existing woodland will be restocked largely with a Sitka spruce and lodgepole pine mix to suit relatively nutrient poor, peaty gley soils. Low productivity (yield class <8) areas of deep peat will be restored to open ground at next felling period. Restock coupes to be designed with integration of open space to develop internal windfirm edges and provide options for small, discrete and windfirm coupe fells in the future.

Objective	Opportunities	Constraints	Concept
Increase biodiversity provision through well-connected forest habitat networks, and improved structural and species diversity.	Existing woodland is largely pure, even-aged Sitka spruce plantation. Varied performance of the current crop across the site lends itself to restructuring by new coupe design and phased felling and restocking. A small stand of circa 1940s Sitka spruce has been naturally thinned by historic windblow, and is thus relatively wind firm. The far north of the site offers relatively favourable conditions for a wider range of tree species, in terms of local shelter and presents of original mineral soils. A number of small native broadleaf woodlands and hedgerows abut directly to the site's northern boundaries. These will benefit from expansion and will connect new woodland habitats on site to the wider landscape. There are several former mining settling ponds and flooded voids on site that are already being colonised by water fowl and aquatic wildlife.	The breadth of tree species and silvicultural systems that are suited to the site is largely limited by high levels of exposure and poor nutrient availability associated with recently restored former mining or naturally peaty soils. Habitat provision must be balanced with productivity and access objectives across the site, to ensure financial and social sustainability.	New and felled productive conifer stands will be planted with mixtures of productive conifer with a nurse species, of either mixed broadleaf or conifer. Riparian and low yielding deep peat areas within the existing Sitka Spruce plantation will be gradually converted to open or broadleaf habitat. The stand of 1940s Sitka spruce will be managed as minimum intervention, to broaden structural diversity and allow natural processes to continue. New native mixed broadleaf woodland will be established in the north of the site where growing conditions are favourable and connectivity to similar habitats in the wider landscape is most impactful. New native wet woodland will be established in riparian areas throughout the site. There will be 50% open space integrated into the wet woodland planting pattern to provide variation in shelter and shading.
Protect the priority habitats present and enhance them where possible, in the context of priority habitats managed by FLS nationally.	Piperhill encompasses 100 ha of open, former rough grazing ground. FLS have surveyed and mapped several priority open habitats within this area, and additional components that can be restored to priority habitat through reduction in grazing pressure.	A data and knowledge of species presence and usage of the site is limited due to the site's recent acquisition. Habitat restoration activities are limited by budget and resource constraints.	Elevate grazing pressure on open ground, and monitor recovery of terrestrial priority habitats. Species and habitat surveys will be continue in order to compile a thorough baseline dataset. This will then inform future management and monitoring. Explore viability, suitability and funding opportunities for open habitat enhancement works, such as drain blocking.

Objective	Opportunities	Constraints	Concept
Provide an interesting, diverse and accessible setting for a long-term increase in recreational use and community engagement, in accordance with ambitions set out in the North Kyle Masterplan 2016.	Piperhill's northern boundary is just 1 km from the public highway. The northern end of the site lends itself recreational use, with varied topography, extensive views and a network of former settling ponds linked by existing gravel tracks. The current intensity of heavy industrial traffic on the North Kyle Haul Road is forecasted to reduce in the coming years. FLS and community relationships are already established, having completed an extensive consultation for the North Kyle Masterplan. FLS have a Community Ranger working in the area, with established relations with local schools and community groups.	Public access to the site from the highway is via the North Kyle Haul road, which is currently subject to heavy coal mine traffic and is owned by a third party. Industrial traffic currently limits the appeal and suitability for increased recreational use. Local population densities are relatively low and the site is away from major highways. Provision of access routes is limited by installation and maintenance costs, and must be balanced with future forest operations access requirements.	A mosaic of new mixed broadleaf woodland and alternative conifers interlaced with the existing network of forest tracks in the northern-most outcrop of the site will provide a diverse, interesting and accessible setting for recreational use. This will provide an attractive gateway to the wider North Kyle block for a long-term increase in recreational use, consistent with ambitions detailed in the North Kyle Masterplan 2016. Opportunities and permissions for community lead projects and site use for learning by local schools and community groups will be enabled where appropriate, through existing FLS channels.

6.2 Concept

The accompanying Concept Map spatially illustrates the strategies to deliver the plan objectives with the site specific opportunities and constraints detailed above taken into account.

7 Land Management Plan Proposals

This section provides detail on land management proposals for the site. Activities scheduled for the current planning period and long-term management prescriptions are both covered.

The accompanying Future Habitat and Species map illustrates the vision towards which the prescriptions below are working. The Management and Felling map illustrates the proposed timing of management innervations and delivery.

7.1 Management of existing woodland

As described in sections 5 and 6 above, management of existing woodland will focus on maintaining productivity whilst increasing structural and species diversity of what is largely 1980s planted Sitka spruce, at the inception of this plan.

7.1.1 Restructuring

In the context of this plan, the term restructuring is used to describe the process of breaking up the largely even-aged existing plantation into smaller stands or coupes, for periodic felling and restocking. The continuation of this process over time will lead to a woodland with greater age and structural diversity.

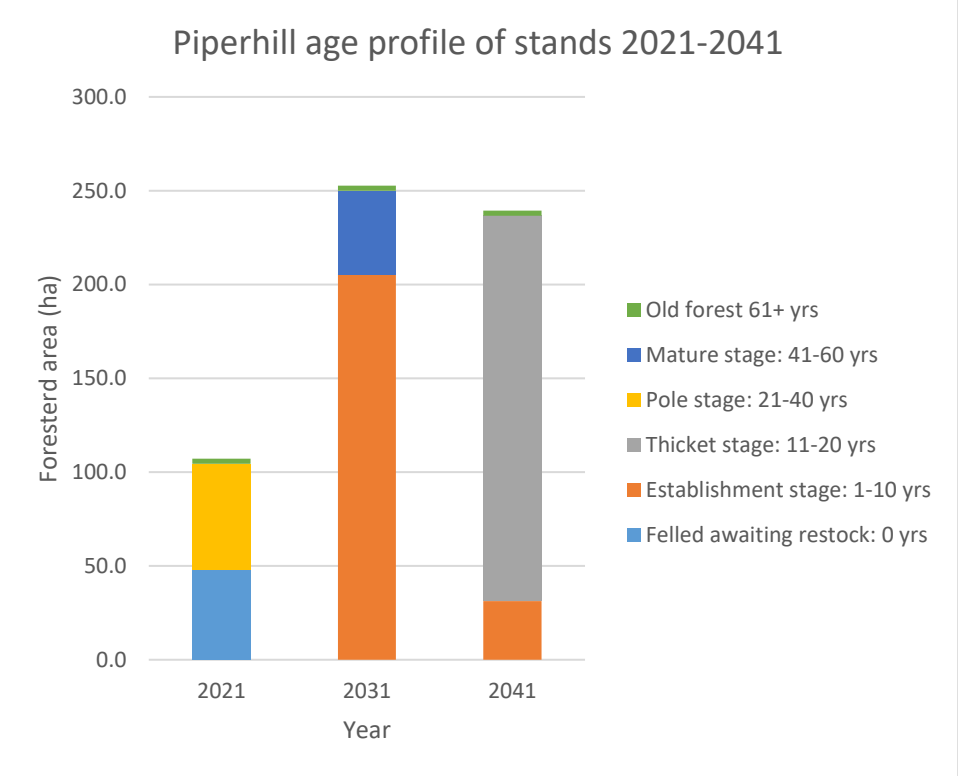


Figure 2: Graph illustrating the changing distribution of stand age class over twenty years from the conception of this plan in 2021.

The graph above illustrates two key points. The first is a marked increase in forested area between 2021 and 2031. This is due to new woodland creation, as described below in section 7.2.1. Secondly, the chart illustrates a trend of broadening age class distribution through time, from two standing cohorts in 2021 (not including 'felled awaiting restock') to three in 2041. Restructuring efforts are limited here somewhat by the large proportion of new woodland creation and felled awaiting restock at the inception of this plan. However, restructuring will continue beyond the twenty years illustrated above as a direction of travel towards a forest with a more diverse and complex age structure.

7.1.2 Clear Felling

11.7 ha of plantation woodland is scheduled for harvesting via clear-fell within this planning period. This represents 4.4% of the total forested area on site (proposed woodland creation included). As illustrated in the Management and Felling map, this area is the western most coupe, on a slight western slope. adjacent to open rough grazing, this stand is subject to some of the highest exposure on site. Largely on peaty gley soil, it has performed well and is suitable for a subsequent productive conifer rotation.

Table 2: Area breakdown of felling phases and minimum intervention, for forested area at Piperhill

Felling Phase	Felling period	Area (ha)	Proportion of forested area (%)
1	2021-25	11.7	4.4
2	2026-2030	0.0	0.0
3	2031-35	45.2	17.0
4	2036-41	0.0	0.0
Beyond Phase 4	2042+	166.3	62.4
Minimum intervention	No felling	43.3	16.2
Total		**266.5**	**100.0**

7.2 Woodland creation and restocking

7.2.1 Woodland creation planting proposals

The accompanying Planting Design map illustrates the special distribution of the planting mix prescriptions below.

Selection of the below species and mixtures have been made with consideration of local climate data (via the Ecological Site Classification Decision Support Tool) and the continued recovery processes of disturbed soils associated with the sites coalmining past (see Appendix II for example information). The latter is a particularly strong driver and accounts for the proliferation of pioneer species on restored areas, such as common alder and birch. These pioneer species will serve a critical role in tolerance and improvement of the depleted soil nutrients and structure. This will benefit accompanying species in the current species mix prescriptions and future rotations.

The species mixtures as described below may be subject to further enrichment during beat-up phases, with species that fulfil the objectives and prescriptions of each area and are suitable to changing site conditions, such as increasing local shelter from establishing surrounding crop. It is important to design such an element of species flexibility into new planting on restored soils as localised variations in texture and nutrient availability (as described further in Appendix II) may become more apparent as the site settles. Such flexibility falls within the parameters detailed in the LMP Tolerance Table (section 2.8).

Planting Prescription	Local site type	Indicative Species	Target Density (Stems/ha)	Design	Area (ha)
Productive conifer	Restored ground, exposed	Mix 1: Sitka spruce, common alder	2500	Intimate mix at 2.0 x 2.0 m tree spacing	79.1
Productive conifer	Brown gley, exposed	Mix 2: Pacific silver fir, downy birch	2500	Blocky or line mix at 2.0 x 2.0 m tree spacing	2.8
Productive broadleaf	Restored ground, locally sheltered	Downy birch, aspen. Occasional oak, rowan and native shrubs, especially towards edges	2500	Blocky mix, minimum group size of 49 trees (7 x 7). 2.0 x 2.0 m tree spacing	14.0
Native mixed broadleaf (NVC - W11)	Brown gley, locally sheltered	Sessile oak, downy birch hazel, rowan, hawthorn holly	1600	Blocky mix at 2.5 x 2.5 m tree spacing	2.2
Native wet woodland (NVC – W4, W7)	Riparian and wet ground, locally sheltered	Common alder, downy birch, willow (grey, goat) Occasional hawthorn, rowan, hazel on drier spots	800	2.5 x 2.5 m tree spacing. 50% open	34.3
Planting buffers	Buffers	Open ground	N/A	Open ground – natural regeneration acceptable in some areas	27.9

Ground preparation for woodland creation areas is intended to be largely hinge-mounding, with some flat planting where appropriate.

7.2.2 Restock planting proposals

Selection of the below species and mixtures have been made with consideration of local climate data (via the Ecological Site Classification Decision Support Tool) and local soil conditions. High levels of exposure and wet, nutrient poor soil types are both significant constraints on selection of species that will both survive, thrive and contribute towards fulfilling the plan objectives in such conditions.

Planting Prescription	Local site type	Indicative Species	Target Density (Stems/ha)	Design	Felled 2014 -16. Restock area (ha)	Phase 1 felling. Restock area (ha)
Productive conifer	Peaty gley soils, exposed	Mix 1: Sitka spruce, Lodgepole pine, common alder	2500	Intimate mix at 2.0 x 2.0 m tree spacing	30.9	9.4
Native wet woodland (NVC – W4, W7)	Riparian and wet ground, locally sheltered	Common alder, downy birch, willow (grey, goat) Occasional hawthorn, rowan, hazel on drier spots	800	2.5 x 2.5 m tree spacing. 50% open	6.3	1.2
Planting buffers	Buffer	Open ground	N/A	Open ground – natural regeneration acceptable in some areas	10.9	1.2

Ground preparation for restock areas is intended to largely be mounding and surface drainage.

7.2.3 Crop Protection

As with all FLS deer management programmes, deer management at Piperhill will be guided by a Region specific Deer Management Strategy, which is underpinned by a national code of practice and industry best practice guides.

An operational strategy for protection of new planting and restock at Piperhill will be informed by on-site deer population monitoring and Herbivore Impact Assessment. Additional considerations such as tree species palatability, local topography and other operational constraints will be taken into account. In practice a combination of tactics will be implemented, including deer management, tree tubes and fencing across the site. Where deer fencing is required, a work plan assessment will be carried out, with input from the FLS Environment team to determine suitability and requirement for reflective metal strips.

In order to aid safe, efficient and humane deer management operations, linear open space radiating away from strategic locations with sufficient backdrops and access for extraction have been incorporated into the planting design.

7.3 Long Term Silvicultural Prescriptions

7.3.1 Clear fell and restock regime for productive conifer

Exposure levels for much of the upper, coniferous areas of Piperhill exceed the FLS threshold for thinning suitability, due to associated risk of windthrow. A no thin, clear-fell restock

silvicultural system will therefore be continued in existing woodland and implemented in new planted conifer areas in due course.

Coupes are designed to be in keeping with the surrounding landscape, in shape and scale. To facilitate this, new planted and restock areas will be stratified and broken up with open rides. These will allow windfirm edges to develop, allowing staggered and timely felling of future coupes.

7.3.2 Thinning regime for productive broadleaf

A productive broadleaf prescription of birch and aspen (see above) will be established in the north of the site. Exposure here is reduced by local topographical shelter. Birch and aspen are both light demanding species that respond well to early thinning interventions. Thinning here should commence when the canopy has closed and the live crown depth has reduced to 50% of the total tree height. Tree height will likely be 10-12 m at this stage. Thinning should then continue at 7-10 year intervals. Once trees reach a target diameter at breast height (DBH) of 20-30 cm a final harvest can be made. Seed trees should be retained to aid establishment of the next rotation via natural regeneration.

7.3.3 Minimum intervention

A 2.7 ha stand of 1940s planted Sitka Spruce is situated adjacent to the southernmost section of the western boundary to neighbouring rough grazing ground. The stand is currently stocked with well-spaced, large mature trees that have deep crowns. Judging by scattered stumps and deadwood, this structure appears to have been a product of a series of historic windthrow events that have 'naturally thinned' the stand as it has developed and matured. The resulting stand structure and tree form indicates that these remaining trees may be sufficiently windfirm to withstand the elements for several decades to come. This stand will therefore be subject to minimum intervention for at least the duration of this plan, whilst a continued assessment of whether this stand is suitable for further retention is made.

Once established, newly planted native wet woodland areas will be managed under a minimum intervention prescription. The primary long-term intention for these areas is to provide ecological benefits associated with this habitat type. These include deadwood accumulation, protection of water quality and provision of habitat niches for associated species. Once matured, these areas will serve as seed sources for wider expansion of native wet woodland across the site through natural regeneration.

7.3.4 Convert to open habitat

As illustrated in the Future Habitat and Species map, 13.8 ha of Sitka spruce plantation in the south eastern most extent of the site is earmarked for conversion to open habitat. The underlying soil type here is a flushed deep peat. The existing Sitka spruce stand on this area is

performing poorly (yield class > 8), likely related to high water tables and poor nutrient availability associated with such deep peat soils. For these reasons this area is considered better suited to management as open habitat.

The current crop is scheduled to be removed from this area in management phase three, beyond the current ten year plan period. An assessment will be made at later plan renewals whether additional peatland restoration operations, such as ditch blocking, would be beneficial and viable.

7.4 Landscape

Coupe design, woodland creation species mixtures and long-term management systems as described above, have all been prescribed with Piperhill's two Landscape Character Types (detailed in Appendix II) considered. An assessment conducted by an FLS Landscape Architect concluded that Piperhill is relatively discreet when viewed from roads and core path viewpoints, the closest of which is 3 km from site. The prescription of broadly coniferous woodland in the south of site sits below a skyline already occupied by the North Kyle Forest Block. Broadleaf prescriptions on the lower ground, in the north of site, complement the neighbouring woodland and hedgerow features.

Internal viewpoints have been located and adjacent woodland designed to take advantage of topographical vantage points, maintaining key views of the wider landscape whilst also complimenting short-range internal views and sense of place.

7.5 Biodiversity & Environment

7.5.1 Water & riparian zones

Piperhill is within the Ayrshire Local Plan District in the Scottish Environment Protection Agency's (SEPA) Flood Risk Management Strategy. The site is not within a Potentially Vulnerable Area, as designated within this Strategy. Soil restoration and establishment of woodland across the abandoned mining elements of the site will improve the site's water regulation capabilities, including interception, slowing and filtration of surface water flows through increased layers of vegetation and stabilised soils.

There are several former mine settling ponds within the site. These are now functioning as valuable habitat for water fowl and associated species. These ponds will be retained as a permanent water features. There habitat functionality will be protected and improved with installation of planting buffers and establishment native wet woodland where appropriate (see Future Habitat and Species map).

There are several watercourses within and adjacent to the Piperhill site. Closs Burn demarks the eastern boundary of the site. Burnton Burn initiates in an area of raised bog within the existing woodland area on site and drains to the north, delineating the boundary between

formerly mined ground and original rough grazing area. Riparian planting buffers have been incorporated into the planting design and areas of native broadleaf riparian woodland will be established where good operational access makes planting and protection practicable (see Future Habitat and Species map). These measures will comply with stipulations detailed in UKFS and associated best practice guidance.

Forestry and Land Scotland will comply with current industry best practice guidance and UKFS stipulations in order to protect water quality throughout all forest operations.

7.5.2 Open habitat

As illustrated in the Future Habitat and Species map, some 76 ha of former rough grazing in the north east of the site is to be managed as open habitat. This is due to the presence of several priority open habitats including areas of Blanket Bog, Upland Heathland, and Upland Flush, Fens and Swaps, as described in the UK Biodiversity Action Plan (published 2008, updated 2010 & 2011). The open habitat survey map and data in Appendix II illustrate the cover and distribution of these habitats.

It is expected that the removal of agricultural grazing will have positive impacts on these habitats. This reaction will be monitored through the lifespan of this Land Management Plan. Opportunities for additional habitat restoration operations, such as ditch blocking, will be investigated and pursued if appropriate, in the context of funding availability and prioritisation of priority habitats managed by FLS nationally.

Additional open space and forest edge habitat will be provided amongst the woodland creation area, by the way of rides and designed open space. These have been designed to best link adjacent open space and onsite ponds.

3 ha of designed open space within the native broadleaf planting area in the north of the block, will be subject to enrichment with wildflower seeding, as a partnership project with East Ayrshire Coalfields Environment Initiative. The accompanying Wildflower Map illustrates the scale and location of this project area.

7.5.3 UK Biodiversity Action Plan Priority Species

An environmental site survey was carried out in December 2019. Data from this survey have since been added to FLS Conservation Site recording system and supplemented with further data gathered by FLS Environment staff site walks.

A desk based assessment of FLS and third party breeding bird data, with a particular focus on wading birds was undertaken, in the absence of a 2020 breeding bird site survey due to Covid-19 related travel restrictions. Details of this process are included in Appendix II.

Due to the lack of on-site breeding bird survey data from 2020, a conservative approach was made in the allocation of planting prescriptions and design. This is evident in the resulting afforestation area being focused on restored ground, recently disturbed by full mechanised excavation, soil remediation operations, carried out by the former land owner (completed September 2020). Natural ground not recently disturbed by remediation operations has thus largely been left open (see Planting and Current Land Use maps).

As with all FLS forest operations, planting operations and design will be subject to a Work Plan process with includes an up-to-date assessment of site constraints and the making of any required adjustments, undertaken shortly before operations start. This ensures species considerations and mitigations are kept up-to-date and to operational best practice.

7.6 Heritage Features

A comprehensive walkover survey by FLS Planning and Environment staff was undertaken, and following the UK Forestry Standard (GFPR4) and Scottish Forestry good practice (particularly Guidance Note: The Provision of Archaeological Information and Advice in Scotland to meet the UKFS - Scottish Forestry 1), all important historic environment features were identified and excluded from planting (see Planting Plan – Archaeology map for details).

A description of the Scheduled Monument Auchencloigh (formerly spelt Auchincloigh), located in the neighbouring land holding, is in Appendix II.

7.7 Operational Access

7.7.1 Forest roads

The North Kyle Haul Road bisects the Piperhill site, running northwest-south east. The road profile itself and a narrow buffer zone on each side is owned by a third party. FLS have an agreement for operational access to the road in perpetuity. This includes points at which access ramps can be installed to provide machinery access from the road to the forest block (illustrated in the Ramps map).

A 0.12 km new spur road is proposed in this plan (illustrated in the Management and Felling map) to facilitate extraction and roadside stacking of timber from the phase 1 felling operation, whilst avoiding obstruction of the North Kyle Haul Road. An additional 0.12 km new spur road is similarly planned to facilitate the phase three felling, beyond the lifespan of this LMP.

7.7.2 ATV tracks

0.73 km of new ATV track will link the existing forest road in the northwest of the site with the existing power line service road in the north east. The primary purpose of this track is to improve ATV operational access. This will aid the transport of materials during woodland establishment, fence installation, maintenance, open habitat management and deer

management operations. Installation of this new track will also improve recreational access and route connectivity, as detailed further below.

7.8 Management of public access

As with all FLS woodlands, Piperhill will be open to public access in accordance to the Scottish Outdoor Access Code, 2005. Occasional area closures or diversions may be put in place to manage public safety around forest operations, such as tree harvesting. The affected areas and duration of such closures will be kept to a minimum.

It is expected that the forest road and track infrastructure will be the main focus of recreational access on site. Therefore particular consideration has been made to ensure that these are linked to routes to the wider landscape where appropriate. These access links are illustrated in the Access map.

As described in section 6, it is anticipated that the northern parts of the Piperhill site will receive higher recreational footfall relative to other parts of the site, due to proximity to the public highway and to local habitation. Particular care has been taken to design an interesting blend of tree species and open space to link landscape features and viewpoints. This is illustrated in the Access and the Future Habitat and Species maps.

8 Critical Success Factors

The critical success factors listed below relate to delivery against the management objectives listed in section 5.3. They are:

- Successful establishment of the new woodland areas to the target stocking densities listed in section 7.2.1 and illustrated in associated LMP maps.
- Felling and restocking of harvesting coupes delivered as scheduled in section 77.1.2 and illustrated in the associated LMP maps.
- Improved habitat networks and foraging opportunities via establishment of new woodland, forest edge and open space habitats as designed and illustrated in the Future Habitat and Species map.
- Stable or improved condition of priority open habitats.
- Proposed recreational routes and connections delivered and maintained in a condition suitable for intended use.

Appendix I: Land Management Plan Consultation Record

Online public consultation

An online public consultation was held to gather stakeholder input during the Covid-19 lockdown period. To facilitate this a Piperhill land management plan consultation webpage was published on the forestryandland.gov.scot from 12th May to 20th July 2020. A link to this website was shared with local public groups (including surrounding community councils, community trusts and the Coalfield Community Landscape Partnership), stakeholder groups (including conservation charities and regulatory bodies) and local newspapers.

The webpage included:

- A brief written introduction
- An interactive location map (Google)
- An explanation of the online community consultation method
- A 9 minute presentation video which included background information, a description of the planning process, draft proposals and instruction on how to contribute to the plan. These points were illustrated with maps and photographs
- A planning process timeline
- Links to draft plan documents and maps
- A feedback questionnaire
- FLS address and email contact details

The Piperhill consultation webpage user activity during the online consultation period was as follows:

- 631 total page views by 379 unique users
- Majority of views within the first ten days (497 page views by 277 unique users)
- Average time spent on the page was 3 minutes 44 seconds

Table 3: Summery of responses to online consultation held 12th May to 20th July 2020

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
CONFOR	14/05/20	- Why is there to be such a large area in the north-east of the site unplanted? The reference to priority habitats is noted, but why they should have priority over more woodland?	LMP document	- Areas have been left open where woodland creation would degrade existing priority habitat. Details of the priority habitat present in the area in questioned are recorded in the habitat survey results in Appendix II.
East Ayrshire Coalfields Environment Initiative (EA-CEI)	19/05/20	- Is there any suitable area for a EA-CEI wildflower establishment project, that could be incorporated?	Email: 19-28/05/20 Site Visit: 22/07/20	- Conducted a joint EA-CEI/FLS site meeting to investigate opportunities. Agreed that circa 3 ha was suitable for wildflower seeding. EA-CEI to undertake seeding and 2 years of maintenance, subject to formal permissions and agreement being finalised. Area map in Appendix II.
RSPB	21/05/20	- Request for habitat and species survey data.	Email: 29/05/20	- FLS shared priority habitat survey data.
Scottish Natural Heritage	27/05/20	- SNH do not intend to offer formal comment on this proposal as it falls below the FCS – SNH concordat for forestry related casework.	LMP document	

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
RSPB	01/06/20	- Request that bird survey work consider black grouse, although it is appreciated that the window for this has now lapsed. - Low density broadleaf will benefit black grouse, but may impact other ground nesting birds negatively. Please consider this in the design. - It may be concluded that the main area of interest is the semi-natural habitat, but the coal site may hold interest for grouse and other ground nesting birds, such as ringed plover and oystercatcher. - Please consider the potential to restore the mining ground to peatland, where conditions allow.	LMP document	- Covid-19 restriction have disrupted 2020 bird survey efforts. This will be risk assessed and resumed as soon as is appropriate for likely site species. UPDATE Feb. 2021: detail of assessments and mitigation made to date are included in Appendix II. - Native broadleaf has largely been situated in riparian corridors so as not to fragment the 80 ha of open priority terrestrial habitat (illustrated in the Future Habitat and Species map). - Exposed and open ground habitat on the former coalmining area is considered transient in nature. However, an element of open space has also been designed in to provide continued opportunities for ground nesting birds that may favour a mineral substrate. - The recently remediated soils on former mining ground are mixed mineral. The land form in these areas are of rolling slopes, which would inhibit abilities to achieve a consistent water table adequate for peat formation. However, opportunities to protect and restore natural peatlands elsewhere on site will delivered during this planning period and subsequent, as detailed in section 7.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
SEPA	03/07/20	- Suggested baseline and operational water quality assessment to identify current water quality impacts and potential mitigation. - Proposals for water crossings must comply with Water Environment Regulations 2011 and be undertaken in accordance to best practice forestry guidance. - Suitable pollution control measures should be employed to protect the water environment during forest operations. - Proposals should comply with the Forest and Water Guidelines. - Would welcome the planting of native broadleaf along riparian corridors, for biodiversity and habitat benefits.	LMP document	- FLS operations are audited both internally and externally, as part of our continued UK Woodland Assurance Standard (UKWAS) certification, to ensure that all operational industry best practice standards are adhered to. - As detailed in section 7 and illustrated in the Future Habitat and Species map, several areas of native wet woodland will be established and managed long-term via minimum intervention to maximise biodiversity and habitat benefit in these key riparian areas. It is intended that this first step of establishing a native broadleaf seed source in strategic areas will lead to further expansion via natural regeneration of broadleaf species over time.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 1	14/05/20	- Will established access rites be maintained? - The plan does not address the water filled voids that were part of the former mine site. - Could there be a more varied tree mix? There is too much Sitka spruce and Lodgepole pine. - Oak struggles on poor soil and with exposure. - The purpose of the plantation seems to be to further FLS profits, without enough diversity and thought to what the land was like prior to post-war afforestation.	LMP document	- Recreational access will remain open, in accordance with the Scottish Outdoor Access Code. Commercial, group and vehicular access permissions can be sought through the South Region FLS office (https://forestryandland.gov.scot/contact). - The large water filled voids are outside of the FLS land holding. - As detailed in section 7 and Appendix II, site suitable species are limited by high exposure and largely wet soil conditions. Where conditions allow, native broadleaf and alternative conifer species have been subscribed for establishment. A subsequent draft of the plan since the initial consultation has further reduced the relative proportion of Sitka spruce and Lodgepole pine. - Oak is just one component of a small area of mixed native broadleaf (NVC W11) prescribed for a confined area of more favourable brown earths and local topographical shelter. This is an example of delivery of tree species diversity wherever conditions allow, as described in the previous point. - Appendix III illustrates how both the FLS Corporate Plan and the Scottish Forestry Strategy have fed into this plan's objectives. Sustainable timber production is a consistent and reliable mechanism by which FLS contributes to a sustainable rural economy.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 2	14/05/20	- Regarding timber extraction, the North Kyle haul road onto the B7046 is an agreed route, therefore there shouldn't be any problems extracting timber in due course.	LMP document	- Indeed, this is an established transport link from the North Kyle Forest Block. Timber traffic will be relatively light, when compared to the current coal extraction operations, which will be phasing out over time.
Questionnaire respondent 3	14/05/20	- Useful and easy to follow series of maps and management proposals. - Interested in connectivity with the wider environment, in terms of recreational access and land use. - More detail on how this plan connects to the North Kyle Masterplan	LMP document	- We are glad to hear that maps and text are easily followed. - The accompanying Access map has been created since the public consultation. It illustrates how key access points from the wider landscape have been integrated with installation of open rides and a new section of ATV track, to link with the existing forest road and track network on site. - Key elements of the North Kyle Masterplan that relate specifically to Piperhill, and how this plan delivers against these are detailed in Appendix II.
Questionnaire respondent 4	14/05/20	- Like the diverse mix which seems to take into account a number of relevant factors. - Have amphibians, water vole and otters been surveyed for? Proposals should improve their habitat anyway. - Glad to see that it is not just pure Sitka spruce. It seems like a well-balanced plan.	LMP document	- Glad to receive positive feedback on species selections. - Water bodies and courses were covered in a third party recent ecological survey as part of the former land owners remediation operations planning. Application of mixed native woodland and open space habitats around water features have indeed been designed to complement and improve aquatic habitats on-site.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 5	14/05/20	- Like the strong focus on productive forestry. - What will happen to priority habitat areas if there becomes a lack of funding to manage them as they are?	LMP document	- As illustrated in Appendix III and in the body of the plan, sustainable timber production is a key point for delivery. - Habitat condition, funding opportunities and objectives will be reassessed and updated at ten year intervals, with each new LMP. An additional midterm review at year five of each plan will also be conducted. Through these mechanisms management can stay relevant to shifts in economic, social and environmental climates.
Questionnaire respondent 6	18/05/20	- Like the improvements in habitat connectivity and the Sitka spruce mixes. - Would like more broadleaves along the burn in the south, and more diverse conifer crop species.	LMP document	- Glad to receive positive feedback on species selections. - Broadleaf establishment around the burn referenced has been revisited and increased since the initial consultation.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 7	19/05/20	- Interested in the whole plan, but especially opportunities for work experience and vocational training for local people. - Like the broadleaf for fuel wood, habitat network development, soil remediation, use of broadleaf species in Sitka spruce mixes and recognition of the value of deep peat and flushed habitats. - Please investigate opportunities to improve recreational access links, specifically to Auchlin Mine Wood, which would improve access from Skares Road, and contribute to Coalfield Communities Landscape Partnership (CCLP). - East Ayrshire Woodlands would be interested in further opportunities to work with FLS, with CCLP modern apprentice programmes and vocational training opportunities, which could be incorporated into delivery of some aspects of the site. - There may also be opportunities to work with East Ayrshire Coalfields Environment Initiative.	LMP document	- FLS are open to approaches by external organisations to facilitate work experience, training or educational programmes. However, FLS resources restrict our involvement to landowner-facilitators. The lead must therefore be taken by the external organisations. - Glad to receive positive feedback on species selections and habitat prescriptions. - Since the consultation, we have taken this point and investigated the opportunity link access to Auchlin Mine Wood. Initially, the installation of a new ATV access track will connect the power line service road and the Piperhill forest road network. Ground will be left open between a gate in the Auchlin Mine Wood boundary fence and the power line service road, for pedestrian access (see Access Map). If this proves popular then FLS would provisionally be open to investigating further upgrades in due course, subject to funding. - FLS have engaged with East Ayrshire Coalfields Environment Initiative to investigate opportunities for wildflower meadow establishment (see above).

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 8	20/05/20	- Welcome to see broadleaf, wet woodland and spruce/broadleaf mixes. - Disappointed to see so much productive conifer in the plan, bearing in mind its dominance in the rest of North Kyle. Would prefer to see new planting of broadleaf, which would be more in keeping with North Kyle Masterplan. - The masterplan mentions stronger relationships with local communities (Sinclairston, Skares etc.), more emphasis on this is required. - Interested in the priority habitats mentioned. Is there planting e.g. shrub species, that can be done to improve them?	LMP document	- Glad to receive positive feedback on species selections. - As described in section 7, mixed broadleaf planting has been focused around the northern extent Piperhill to best provide a diverse and interesting gateway setting. This compliments the North Kyle Masterplan, as described in Appendix II. - The priority open habitats present are inherently void of trees and shrub vegetation. FLS will monitor habitat condition and species presence throughout the lifespan of this initial plan, to inform a decision whether improvements can be made in subsequent phases and plans.
Questionnaire respondent 9	22/05/20	- Like the reforestation for productivity, whilst preserving wildlife and restoring the mine site. - Interested in the tree species selection process, and plans for the next 20 years.	LMP document	- Glad to receive positive feedback on species selections. - The method and constraints to which tree species have been selected are detailed in section 7, with further worked examples and detail in Appendix II.

Consultee	Date Received	Summary of issues raised	Response method	FLS Response
Questionnaire respondent 10	23/05/20	- It important for the wellbeing of the area that we plant for wildlife and recreation, in a varied and sustainable way. - Overall, I think the plan is commendable, but would like to see less emphasis on commercial Sitka spruce planting, as there is already plenty in the area. Would prefer more native woodland species instead.	LMP document	- Since the consultation, we have increased the area of native wet woodland establishment with some additional areas in the south of the site.
Questionnaire respondent 11	26/05/20	- Would like more opportunities for public access, footpaths, trails, mountain biking. All of which would contribute to local economies and tourism. - Concerned that windfarm proposals in North Kyle will limit access and opportunities for Coalfield Communities Landscape Partnership developments.	LMP document	- Since the consultation, we have investigated opportunities to connect the site to neighbouring recreational routes. Subsequent proposals to link the Piperhill tracks and forest roads to the wider landscape are illustrated in the Access map. - This land management plan focuses on the forest management at Piperhill only. Windfarm developments and activities in North Kyle Forest block itself, are covered by separate plans and planning processes.

Table 4: Summery of responses from publication of plan on Scottish Forestry's public register, December 2020 - January 2021.

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
Scottish Water	10/12/20	1. No Scottish Water drinking water catchments or sources in the area that may be affected.		1. Understood.

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
		2. There is a 15" spun iron trunk water main which crosses the bell-mouth of the access road, which point the road appears to be a full tared surfaces according to images on GoogleMaps.		2. It is understood that the water main in question is beneath the North Kyle Haul Road bell-mouth. This road is owned by and the responsibility of Hargreaves Ltd., with whom FLS have an access agreement. The running of heavy traffic associated with coal extraction is managed over this section of road. Delivery of forest operations associated with this plan will be minor, when compared to coal extraction traffic.
East Ayrshire Council	11/01/21	1. The applicant should be cognisant of objectives detailed in the Ayrshire and Arran Forestry and Woodland Strategy (2014). It is noted that Piperhill encompasses areas classified as 'Sensitive', 'Existing', 'Preferred' and 'Potential', within the Ayrshire and Arran Forestry and Woodland Strategy's Land Categorisation framework. It is noted that 'Sensitive' areas will be largely retained as open, or planted where mining has taken place. It is noted that elements of the 'Existing' area are scheduled for woodland removal, where deep peat is present and productivity is thus inhibited. 2. There is no ancient woodland within the site. 3. There are no rights of way on site. It is welcome that the applicant intends to create a number of	LMP document	1. The plan has been prepared with consideration to the Ayrshire and Arran Forestry and Woodland Strategy (2014), its Land Categorisation framework, objectives and sensitivities. 2. Noted. 3. Noted. Glad to receive support of the access infrastructure proposed. 4. The landscape character has been considered in the plan, as detailed in section 7.4 and Appendix II. 5. As noted, deforestation of this area of deep peat is a longer-term ambition, schedule beyond the life time of this plan (phase 3). Its implementation will be covered by a subsequent plan and will thus be subject to any policy of practice revisions that may or may not change in the interim period.

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
		routes through the site, including viewpoints, in accordance with the objectives of the North Kyle Masterplan. 4. Site is within the 76 – Foothills – Ayrshire Landscape Character Area. 5. It is noted that the applicant intends to restore 13.8 ha of low productivity areas of deep peat to open habitat. The applicant will also assess at later plan renewals whether additional peatland restoration operations would be beneficial and viable. 6. The site has been identified as containing Central Scotland Green Network (CSGN) Acid Grassland Network and Woodland Network areas. 7. Cognisance should be given to the protection of archaeological features on site. 8. No part of the site appears to be at risk of flooding according to Council GIS, however, benefits of woodland in mitigating against such risk are noted. 9. Local nature conservation sites include Belston Loch Provisional Wildlife Site, Bent Burn		6. The CSGN project, objectives and areas have been considered in the making of this plan. 7. Section 7.6 and the accompanying Planting - Archology map illustrates the process of locating and mitigating for features on site in the design of planting areas. 8. Consideration of the site and plan's contribution to flood management is detailed in section 7.5.1. 9. Local nature sites and been located and considered in the plan, as illustrated in the Concept map. 10. Noted. Approved planning applications are associated with the site's former owner. 11. Noted. 12. Ayrshire Roads Alliance were included in SF's consultation list, but have not yet responded. However, Piperhill is part of the original coal haul route and links to the B7046 which is an Timber Transport Route, as agreed between the regional Timber Transport Group and East Ayrshire Council.

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
		Provisional Wildlife Site and Martyrs Moss Provisional Wildlife Site. Future planting at Piperhill should be undertaken not to adversely impact these sites. 10. Recent planning applications associated with Piperhill site include: • 09/0131/EB Placing of 400kV steel tower and transmission line (approved). • 15/0608/LD Certificate of lawfulness for entire Kyle Forest Haul Route (approved). • 15/0744/PP Permanent retention of temporary access road associated with 09/0131/EB (approved). • 16/0736/PP Retention of temporary access road (approved). • 19/0006/S36 Construction of wind farm within North Kyle Forest (pending). 11. No areas of prime quality agricultural land within the Piperhill site. 12. It is recommended that you seek the views of the Ayrshire Roads Alliance in the assessment of		

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
		the land management plan prior to making any determination.		
RSPB	14/01/21	1. Acknowledge that woodland creation on recently excavated soils will likely have limited bird interest. 2. Acknowledge that breeding bird survey season was disrupted by Covid-19 restriction, but disappointed not to see any data from June 2020 onward, when access restrictions had been largely lifted. We are thus unable to make comment on potential impact of new planting on areas outside of the coal site on bird species. 3. However, after conversation with FLS Environment Forester, we understand that there is existing breeding wader and waterfowl interest in the relating to the open habitat west of the large pond. Our advice to maintain this area's attractiveness to Lapwing is: • Remove native broadleaf planting from around the main pond and between the smaller ponds on site, to create more open habitat in the area.	LMP document, and via telephone discussion with FLS Environment Forester	1. Acknowledgment received and agreed. 2. Breeding bird surveys were inhibited by Covid-19 movement restrictions during the 2020 season. This is partly why an approach to new woodland creation on the natural ground elements of site have been so conservative, both in area and selection of native broadleaf species only. 3. We have considered the existing site use by Lapwing and other waterfowl, waders and bird species on site in the current design, including the strategic retention of open ground between ponds. Further details of assessment and mitigation have been discussed in telephone conversation and are now documented in Appendix II. The native wet woodland area on the banks of the largest pond on site consists of willow that is already naturally regenerating. Allowing the process to progress will bring advantages in terms of stabilisation of man-made soils and land form, and a natural buffer zone for forest operations. The willow is naturally low in stature, so should not inhibit flight paths. We will not therefore seek to enrich this area with other native wet woodland species (alder or birch) to avoid any increase in tree height locally. The planting map has been

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
		• Complete ground survey for breeding birds for the entire area, as part of the FLS Work Plan process, to mitigate impacts from forest operations and/or make any final design alterations accordingly. 4. We are supportive of the extensive area of natural ground to be left open, in order to protect and manage priority open habitats that are present. We are also supportive of the broadleaf planting in the peripheries of this area, to provide potential foraging habitat for black grouse in the long-term. 5. We acknowledge and welcome the reversion of 13 ha of existing forestry in the southern part of site to open habitat, due to the existence of deep peat. However, this does not align entirely with the deep peat areas highlighted on the survey map. We would like to see wider destocking to maximise the benefit on priority peatland habitats in the area. Suggestions for reduced forest area are highlighted in yellow, on the map below.		adjusted accordingly, to ensure that this approach is taken forward into the delivery phase. Furthermore, all FLS forest operations are subject to a Work Plan process, where up-to-date constraints are considered and mitigated for by seasonal or design operational adjustments. 4. Support in of the design and objectives associated with the natural open ground acknowledged. 5. Restoration opportunities for deep peat areas, including deforestation, are assess on a site-by-site basis. This includes consideration of current condition and hydrology, degree of modification through historic drainage and ground preparation operations, scale, access to resources and productivity under forestry. The additional areas highlighted in yellow below are mainly productive peaty gley soils (<45 cm peat depth), considered quite suitable for productive forestry. That said, felling and subsequent restocking of some of these areas are scheduled beyond the ten year life span of this plan, so will be subject to any policy or practice changes that may or may not occur during the time intervening.

Consultee	Date Received	Summary of issues raised	Response method	Forest District Response
Rural Payments & Inspections Division	14/01/21	1. The effect of conversion from agriculture on these areas of land on the local, regional and national agricultural systems is small and the high quality environmental benefit for wildlife and people is great. The loss of production from land moving to woodland will be minimal in term of livestock numbers and production at both a local and national level considering the value of the grazing available and the location. Therefore loss of agriculture, on the site outlined in the plan, will have no significant impact at either a local or national level. 2. The plan is a positive contribution towards the Central Scotland Green Network (CSGN).		1. Noted. 2. Noted.

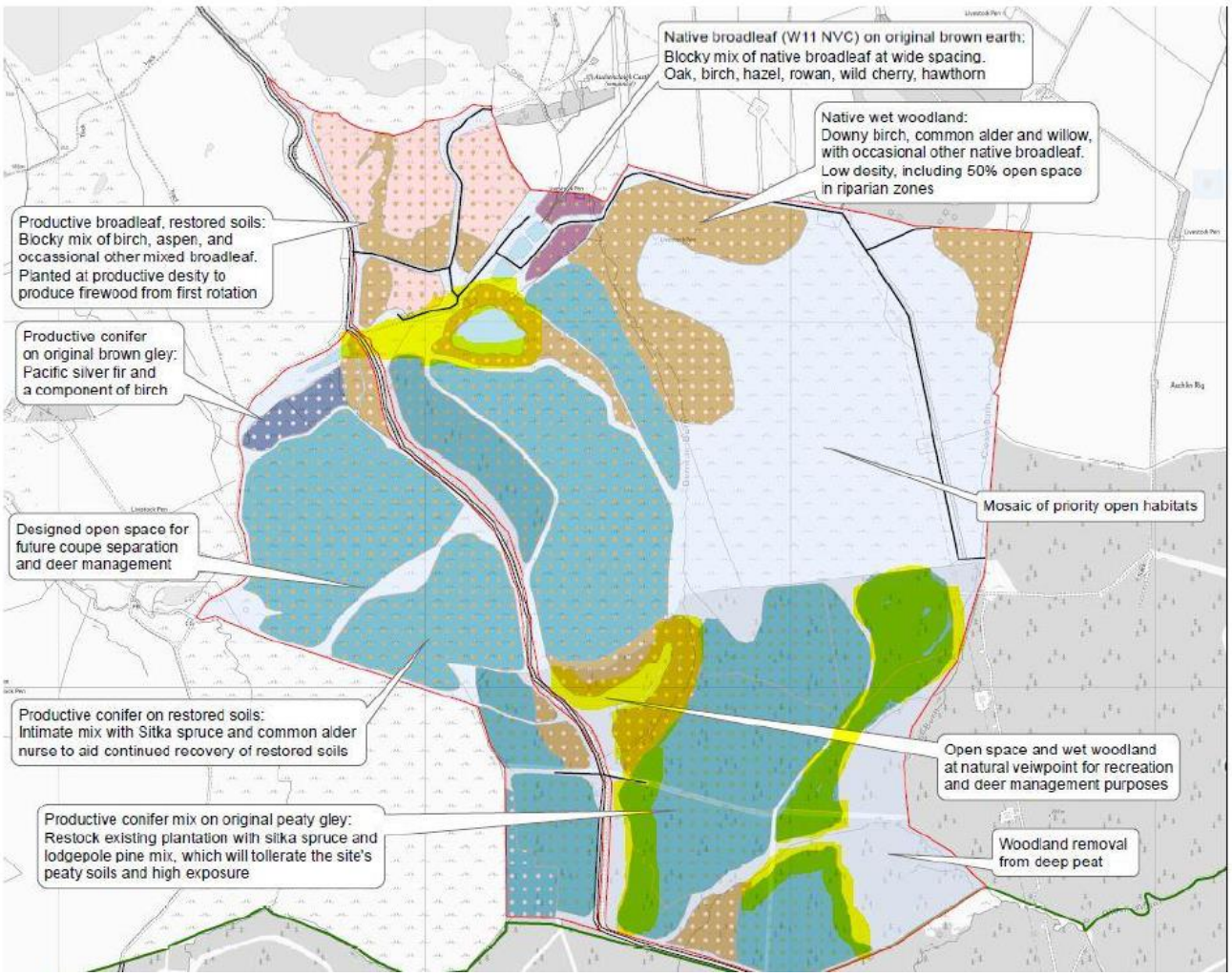


Figure 3: Annotated map return from RSPB, illustrating additional deforestation areas (highlighted in yellow) as suggested by RSPB during consultation.

Appendix II: Supporting Information

Background information

History of the land holding

The series of historic Ordnance Survey maps below illustrate changes in the local land scape over the last 160 years. During the earlier stages of this period the land was largely open rough grazing, transitioning into enclosed improved agricultural ground to the north. The boundary between rough and improved agricultural ground seems to have crept northward into the enclosures over time, indicating a reduction in agricultural intensity.

Several geometric areas of woodland have come and gone throughout this time, across the upland area. The greatest contrast in this regard is the arrival of the North Kyle forest block, south of Piperhill, which was largely planting on former open ground in the 1960s and 1970s. The majority of the plantation woodland on Piperhill was planted in the 1980s.

A small mine site is present just to the west of Piperhill in the 1958 Ordnance Survey map. Remnants from these works are still visible, in the form of some relatively small bings. The larger opencast coal works at Piperhill was active during the early 1990s.

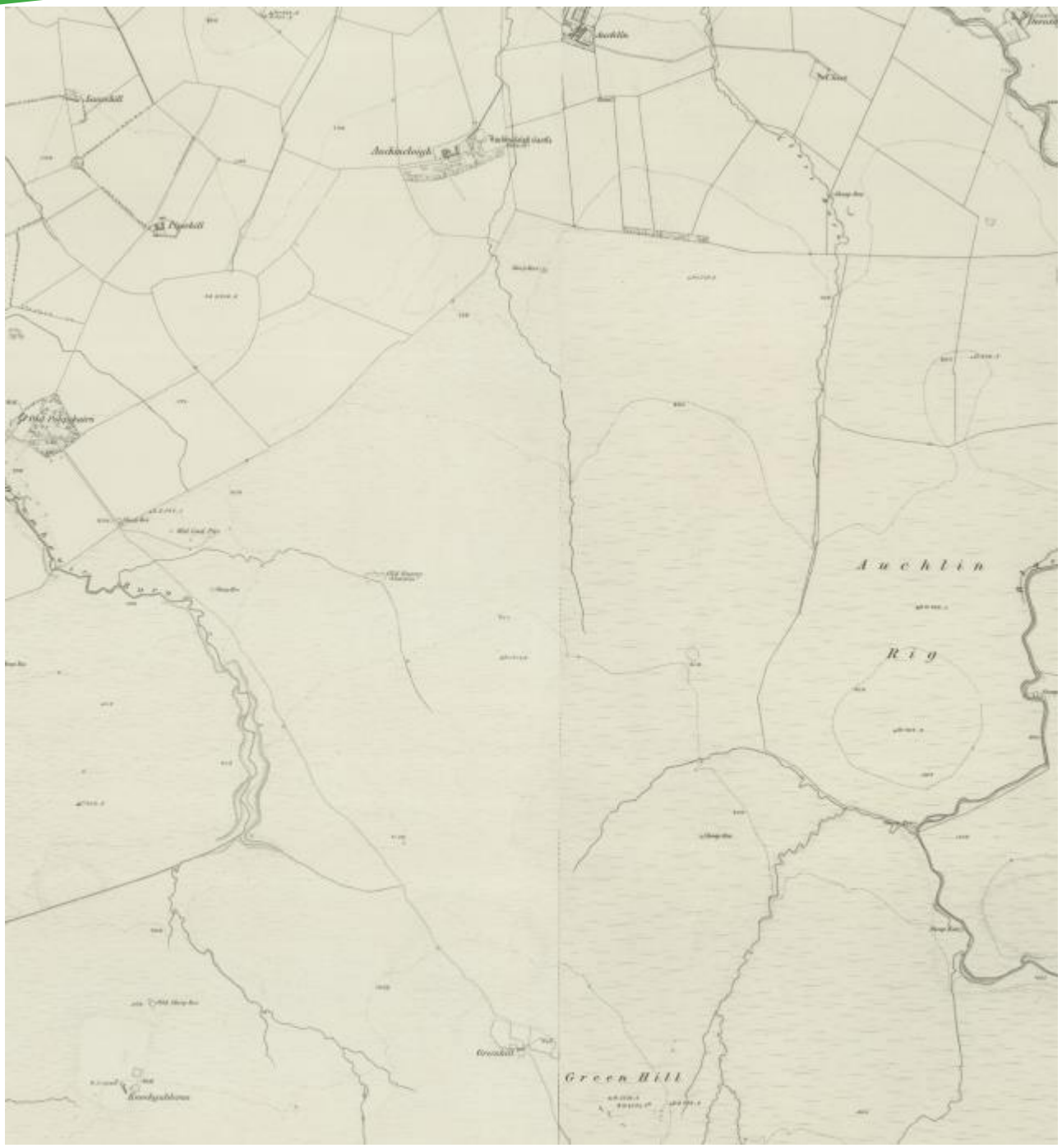


Figure 4: Ordnance Survey. Surveyed 1857, Published 1859.

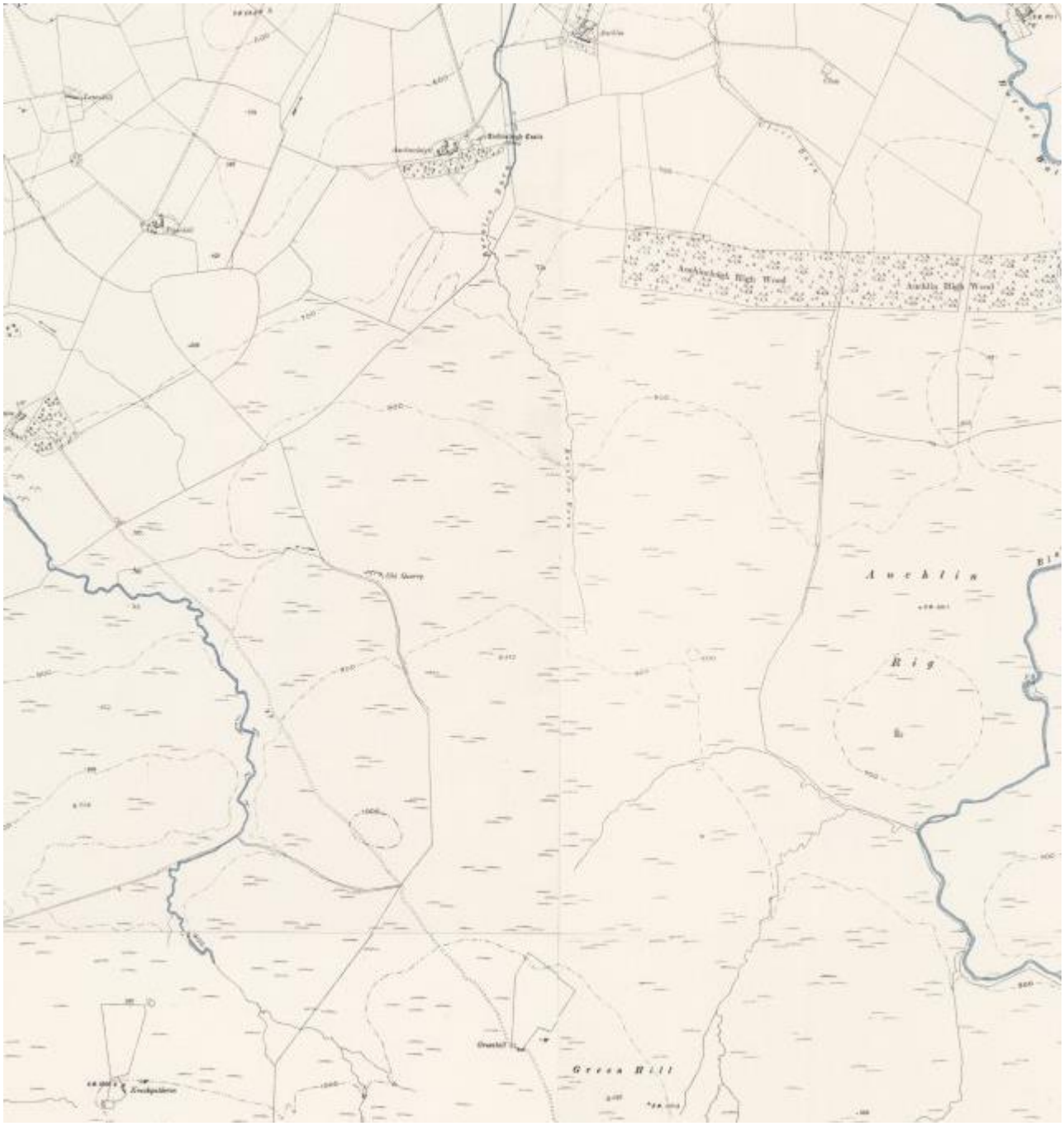


Figure 5: Ordnance Survey. Surveyed 1894, Published 1897.

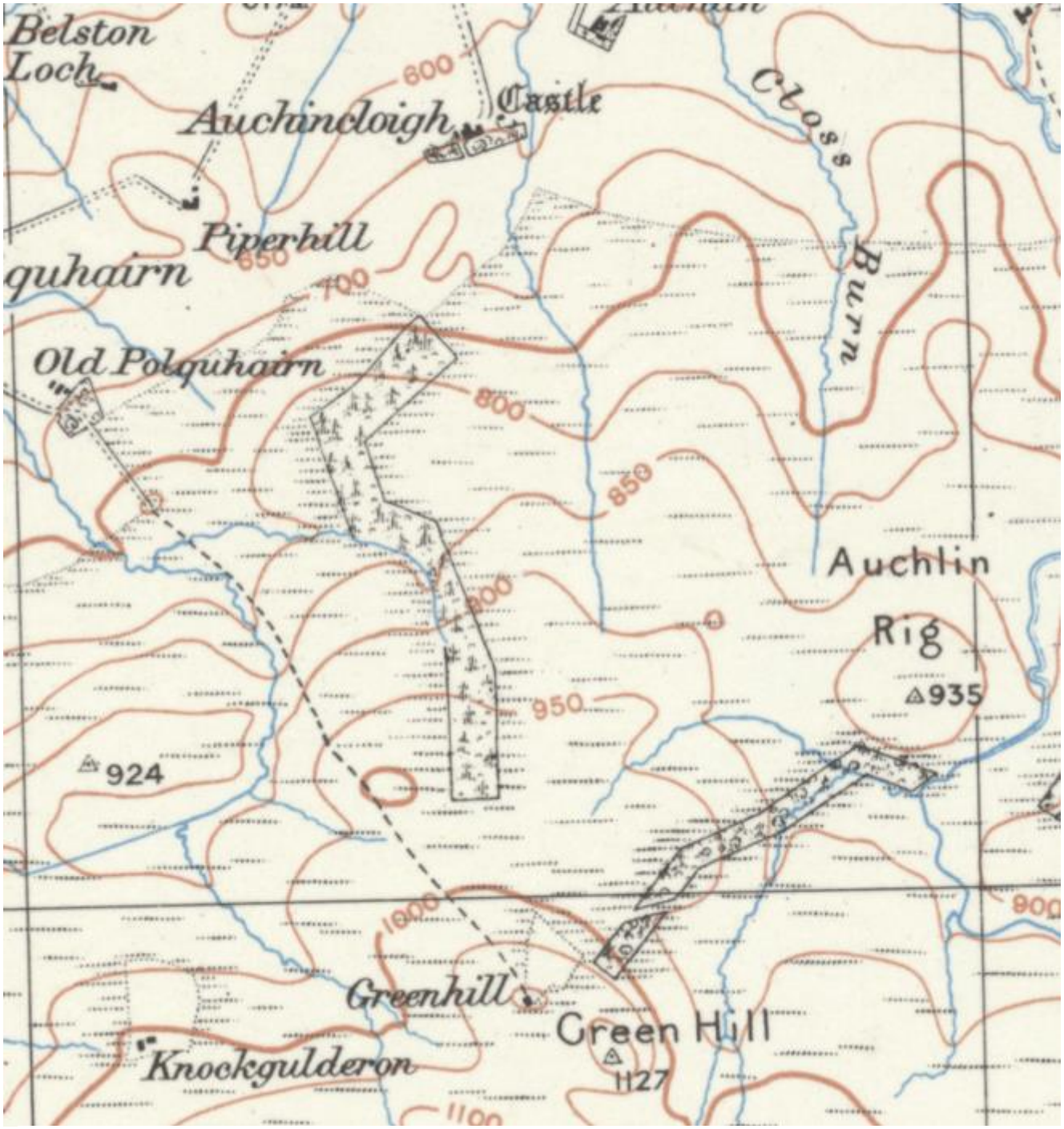


Figure 6: Ordnance Survey. Revision 1922-3, Published 1926

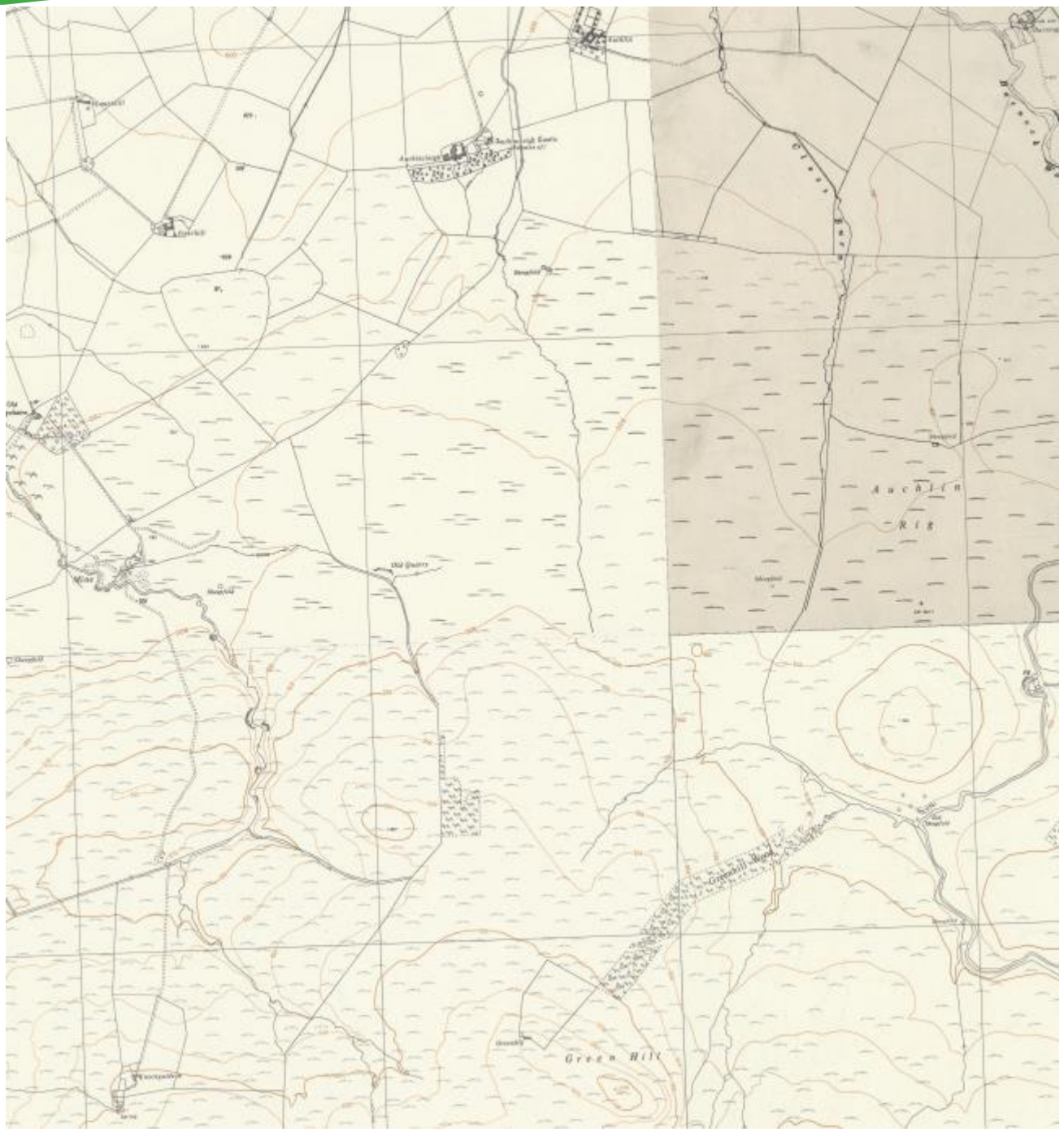


Figure 7: Ordnance Survey. Reviewed 1953-1957. Published 1958

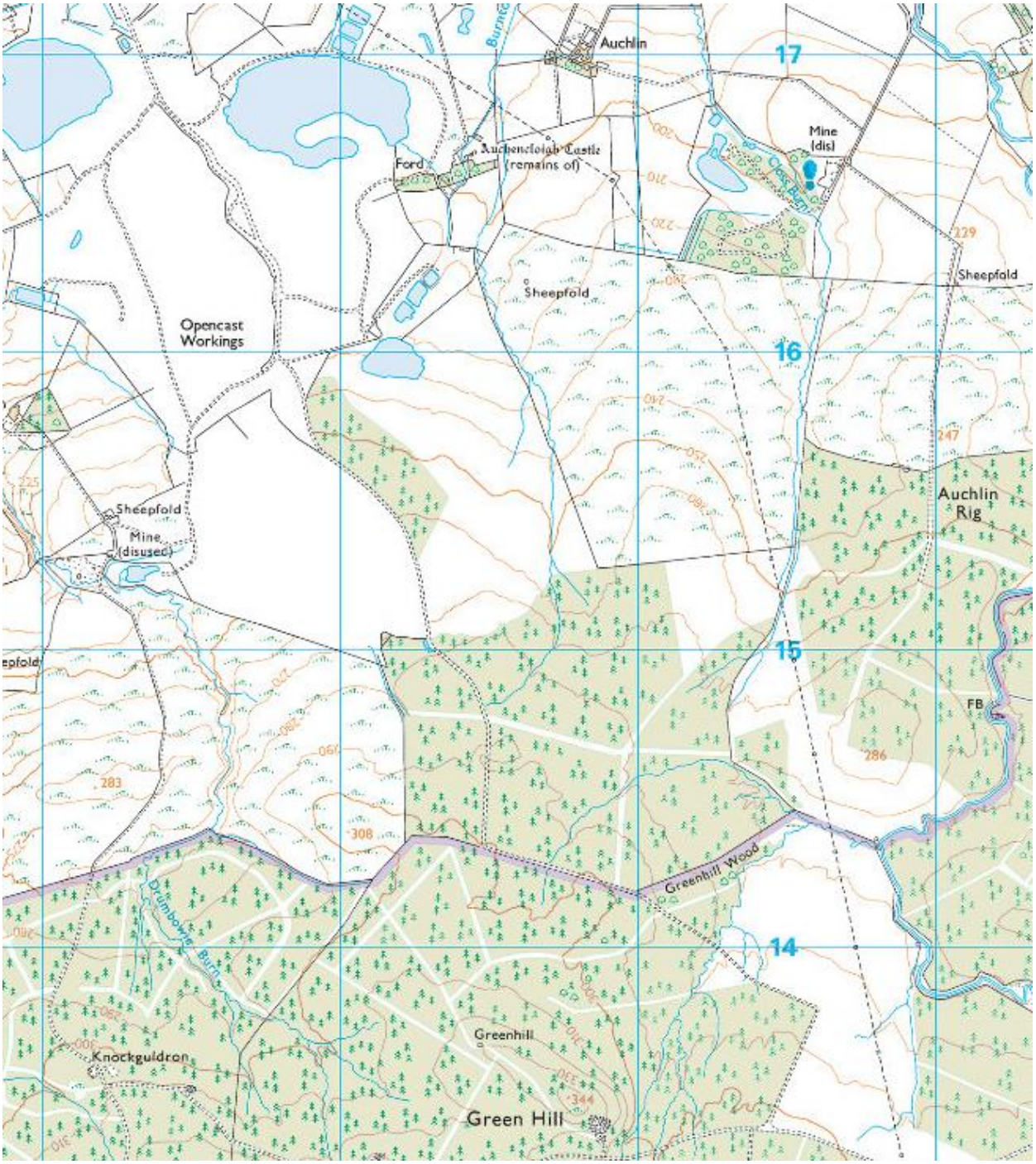


Figure 8: Ordnance Survey. Contemporary.

Physical site factors

Geology, Soils and landform

Underlying geology at Piperhill is largely classified as Scottish Lower Coal Measures Formation and Scottish Middle Coal Measures Formation by the British Geological Survey. Both are characterised by sequences of sandstone, siltstone and mudstone. In the restored opencast elements of the site these sequences have been mixed during removal and redistribution of overburden.

The spatial distribution of the soil types described below are illustrated in the accompanying Soils map.

Soils on the restored opencast mine areas have been subject to stripping, storage, redistribution and recent mechanical de-compaction and enrichment with organic material. They are therefore mixed and disturbed in nature. Restored soils do not act as natural soils due to disturbance of structure and microbiological function. It has been documented by studies conducted by Forest Research that such disturbed soils are characterised by impeded drainage, a lack of cohesion with underlying layers and a heightened vulnerability to compaction. Restored soils at Piperhill are generally a clay texture (2m) and have been de-compacted and enriched to a depth of 60 – 100 cm.

Soils within the existing woodland and open rough grazing areas are undisturbed and original. These are largely typical peaty surface-water gley (6) with elements of flushed and raised bog. Indicator plant species are generally indicative of very poor to poor with some elements of medium nutrient regime.

There are some confined areas of undisturbed Brown surface-water gley (7b) in the north of the site, adjacent to the former mine settling ponds.

Topography is largely rolling mid-slope of a northern aspect. Gradients are mainly very gradual with narrow watercourse incisions. In the north-western outcrop, lower slopes are relatively sheltered from prevailing winds by a high former bing, directly adjacent to the FLS land holding.

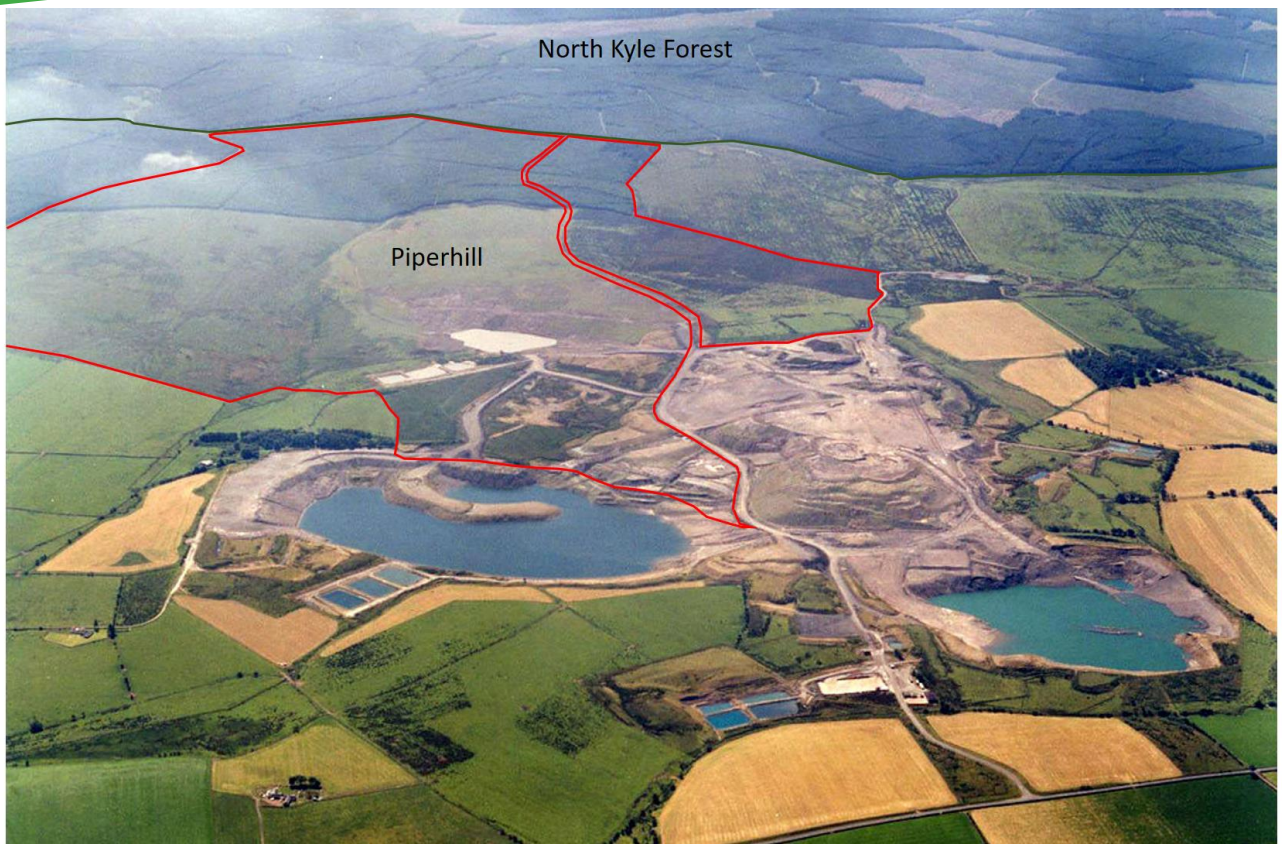


Figure 9: Aerial photograph looking over the Piperhill site, from north to south. Taken during latter stages of mining activity on site. The FLS Piperhill site covered by this plan is sketched in red. The North Kyle Forest (FLS) boundary is sketched in green.

Climate

Prevailing weather systems are south-westerly.

At altitudes of 220 – 290 m, restored ground, former rough grazing and existing woodland elements of the site are broadly classified as cool, wet and highly exposed in the Forest Research Climate Model dataset. Average accumulated temperature is 1173, moisture defecate is 78 and continentality score is 6. An average DAMS score of 18 is applied to these areas.

At altitudes of 190- 220 m, the north-western outcrop of the site is classified as warm, moist and moderately exposed. Average accumulated temperature is 1236, moisture defecate is 89 and continentality score is 5. Average DAMS score is 16.

Climate change models show an increase in both accumulated temperature and moisture deficit over the next thirty years on the site.

Suitable tree species selection

Selection of site suitable tree species for Piperhill was informed with analysis of various technical guides and modelling tools. The table below is one example of several Ecological Site Classification (Forest Research, http://www.forestdss.org.uk/geoforestdss/esc4.jsp) scenarios ran for variable soils and micro-climates across the site. Such outputs were then appraised against additional reference literature, such as The Silviculture of Trees Used in British Forestry (Savill, 2013), Establishing Robust Species Mixtures (Kerr et al., unpublished), Best Practice Guidance for Land Regeneration: Native and Non-native trees (Moffat, 2014), Creating New Native Woodlands (Rodwell and Patterson, 1994), and others. Delivery of site specific objectives and local experience was also brought into consideration.

Ecological Site Classification Report

Eastings(m)	Northings(m)	Grid Reference	Climate Scenario	Site Class	Filter	Brash	Drainage	Fertiliser/Nurse
248840	615505	NS488155	Baseline climate 1961-1990	Cool - Highly exposed - Wet	All species	No brash present	No drainage installed	Mixture applied

Site Description and Variables

The site has a cool, highly exposed and wet climate. Exposure constraints may limit species options and the ability to thin woodlands without significant risk of windthrow. The soils are wet moisture status and poor nutrient status. Wet soils may cause flotation problems for heavy machinery on establishment, and on harvesting, if only lightly crowned species are present (e.g. birch). Nutrient deficiencies are primarily due to nitrogen availability, and will be ameliorated through planting target species in an intimate mixture with one or more of Scots pine, Alaskan Lodgepole pine, Larch, Birch or Alder.

Modifications	AT	CT	DAMS	MD	SMR	SNR
Default	1179.0	5.0	17.0	79.0	2.0(Wet)	2.0(Poor)
Nursing mixture						1.0
Final	1179.0	5.0	17.0	79.0	2.0(Wet)	3.0(Medium)

Species	Abbr.	Suit(Ecol)	Suit(Timber)	Yield	Limiting	AT	CT	DAMS	MD	SMR	SNR	Version
Corsican pine	CP	0.51	0.3	6	SMR	0.59	0.98	0.61	0.98	0.51	1.0	3.3(A)
Lodgepole pine	LP	0.76	0.73	10	DAMS	0.97	1.0	0.76	0.82	0.84	1.0	3.1(A)
Macedonian pine	MCP	0.6	0.6	8	SMR	1.0	1.0	0.72	0.76	0.6	1.0	3.1(C)
Maritime pine	MAP	0.06	0.03	0	SMR	0.47	1.0	0.25	0.44	0.06	1.0	3.1(C)
Monterey/Radiata pine	RAP	0.06	0.02	0	MD	0.27	0.78	0.62	0.06	0.27	1.0	3(C)
Scots pine	SP	0.3	0.3	4	SMR	1.0	1.0	0.63	1.0	0.3	1.0	3.3(A)
Weymouth pine	WEP	0.0	0.0	0	SMR	0.85	0.69	0.41	1.0	0.0	1.0	3(C)
Norway spruce	NS	0.43	0.42	10	DAMS	0.99	1.0	0.43	1.0	0.52	1.0	3.3(A)
Oriental spruce	ORS	0.0	0.0	0	SMR	0.68	0.83	0.29	0.66	0.0	1.0	3(C)
Serbian spruce	OMS	0.48	0.46	10	SMR	0.94	0.83	0.48	0.65	0.48	0.88	3(B)
Sitka spruce	SS	0.7	0.64	18	SMR	0.91	1.0	0.76	1.0	0.7	1.0	3.4(A)
Sitka spruce (Imp.)	Imp.SS	0.7	0.64	20	SMR	0.91	1.0	0.76	1.0	0.7	1.0	3.4(A)
Douglas fir	DF	0.0	0.0	0	SMR	0.83	1.0	0.24	0.8	0.0	1.0	3.1(A)
Hybrid larch	HL	0.08	0.08	1	SMR	1.0	0.95	0.47	0.88	0.08	1.0	3(A)
Japanese larch	JL	0.2	0.2	3	SMR	1.0	0.95	0.57	1.0	0.2	1.0	3(A)
European larch	EL	0.0	0.0	0	SMR	0.98	0.78	0.49	0.89	0.0	1.0	3(A)
Western red cedar	RC	0.35	0.33	8	DAMS	0.93	1.0	0.35	1.0	0.67	1.0	3.1(A)
Japanese red cedar	JCR	0.0	0.0	0	SMR	0.91	1.0	0.32	1.0	0.0	1.0	3(B)
European silver fir	ESF	0.15	0.11	2	SMR	0.74	0.8	0.48	1.0	0.15	1.0	3(B)
Grand fir	GF	0.0	0.0	0	SMR	0.75	0.93	0.36	0.94	0.0	1.0	3(A)
Noble Fir	NF	0.0	0.0	0	SMR	1.0	1.0	0.71	1.0	0.0	1.0	3(A)
Nordmann fir	NMF	0.02	0.01	0	SMR	0.73	0.65	0.55	0.54	0.02	0.95	3(C)
Pacific fir	PSF	0.0	0.0	0	SMR	0.99	1.0	0.71	0.94	0.0	1.0	3.4(C)
Leyland cypress	LEC	0.0	0.0	0	SMR	0.96	1.0	0.3	1.0	0.0	1.0	3(B)
Western hemlock	WH	0.0	0.0	0	SMR	1.0	1.0	0.52	1.0	0.0	1.0	3(A)
Giant redwood	WSQ	0.0	0.0	0	SMR	0.81	0.75	0.55	0.67	0.0	1.0	3(B)
Coast redwood	RSQ	0.4	0.26	8	DAMS	0.66	1.0	0.4	1.0	1.0	0.91	3(B)
Lawson's cypress	LC	0.17	0.14	3	DAMS	0.8	0.94	0.17	1.0	0.6	1.0	3(B)
Downy birch	PBI	0.59	0.59	5	DAMS	1.0	1.0	0.59	1.0	0.91	0.96	3.2(A)
Silver birch	SBI	0.0	0.0	0	SMR	1.0	1.0	0.42	0.94	0.0	0.98	3.2(A)

Ecological Site Classification Report												
Big leaf maple	AMA	0.0	0.0	0	SMR	0.92	1.0	0.11	0.53	0.0	1.0	3.1(C)
Norway maple	NOM	0.24	0.23	3	DAMS	0.93	0.92	0.24	1.0	0.32	0.99	3(B)
Sycamore	SY	0.0	0.0	0	SMR	0.88	1.0	0.66	0.99	0.0	0.94	3.3(A)
Beech	BE	0.0	0.0	0	SMR	0.97	0.99	0.47	0.98	0.0	0.99	3.1(A)
Roble beech	RON	0.02	0.01	0	SMR	0.44	1.0	0.4	0.91	0.02	1.0	3.1(B)
Ash	AH	0.22	0.21	3	DAMS	0.94	1.0	0.22	1.0	0.3	0.65	3(A)
Pedunculate oak	POK	0.31	0.23	2	SMR	0.76	0.74	0.46	0.87	0.31	1.0	3.1(A)
Red oak	ROK	0.0	0.0	0	SMR	0.75	1.0	0.49	0.75	0.0	0.98	3(B)
Sessile oak	SOK	0.14	0.12	1	SMR	0.87	1.0	0.46	1.0	0.14	1.0	3.2(A)
Aspen	ASP	0.59	0.59	7	DAMS	1.0	1.0	0.59	0.95	0.7	1.0	3.2(A)
Black poplar	BPO	0.59	0.52	8	DAMS	0.88	0.91	0.59	0.85	0.78	0.6	3.1(A)
Rauli beech	RAN	0.0	0.0	0	SMR	0.72	1.0	0.24	0.72	0.0	1.0	3.1(B)
Common alder	CAR	0.48	0.43	5	DAMS	0.89	1.0	0.48	0.98	0.94	0.86	3.2(A)
Red alder	RAR	0.63	0.63	8	DAMS	0.99	1.0	0.63	1.0	0.82	1.0	3(B)
Grey alder	GAR	0.82	0.8	10	DAMS	0.97	1.0	0.82	1.0	0.87	1.0	3.1(B)
Italian alder	IAR	0.26	0.13	2	DAMS	0.49	1.0	0.26	0.31	0.66	1.0	3.2(B)
Shining gum	ENI	0.0	0.0	0	SMR	0.82	0.83	0.59	0.65	0.0	1.0	3(C)
Cider gum	EGU	0.47	0.4	12	DAMS	0.85	0.87	0.47	0.8	0.6	1.0	3(C)
Rowan	ROW	0.1	0.1	0	SMR	0.97	1.0	0.89	1.0	0.1	1.0	3.3(A)
True service tree	TST	0.0	0.0	0	SMR	0.8	0.94	0.17	1.0	0.0	1.0	3(A)
Wild service tree	WST	0.0	0.0	0	SMR	0.48	0.99	0.63	0.49	0.0	1.0	3(A)
Black walnut	JNI	0.0	0.0	0	SMR	0.08	0.65	0.58	0.24	0.0	1.0	3(B)
Common walnut	JRE	0.0	0.0	0	SMR	0.15	0.65	0.37	0.3	0.0	0.65	3(B)
Hornbeam	HBM	0.32	0.18	2	MD	0.57	0.72	0.39	0.32	0.45	1.0	3(A)
Small-leaved lime	SLI	0.25	0.17	2	SMR	0.7	0.92	0.49	0.7	0.25	0.8	3(A)
Wych elm	WEM	0.0	0.0	0	SMR	0.79	1.0	0.38	0.89	0.0	0.67	3(A)
Wild cherry	WCH	0.05	0.04	0	SMR	0.75	1.0	0.2	0.93	0.05	0.99	3(A)
Sweet chestnut	SC	0.0	0.0	0	SMR	0.64	0.94	0.54	0.94	0.0	1.0	3(A)
White willow	WWL	0.62	0.58	5	DAMS	0.94	1.0	0.62	1.0	1.0	0.87	3(C)
Holly	HOL	0.16	0.14	1	SMR	0.87	1.0	0.46	1.0	0.16	0.99	3(C)

Figure 10: example Ecological Site Classification system output. Numerical outputs describe species' suitability with relation to various site specific climate and soil factors.

The existing forest

Age structure, species and yield class

A stocking assessment was carried out by FLS staff on acquisition of the site. The existing woodland on site is predominantly pure, un-thinned, even-aged Sitka spruce plantation, planted in circa 1982. Yield class (YC) is variable across the site. Areas of deep peat (>45 cm peat depth) are commonly YC 6-10, whilst peaty gleys are achieving YC 14 – 20. 48 ha of the 106 ha of Existing woodland is felled and awaiting restock.

A 2.7 ha stand in the southwest corner of the site, adjacent the neighbouring agricultural land, is Sitka spruce of circa 1940 planting, with minor components of birch and alder. This stand has been historically subject to partial windthrow. The remaining trees are subsequently well spaced with deep crowns and thus appear relatively windfirm.

Access

Piperhill site is bisected by North Kyle Haul Road, which remains under Hargreaves ownership and subject to heavy industrial traffic associated with coal works. FLS have agreed access rights to North Kyle Haul Road in perpetuity. This includes options to install access ramps into adjacent blocks at specified locations. Agreed ramp locations are illustrated in the attached ramps map.

Biodiversity and environmental

Habitats

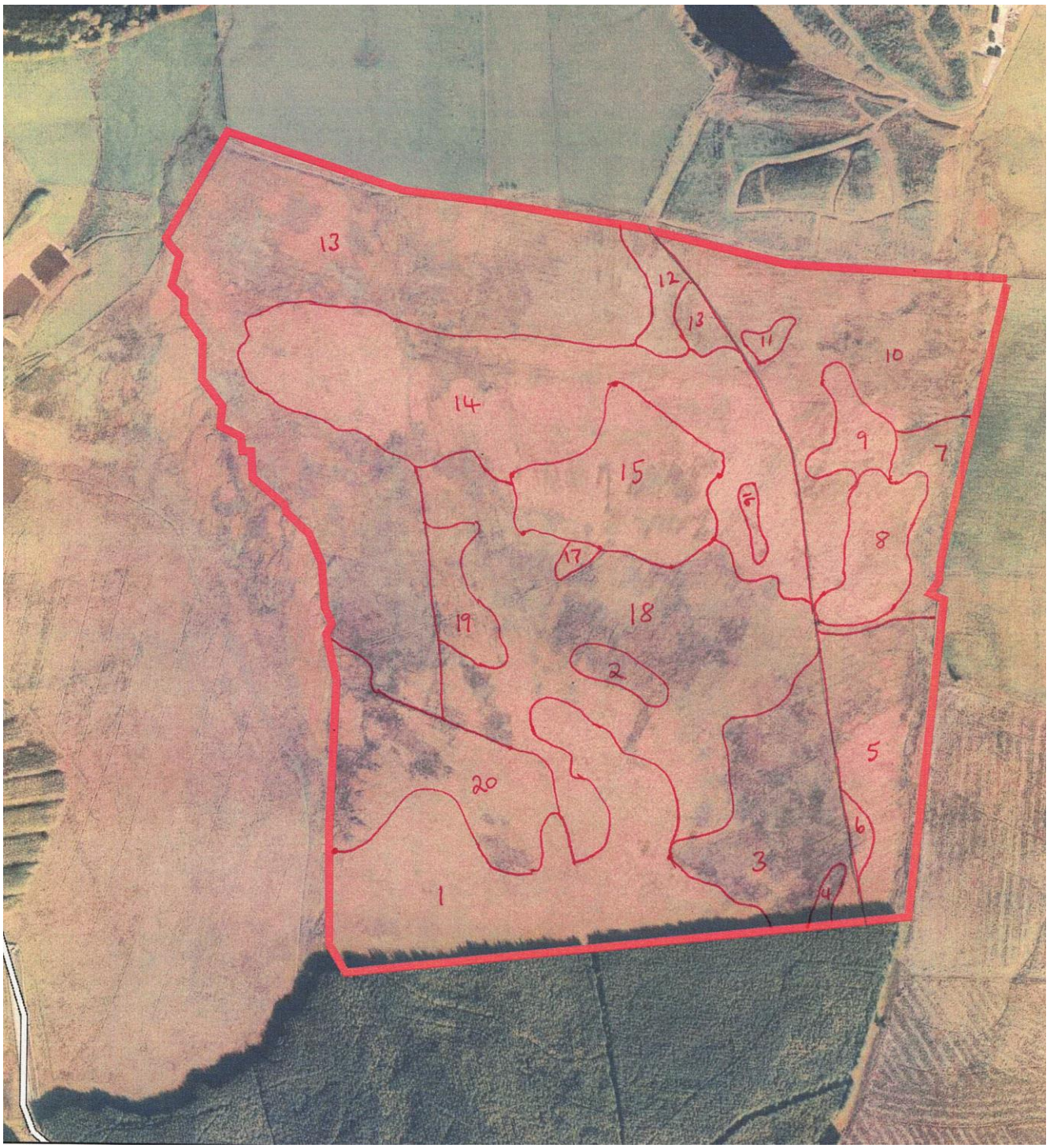


Figure 11: Open habitat survey stratification map.

Polygon Number	Habitat 1					Habitat 2					Habitat 3				
	Type	Cover (%)	Priority NVC (i)	Priority NVC (ii)	Priority NVC (iii)	Type	Cover (%)	Priority NVC (i)	Priority NVC (ii)	Priority NVC (iii)	Type	Cover (%)	Priority NVC (i)	Priority NVC (ii)	Priority NVC (iii)
1	BLANKET BOG	95	M20	M19		UPLAND FLUSH, FEN & SWAMP	0	M6			FEN, MARSH & SWAMP	5			
2	UPLAND HEATHLAND	50	H12	M15		FEN, MARSH & SWAMP	40				BLANKET BOG	10	M19		
3	FEN, MARSH & SWAMP	95				acid grassland	5				UPLAND FLUSH, FEN & SWAMP	0			
4	UPLAND FLUSH, FEN & SWAMP	90	M6			FEN, MARSH & SWAMP	10								
5	FEN, MARSH & SWAMP	90				acid grassland	10				UPLAND FLUSH, FEN & SWAMP	0	M6		
6	BLANKET BOG	80	M20	M19		UPLAND FLUSH, FEN & SWAMP	20	M6							
7	FEN, MARSH & SWAMP	90				acid grassland	10								
8	BLANKET BOG	90	M20	M19		FEN, MARSH & SWAMP	10								
9	BLANKET BOG	95	M20	M19		acid grassland	5								
10	FEN, MARSH & SWAMP	75				acid grassland	20				UPLAND FLUSH, FEN & SWAMP	5	M6		
11	UPLAND FLUSH, FEN & SWAMP	90	M6			FEN, MARSH & SWAMP	10								
12	UPLAND FLUSH, FEN & SWAMP	85	M6			FEN, MARSH & SWAMP	15				BLANKET BOG	0	M19		
13	FEN, MARSH & SWAMP	90				acid grassland	10				UPLAND FLUSH, FEN & SWAMP	0	M6		
14	FEN, MARSH & SWAMP	75				acid grassland	25				UPLAND FLUSH, FEN & SWAMP	0	M6		
15	BLANKET BOG	75	M20	M19	M15	UPLAND FLUSH, FEN & SWAMP	15	M6			FEN, MARSH & SWAMP	10			
16	BLANKET BOG	75	M19	M20		FEN, MARSH & SWAMP	25				UPLAND FLUSH, FEN & SWAMP	0	M6		
17	UPLAND HEATHLAND	80	M15			FEN, MARSH & SWAMP	20								
18	FEN, MARSH & SWAMP	90				acid grassland	10				UPLAND FLUSH, FEN & SWAMP	0	M6		
19	BLANKET BOG	75	M19	M15	M20	FEN, MARSH & SWAMP	25				UPLAND HEATHLAND	0	H12	M15	
20	FEN, MARSH & SWAMP	90				acid grassland	10				UPLAND FLUSH, FEN & SWAMP	0	M6		

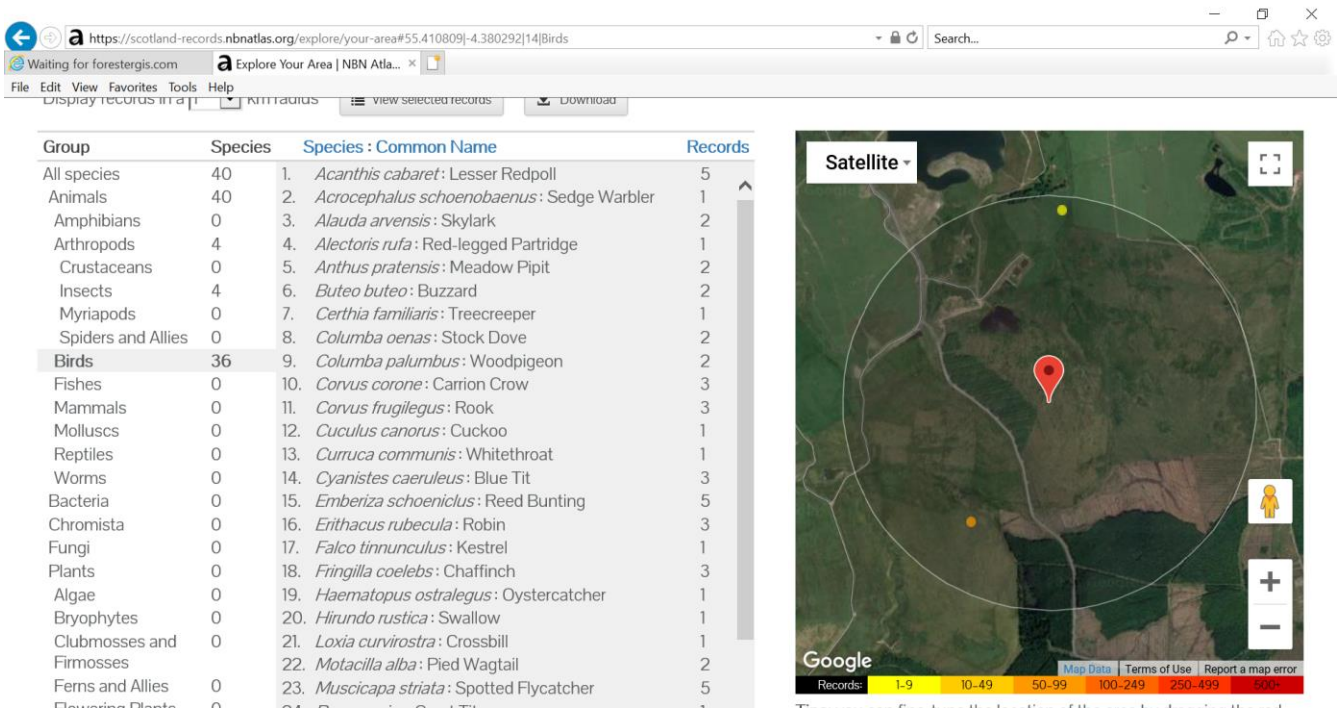
Environment checks with reference to waders and black grouse

Background

The purpose of this note is to record the survey information that has been collected during the compilation of the Land Management Plan and summarize this in relation to breeding birds and in particular waders.

Work undertaken and information collected to date

- Priority Habitat Survey undertaken in March 2020.
- Environmental survey commissioned by Hargreaves as part of remediation of the site.
- Site visit by on the 3/3/20 by Environment Forester and Woodland Creation Forester to check site earthed hole at Piperhill picked up by Woodland Creation Forester, whilst on site noted abundance of Northern Lapwing present within the proposed acquisition.
- Between October 2019 and July 2020 the site was subject to frequent visits by Woodland Creation Forester, walking across the whole site during different periods of the year, with any species being noted highlighted to the Environment Forester (only wader of reference was Lapwing).
- Due to extensive open habitat present Environment Team suggested a BBS would be advantageous, this was contracted and due to commence in May 2020 however due to the impact of Covid 19 this contract was terminated as it was legally unable to go ahead.
- Due to FLS being unable to undertake a BBS survey, desktop surveys were undertaken to ascertain any known presence or absence of open habitat breeding birds – with particular reference to breeding waders.
- Scottish Forestry Guidance Note: Woodland Creation and Curlew also followed.
- A search of the National Biodiversity Network (NBN) was used to see if any waders had recently been recorded within the proposed woodland creation.
- From the search of the NBN network based on a 1 km radius from NS 4940 1556, showed that within the 1 km search oystercatcher (1), lapwing (2) and golden plover (1) had all been recorded.



Group	Species
All species	40
Animals	40
Amphibians	0
Arthropods	4
Crustaceans	0
Insects	4
Myriapods	0
Spiders and Allies	0
Birds	36
Fishes	0
Mammals	0
Molluscs	0
Reptiles	0
Worms	0
Bacteria	0
Chromista	0
Fungi	0
Plants	0
Algae	0
Bryophytes	0
Clubmosses and Firmosses	0
Ferns and Allies	0

Species : Common Name	Records
1. *Acanthis cabaret* : Lesser Redpoll	5
2. *Acrocephalus schoenobaenus* : Sedge Warbler	1
3. *Alauda arvensis* : Skylark	2
4. *Alectoris rufa* : Red-legged Partridge	1
5. *Anthus pratensis* : Meadow Pipit	2
6. *Buteo buteo* : Buzzard	2
7. *Certhia familiaris* : Treecreeper	1
8. *Columba oenas* : Stock Dove	2
9. *Columba palumbus* : Woodpigeon	2
10. *Corvus corone* : Carrion Crow	3
11. *Corvus frugilegus* : Rook	3
12. *Cuculus canorus* : Cuckoo	1
13. *Curruca communis* : Whitethroat	1
14. *Cyanistes caeruleus* : Blue Tit	3
15. *Emberiza schoeniclus* : Reed Bunting	5
16. *Erithacus rubecula* : Robin	3
17. *Falco tinnunculus* : Kestrel	1
18. *Fringilla coelebs* : Chaffinch	3
19. *Haematopus ostralegus* : Oystercatcher	1
20. *Hirundo rustica* : Swallow	1
21. *Loxia curvirostra* : Crossbill	1
22. *Motacilla alba* : Pied Wagtail	2
23. *Muscicapa striata* : Spotted Flycatcher	5

Figure 12: Image showing desktop search on National Biodiversity Network Atlas, for 1 km around Piperhill Woodland Creation.

Outputs relating to waders:

Species: ***Pluvialis apricaria*** **| Golden Plover** Date: 2006-03-25 **Scotland** OSGR: NS4916
Data Resource: Birds (BTO+Partners) 2006 - 2010 Basis Of Record: Human Observation

species: ***Vanellus vanellus*** **| Lapwing** Date: 2009-05-20 **Scotland** OSGR: NS41X
Data resource: Birds (BTO+partners) 2006 - 2010 Basis of record: Human observation

species: ***Vanellus vanellus*** **| Lapwing** Year: 2006 **Scotland** OSGR: NS41X
Data resource: Bird Conservation Targeting Project (BCTP) in the UK, 2006-2011 Basis of record: Human observation

species: ***Haematopus ostralegus*** **| Oystercatcher** Date: 2008-05-15 **Scotland** OSGR: NS41X
Data resource: Birds (BTO+partners) 2006 - 2010 Basis of record: Human observation

- Desktop survey for NBN network based on a 2 km radius from NS 4940 1556 noted that out of 62 bird reports listed by NBN a total of 7 waders were listed, which includes the 4 noted within the Piperhill woodland creation 1 km search area (listed above). Therefore only 3 additional records were noted outside of the woodland creation area but within 2 km. These were:

Species: ***Haematopus ostralegus*** **| Oystercatcher** Date: 2019-06-06 **Scotland** OSGR: NS5016

Data Resource: Birds (BTO+Partners) 2016 - 2019 Basis Of Record: Human Observation

Species: ***Numenius arquata*** **|** **Curlew** Date: 2019-06-06 **Scotland** OSGR: NS5016
Data resource: Birds (BTO+partners) 2016 - 2019 Basis of record: Human observation

Species: ***Numenius arquata*** **|** **Curlew** Date: 1997-05-10 **Scotland** OSGR: NS4914
Data resource: Birds (BTO/JNCC/RSPB partnership) Basis of record: Human observation

- Desktop survey from FLS own sites and sightings was also checked – survey failed to provide any returns for waders.

- FLS contacted Ayrshire County Recorder (linked to Scottish Ornithological Club) to obtain records for any breeding waders within the Piperhill woodland creation. The only records available was a BBS survey carried out in Ayrshire was between 1991 – 1997, the relevant tetrads for the Piperhill woodland creation relate to:

NS41 X
NS41 Y
NS51 C

From this report the only tetrad which provide *confirmed breeding* for waders was NS51 C – the waders confirmed within this tetrad were:

Ringed Plover
Northern Lapwing
Common Snipe
Eurasian Curlew
Common Sandpiper (was listed as possible)

Both NS41 X and NS41 Y only provided *probable* breeding for:

Eurasian Oystercatcher
Eurasian Curlew

Tetrad: NS51 C

Based on the BBS (1991 – 1997) results for tetrad NS51 C confirmed breeding waders present:

Ringed plover (Confirmed)
Northern lapwing (Confirmed)
Common snipe (Confirmed)
Eurasian curlew (Confirmed)

Common sandpiper (Possible)

An open habitat survey within the Piperhill woodland creation was conducted which included this tetrad. Approximately 53 ha of this tetrad is owned by FLS under the Piperhill woodland creation, of which 14 ha located in the Southern section of the tetrad is recently felled land (2014) which would have been standing timber during the 1991 – 1997 BBS and due to be restocked imminently, therefore negligible for breeding waders - note the remaining 39 ha of this tetrad is currently open land which remain as such in perpetuity.

Results of the open habitat survey show priority habitats are present including blanket bog and upland flush, fen and swamp which is currently overgrazed. To ensure the condition of the open priority habitat improves, all grazing will be removed in the short term and the area retained as open ground. Therefore the open habitat found within tetrad NS51 C will remain as open and will therefore not displace any breeding waders present within this tetrad.

The Environment team have also recommended that in the future (when the ground has recovered from burning and overgrazing) the potential periodic use of no fence grazing to act as conservation tool at specific times of the year. Conservation grazing will help to ensure the habitat does not turn rank and unfavorable for breeding waders. In addition, part of the area is deep peat and is being considered for bog restoration, which will include drain blocking to re-wet the previously drained site. Both conservation grazing and bog restoration are key management techniques for breeding waders, as noted in the RSPB's Upland Grasslands for Breeding Waders Wader Friendly Farming Scheme.

In conclusion, from the 53 ha of currently open land owned by FLS within this tetrad over 70% will be left as open habitat.

Tetrad: NS41 X

The 2 x 2 km2 tetrad totals 400 ha in size, approximately 140 ha of this is not owned by FLS, of the 260 ha that is owned by FLS a further 130 ha is standing timber (this includes the recent felling of 14.8 ha in 2016, which will have been standing timber during the BBS). The remaining 130 ha is currently open – of which 21 ha located in the east of the 2 x 2 km2 will remain as open in perpetuity. An additional 24 ha of designed open space will be interwoven between new woodland and restock stands within this tetrad, which will diversify structure, increase forest edge habitat and improve connectivity between open habitat in the wider landscape.

Based on the BBS (1991 – 1997) results for tetrad NS41 X confirmed no breeding waders were noted present, however two species were listed as probable:

Eurasian oystercatcher (Probable)
Eurasian curlew (Probable)

Due to the large expanse of open ground present within this 2 x 2 km2 tetrad not owned by FLS, it is difficult to ascertain if the *probable* potential is linked to FLS ground or that out with.

Despite the breeding potential only being listed as *probable* and *not confirmed*, FLS have chosen to leave 21 hectares within the tetrad of the land owned by FLS as open, plus an additional 24 ha of designed open space. Leaving this open land accounts for any waders that may be present and will ensure that any breeding waders present are not displaced from the site.

In conclusion, from the 130 ha of currently open land owned by FLS within this tetrad over 35% will be left as open habitat.

Tetrad: NS41 Y

The 2 x 2 km2 tetrad totals 400 ha in size, only 53 ha is owned by FLS. Within this tetrad the BBS results noted Eurasian Curlew to be the only *probable* breeding species within this tetrad. The percentage of land within this tetrad owned by FLS is negligible however waders have been considered during the woodland creation process.

Within the South East of the tetrad (to the right of the filtering ponds) a 20 ha area has been allocated for waders – 8 ha of which will remain open, and 11 ha will become wet woodland through a combination of natural regeneration and planting. This location backs directly onto NS51 C which will provide extended habitat onto open ground within the vicinity.

Due to the presence of Lapwing and the previous history of land use with fertilizer, it is highly likely that the current rough bare ground close to the siltation ponds are likely to flush with vegetation becoming dense in the future. To combat this, the environment team have recommended that a designated scrape is created, which is regularly maintained and monitored on a biennial rotation to ensure optimum breeding habitat is not lost.

In conclusion, from the 53 ha of currently open land owned by FLS within this tetrad approximately 15% will be left as open habitat.

Additionally, two small sections of both tetrads NS41 Y and NS41 X (within the Piperhill woodland creation) have also been sown with wild flowers (map attached) via a permission with East Ayrshire coalfield environment initiative, these areas either back onto open habitat or wet woodland – creating further optimum habitat for waders.

Impact of the proposed planting at a Landscape Scale

All of the six species listed in the results of the BBS for tetrads within the Piperhill acquisition are either red or amber listed on the Birds of Conservation Concern 4. The local Ayrshire Biodiversity Action Plan does account for the majority of the species listed noting them as widespread across the county, however it does also note that there is not enough local data on species such as

lapwing and curlew to provide a true estimate. Based on this limited information provided FLS will assume that all 6 species are of regional importance, with the exception of lapwing, curlew and ringed plover who are all of local importance (as well as regional and national).

On a larger scale the landscape surrounding Piperhill woodland creation is comprised of open farmland habitat with pastures, damp fields, marginal vegetation and short grassland. The retention of 102 ha (43%) of the open ground on site will provide space for a breeding waders. Additionally, the proposed establishment of wet woodland (34.3 ha afforestation, 7.5 ha restock) will improve habitat for woodcock specifically.

Black Grouse listed within 2 km of Piperhill

During the consultation process RSPB had suggested that Black Grouse should be incorporated into the woodland creation. Both a search of the NBN database as well as the FLS conservation sightings records highlighted Black Grouse approximately 0.8 km – 1 km from the edge of the woodland creation site, although on private land.

Black grouse in the area will benefit from the establishment of native wet woodland as this will provide foraging benefit which at present on a landscape scale is lacking in the area. The priority habitat areas and proposed peatland restoration within the open habitat will also benefit black grouse for both hens when brood rearing as well as adults.

Leaving 102 ha of open habitat (43%) within the woodland creation will most certainly provide a dual purpose habitat for both waders and black grouse in the area.

Work planning prior to planting work

Prior to any ground disturbance / planting / woodland creation, all proposed works must be signed off within a work plan. Members of the environment team will visit the proposed area of works approx. 12 months in advance of any forestry operations. Where possible in cases of new acquisitions where afforestation is occurring the ground checks will take place in the Spring / Summer, this is to account for any breeding birds that may be present. The site of the proposed work will be walked and comments then input to the nominated work plan (example of a blank work plan can be found in the appendix).

To ensure compliance with the Wildlife and Countryside Act, 1981; both environmental constraints and mitigation will feature within the work plan with any significant environmental concerns (such as evidence of breeding birds) being highlighted and timing constraints will then be allocated to that area so that disturbance is not created during key periods such as wader breeding. On occasions if significant signs of breeding is located the environment team will request an amendment in the land use via the planning team.

Conversation with RSPB

Due to being unable to commence with a BBS in 2020 a skype conversation was had between the Environment Forester and RSPB on 13th January with reference to Piperhill LMP proposal. The conversation allowed the RSPB to get a better understanding of the site and also the priority habitats / species found within it during visits by FLS staff and objectives of leaving sections of habitat open and others planted.

Comment from National FLS Wildlife Ecologist, Kenny Kortland

I am content that FLS has carried out adequate due diligence to assess the potential for this planting proposal to have a negative impact on curlew (and other waders). This work has included a desk assessment, ground-truthing (site visits), and stakeholder engagement. All of the information that has been gathered indicates that there are probably no breeding curlews on the site, and that there is definitely not a significant local breeding population. Furthermore, FLS has committed to retain significant open areas for waders and to enhance open habitats to benefit these species.

Landscape

Landscape character

Piperhill spans two Landscape Character Types, as defined by Scottish Natural Heritage. The majority of the site is within the 'Foothills – Ayrshire' Landscape Character Type. The outcrop of ground which extends north west from the series of former mine settling ponds falls within the 'Agricultural Lowlands – Ayrshire'. Detailed descriptions and extents of each of these Landscape Character Types are found at:

https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions

Consistent with its two Landscape Character Types, the Piperhill site represents a transition between large scale forested uplands to the south and smaller scale relatively sheltered and diverse pastoral lowlands. Likewise visual diversity transitions from a simple rolling span of extensive conifer woodland to the south, through shoulder slopes of expansive rough grazing broken by occasional narrow incisions cut by burns, to a relatively diverse complex of pastoral ground enclosed by mature hedgerows and small woodlands.

Visibility

The closest villages from which the Piperhill site is visible are Drongan (3 miles northwest of site, population c. 3,200) and Ochiltree (3.5 miles northeast of site, population c. 700). Further afield, the site is visible from Cumnock (6 miles east of site) and part of Ayr (10 miles west of site). more immediately, the site is visible from a series of scattered farmsteads and some small hamlets.

From the towns, villages and hamlets listed above and from associated transport routes in the area, the site is a small part of large scale open views. Existing conifer woodland in the south of the site represents a fragment of conifer expansive woodland which extends relatively unbroken across neighbouring elements of the skyline. This is balanced by large scale views of largely open moorland to the northeast and an open skyline to the west which extends out to the Isle of Arran.

Social factors

North Kyle Masterplan

North Kyle Masterplan vison statement:

The North Kyle Forest is to be a place of adventure. Reflection and beauty that draws in locals and visitors, attracting and sustaining enterprise and investment and generating income for local communities.

The North Kyle Masterplan defines a three phase delivery process of transformation: Pioneer phase 1; Transition phase 2; Succession phase 3. The plan has deliberately avoided assigning hard timescales for delivery, however an aspirational total delivery period is approximately thirty years.

The North Kyle Masterplan defines several zones in which to focus investment to deliver against various cultural, economic and recreational objectives. A recreation hub is proposed for location in the centre of the North Kyle forest block (Chalmerston North former opencast site). Heritage, adventure sports and energy development zones are proposed for location in the western, eastern and southern outcrops of the forest block respectively.

Summary of North Kyle Masterplan objectives and features relating specifically to the Piperhill site:

- PE3 Forest Diversification: Introduction of riparian broadleaf species along key routes within Masterplan extent. Although Piperhill is not mapped as a priority area for this objective within the Masterplan, an equivalent strategy could be applied to create an inviting sense of arrival at the 'Piperhill Gateway'.
- ER2 Piperhill Gateway: Access point for recreational use. Parking facilities proposed former mining hardstanding, currently owned by Hargreaves Ltd. Scheduled for the Transition Phase.
- ER3 North/South Forest Drive: proposed installation along the current North Kyle Haul road (owned by Hargreaves Ltd.) for delivery in the Transition Phase or Succession Phase (beyond the span of this Piperhill Land Management Plan). This is subject to agreements being established with Hargreaves Ltd. and a third party commercial party to make viable.

Heritage

The Scheduled Monument Auchencloigh (formerly spelt Auchincloigh) Castle lies in ruins 300 m north of the Piperhill site boundary (NS 4945 1666), on neighbouring agricultural land. Remnants are now a broken and irregular mass of stone and lime. A report from 1978 describes some walls still standing at a height of 0.6 – 1.6 m in a rectangular formation (10.5 x 12 m), the inertia space being subdivided into smaller rooms. There is little dating evidence recorded for the structure, however it is thought that the type of masonry and thickness of the walls (1.4 m) indicate an early date.

Statutory requirements and key external policies

- Scotland's Forestry Strategy 2019-2029
- A Land Use Strategy for Scotland 2016-2021
- North Kyle Forest Masterplan 2016
- The UK Forestry Standard 2017
- UK Woodland Assurance Scheme 2018
- Central Scotland Green Network: The Vision 2011
- SNH National Landscape Character Assessment 2019

Appendix III. Land Management Plan Brief

Key background information

Introduction

- Piperhill is a former opencast mining site worked by Scottish Coal up until 1996. Approximately ⅓ of the site was subject to opencast mining, ⅓ is original rough grazing open ground and the final ⅓ is existing Sitka spruce plantation (48 ha felled and 59 ha standing). The total area is 348 ha.
- The neighbouring North Kyle Forest block and several former mining sites in the surrounding landscape are earmarked for long-term landscape regeneration works in both the North Kyle Masterplan (FLS, 2016) and by the Coalfield Communities Landscape Partnership.
- Since 2018 Hargreaves have worked to restore the mined ground via mechanical soil de-compaction, nutrient enrichment and drain installation. FLS have been a key consultee, providing specifications to ensure that resulting soils are fit for woodland establishment and sustained tree growth.

Silvicultural potential

- Prevailing weather systems are south-westerly. At around 280 m altitude existing woodland, the majority of the restored mine area and former rough grazing ground on site is broadly classified as cool, wet and highly exposed in the Forest Research Climate Model dataset. Such exposure will limit the potential for silvicultural thinning in these areas.
- In the existing woodland to the south and the open rough grazing area to the east of the site, soils are largely peaty gley. Some confined areas of deep peat are present on flatter gradients. Peaty gleys have potential for largely coniferous restocking and afforestation, with an element of broadleaf applied where ecological and aesthetical benefits will be best realised. Significant areas of deep peat will left open or restored to open once existing crops have reached economic maturity.
- On the former mining area, soils are largely a mixed texture of clay and coarse stone. These have been mechanically de-compacted and enriched to a depth of 60 - 100 cm. The continued conditioning of such restored soils will be aided by a first rotation of mixed conifer and broadleaf.
- At around 200 m altitude the northern outcrop of the site is classified as warm, moist and moderately exposed. Topography is more complex here, with a series of small gullies draining to the north and generally sheltered from higher ground to the west. Soils are also more mixed, with confined original grounds of brown surface-water gleys. This area subsequently has higher potential for application of alternative conifer and a wider selection of broadleaf species.

Main Considerations

- Piperhill is included in the North Kyle Forest Masterplan (2016). This plan broadly sets out a three phased vision for collaborative development of the North Kyle Block, including expansion into surrounding former opencast mine sites, to improve the landscape for the benefit of local

communities, wildlife and long-term economic sustainability. Piperhill is highlighted as a potential Gateway site, with a long-term aspiration for redevelopment of the North Kyle Haul Road for improved recreational access.

- As mentioned above, there is a significant proportion of open former grazing ground on site. This will require assessment to determine best management options, with existing open habitat description, quality and presence or absence of any priority species taken into account.

Strategic Drivers

To succeed in realising the vision as set out in the Scottish Forestry Strategy 2019-2029, six 'Priorities for Action' been identified for implementation:

- ***Ensuring forests and woodlands are sustainably managed***
- ***Expanding the area of forests and woodlands, recognising wider land-use objectives***
- ***Improving efficiency and productivity, and developing markets***
- ***Increasing the adaptability and resilience of forests and woodlands***
- ***Enhancing the environmental benefits provided by forests and woodlands***
- ***Engaging more people, communities and businesses in the creation, management and use of forests and woodlands***

As detailed in Forestry and Land Scotland's Corporate Plan 2019-2022, we have developed five Corporate Outcomes to guide our work during this period. Each Corporate Outcome sets out a position statement of where we want to be by 2022. The Corporate Outcomes support the delivery of the Scottish Forestry Strategy Priorities for Action, listed above. In brief the FLS Corporate Outcomes are:

1. ***Supporting a sustainable rural economy***
2. ***Looking after Scotland's national forests and land***
3. ***National forests and land for visitors and communities***
4. ***A supportive, safe and inclusive organisation***
5. ***A high performance organisation***

In preparing the Brief and Objectives for this Land Management Plan (LMP) for Piperhill, site opportunities and constraints relating to delivery of the Corporate Outcomes were evaluated. Those most relevant to Piperhill are detailed below.

Draft LMP Objectives

Table 5: Relevant Corporate Outcomes and actions for their delivery derived from the FLS Corporate Plan 2019, leading to draft Piperhill LMP objectives

Corporate outcomes relevant to this LMP	Operational Actions for delivery of corporate outcomes, relevant to this LMP	LMP action points
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.	• Managing the national forests and land in accordance with the UK Woodland Assurance Scheme (UKWAS) to ensure that timber and other products produced by FLS are guaranteed to be from a sustainably managed resource • Providing a sustainable supply of timber to Scotland's timber processing sector • Implementing the Restocking Strategy for the national forests and land and develop a new plant and seed supply strategy • Support the venison processing sector through our deer management • Bringing opportunities for further renewable energy projects to the market and helping to facilitate the development of projects which achieved planning consent	• Create a land management plan which meets UKFS/UKWAS requirements and where possible guidelines. • Enhance the long-term sustainable productivity and resilience of the site through selection of site and climate suitable species for new planting and restock areas. • Optimise yield and timber quality through sound long-term silvicultural prescriptions and harvest coupe design, with site climate and site constraints considered. • Design open space and infrastructure to facilitate safe and efficient deer management operations to improve opportunities for natural regeneration and support the venison processing sector. • Design roadside open space to facilitate traffic for neighbouring quarry and renewable energy development.

Corporate outcomes relevant to this LMP	Operational Actions for delivery of corporate outcomes, relevant to this LMP	LMP action points
Outcome 2: Looking after Scotland's national forests and land Scotland's national forests and land are looked after; biodiversity is protected and enhanced; and more environmental services are provided to people.	• Managing the national forests and land to further the conservation and enhancement of biodiversity • Maintaining and enhancing our work on peatland restoration • Collaborating with partners on integrated landscape-scale approaches to habitat management and restoration • Taking specific conservation action for vulnerable priority species • Supporting policy development and research, and act as a testbed for new and innovative approaches to forestry and land management • Working with neighbouring land managers to undertake landscape-scale control of ground flora and improve habitats	• Design coupes and prescriptions in both new planting and restocking areas to improve species and structural diversity. • Prescribe habitat types throughout the site, including open, native broadleaf and conifer woodland, to best complement existing site features and link neighbouring habitat areas. • Investigate priority habitat and peatland restoration opportunities across the former agricultural grazing element of the site. • Follow best practice guidance for remediation and establishment of new woodland on former mining sites, including monitoring and recording outcomes for wider analysis and learning.

Corporate outcomes relevant to this LMP	Operational Actions for delivery of corporate outcomes, relevant to this LMP	LMP action points
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.	• Maintaining walking and biking trails to promote fun in the outdoors, focussing on improving entry level experiences for everyone to enjoy and gain health benefits • Continuing to remove barriers to ensure that people from all backgrounds can and do access the full range of benefits of the national forests and land • Enabling outdoor learning and encouraging schools and community groups to make use of the national forests and land • Continuing to engage communities in decisions relating to the management of the national forests and land • Continuing to support community empowerment by enabling communities to make use of the national forests and land to benefit their communities	• Design new woodland areas to facilitate a forecasted increase in recreational use over coming decades, as detailed in North Kyle Masterplan 2016. • Continue to consult with local communities and stakeholders through Land Management Plan process