Moray and Aberdeenshire Forest District

Tillygownie

Land Management Plan

Plan Reference No: LMP 53

Plan Approval Date:

Plan Expiry Date:

It's important to keep people informed about management proposals affecting their local forests.

Forestry Commission forests are independently certified as being responsibly managed. We're regularly audited against the United Kingdom Woodland Assurance Standard – the standard endorsed in the UK by the international Forest Stewardship Council® and the Programme for the Endorsement of Forest Certification.

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FOREST ENTERPRISE - Application for Approval of Woodland Creation

Forest Enterprise - Property

Forest District:	Moray & Aberdeenshire FD
Woodland or property name:	Tillygownie
Nearest town, village or locality:	Strachan
OS Grid reference:	NO 653 934

Proposed areas to nearest tenth of a hectare

New Planting	48.6ha
Natural Colonisation	
Open Ground	12.7ha
Total	61.3ha

Special areas and protected land

Designation	Area Name or Number	Comments
Scheduled monument	See management map	35m buffer (20m minimum in UKFS)
Water supply point	See management map	50m buffer as per UKFS guidelines

Special areas and protected land

Area Name or Number	Gross Area (Ha)	P year	Spp	Area (Ha)	Open Ground (Ha)	Comments
Scheduled monument	0.8ha				0.8ha	35m buffer (20m minimum in UKFS)
Water supply point	0.8ha				0.8ha	50m buffer as per UKFS guidelines

I apply for authority to create a woodland as above and as shown on the attached map.
I undertake to obtain the necessary permissions from the appropriate statutory body before commencing work under any approval which is granted.

Signed …… Signed…….
Forest District Manager Conservator

District Moray & Aberdeenshire Conservancy Grampian

Date …… **Date of Approval**…….

Date approval ends:…….

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1.0 Introduction

Refer to Map 1: Location.

1.1 Location

Tillygownie is 61ha situated 5km south west of Banchory. It was purchased by Forest Enterprise Scotland (FES) in 2012 and was previously being used as part of a mixed arable and pasture farming enterprise. The site is within the Water of Feugh river valley 1.5km north west of Strachan in Aberdeenshire. The land rises from south to north, that is it is south facing, and is adjacent to the FES managed Blackhall forest block.

1.2 Setting and Context

Tillygownie lies within an extensive area of rolling land form that supports a variety of land uses. These include arable farmland on the more fertile lower lying land, improved grazing, conifer and broadleaved woodland on the low hills and steeper slopes while moorland and open rough grazing pasture covers some of the higher hill land.

In terms of the Moray & Aberdeenshire Forest District Strategic Plan*the area containing Tillygownie is identified for:

- Growing high quality timber;
- Growing broadleaves due to the good growing conditions;
- Being adjacent to a FES managed woodland that has a high number of visitors;
- Delivering management that is beneficial to red squirrels in preference to greys;
- Creating functional habitat networks with high environmental potential.

A more detailed analysis of the national and local context for how this site might best support the integrated land management objectives of the Scottish Government can be found in Appendix 1.

* Moray & Aberdeenshire Forest District Strategic Plan -
http://www.forestry.gov.uk/fesplans

1.3 Land management objectives

The purpose and objectives for managing this land have been identified following a review of the following factors:

- the physical context and current crop;
- neighbouring land uses;
- a review of the land management objectives already established by statutory bodies;
- the physical capability of the land;
- the locational objectives identified in the Moray & Aberdeenshire Forest District Strategic Plan;
- the views expressed by the public and statutory stakeholders (see appendix1).

Analysis of the available information has led to the **primary objective** for this land being the production of high quality timber.

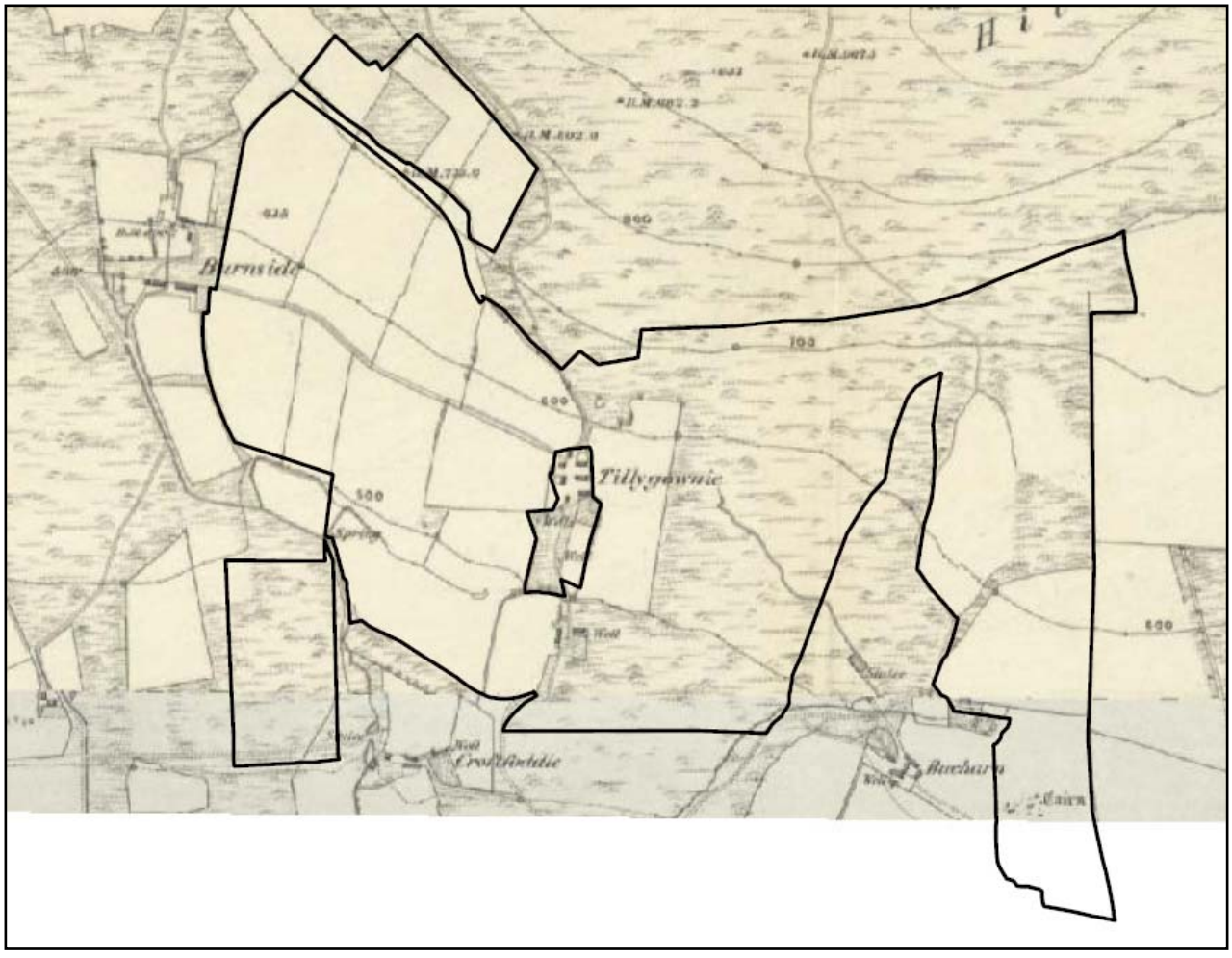
In common with the management of all woodland in the National Forest Estate, the forest will be managed to meet the requirements of the UK forest standards. This will ensure that the plan area meets multiple land use objectives while utilising the intrinsic specific strengths of the location.

2.0 Background information

2.1 History of the site

Prior to FES's acquisition of Tillygownie in 2012 it was managed as part of an agricultural enterprise. Under the previous ownership the holding was managed as a mixture of arable land, improved and rough grazing.

In the more distant past it is clear from the extracts of the Ordnance Survey (OS) maps published in 1874 that part of the site was in agriculture while the rest was moorland.

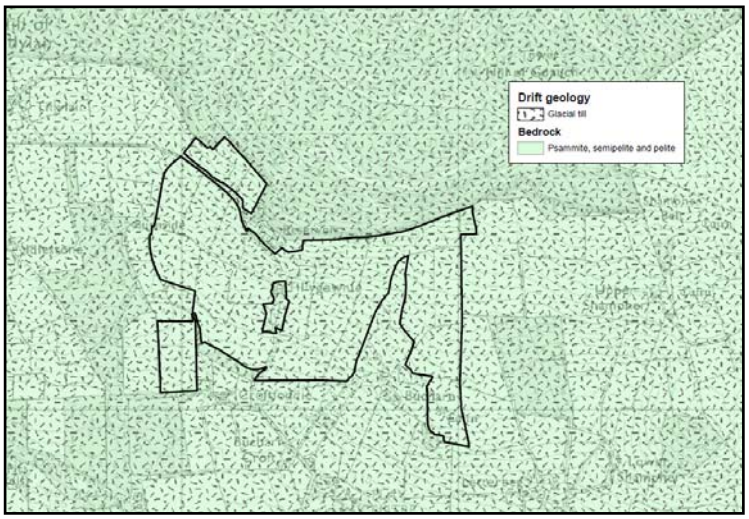


Extract of the 1874 Ordnance Survey map

2.2 Physical site factors

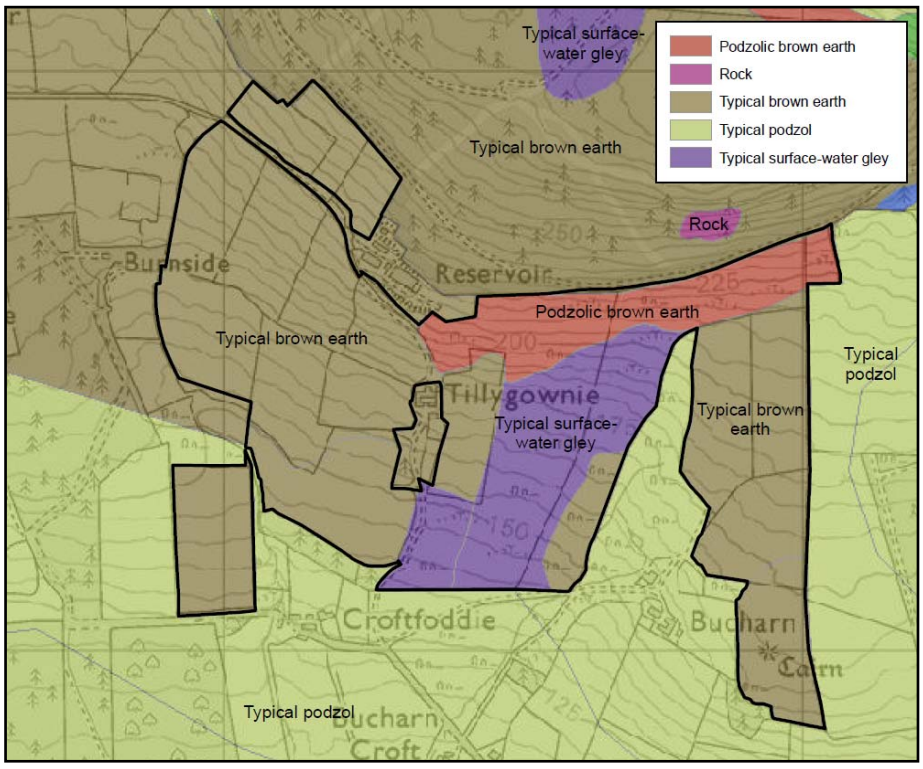
Refer to Map 2: Key Features.

2.2.1 Geology, soils and topography

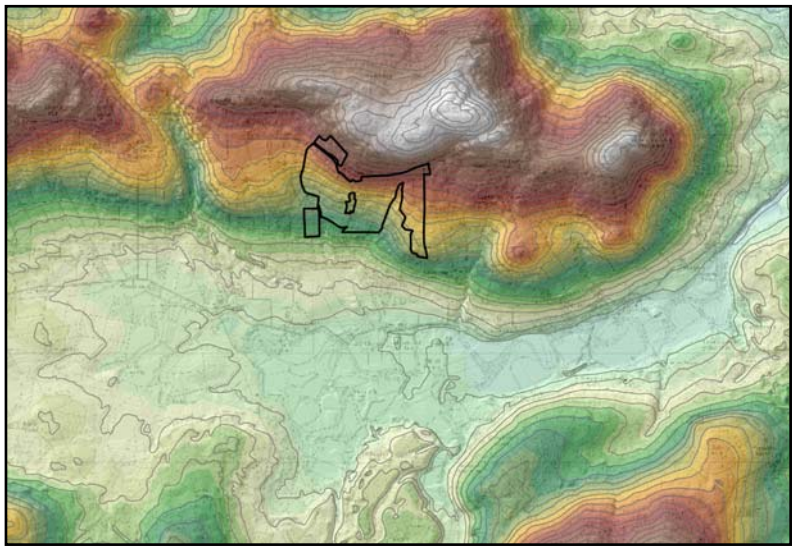


Geology - According to the British Geological Survey (Geological Map of the UK) Tillygownie is underlain by Psammite, Semipelite or Pelite. All these rocks are part of the Argyll Group of the Dalradian Supergroup and are metamorphosed sedimentary rocks (sandstone) with varying grain sizes and therefore textures. These are overlain by glacial till. These parent rocks give rise to soils with medium levels of nitrogen availability.

Soils – A survey of the soils on the site shows that the majority of the area is a typical brown earth with areas of podzolic brown earth and typical surface-water gley.

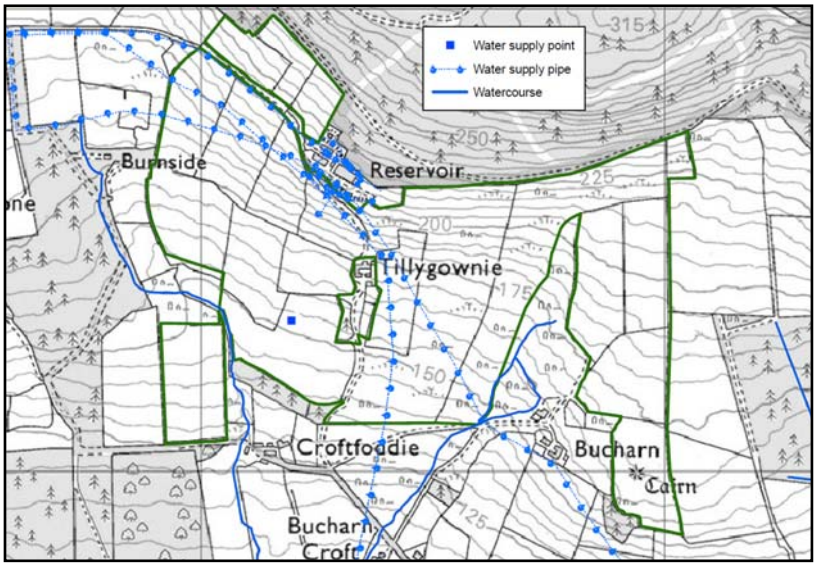


Topography – Tillygownie is situated on the southern facing slope of the Hill of Goauch overlooking the Water of Feugh valley. The height above sea level varies from 130 meters at the bottom of the site up to 250 meters at the top.



2.2.2 Water

Two minor water courses form parts of the site boundary on the southern side of the area. More importantly the Scottish Water Glendye Treatment works is situated on the northern site boundary. This treatment works has several water supply pipeline associated with it that run through the area. Additionally a couple of private water supplies rise within the area.

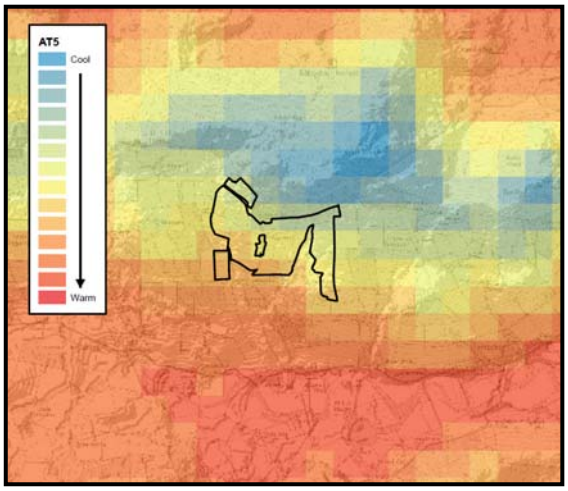


2.2.3 Climate

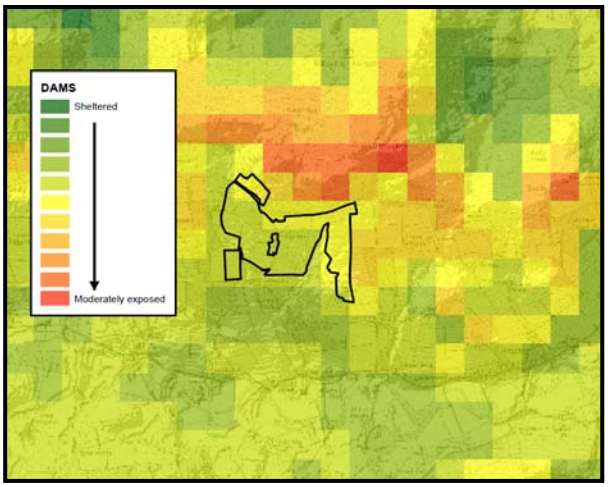
The climate data for the design plan area is obtained from the Ecological Site Classification system (ESC).

The results of interrogating ESC give us the following information.

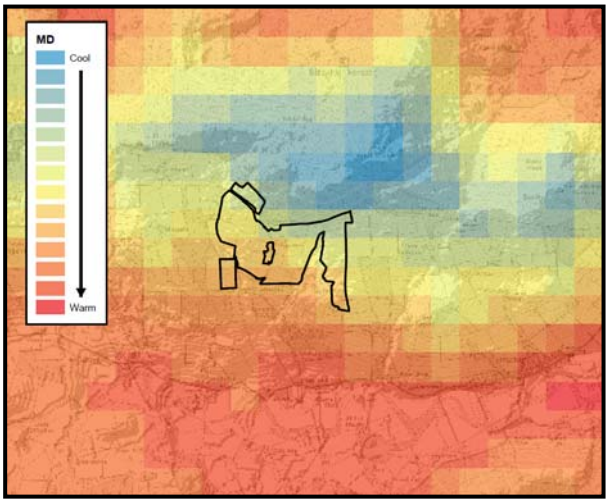
AT5	DAMS	MD
1007 - 1163	10 - 12	86 - 118
Cool	Sheltered	Moist



AT5 is the accumulated total of the day-degrees above the growth threshold temperature of 5º, which provides a convenient measure of summer warmth. The results above place this block in the "cool" zone.



DAMS is the Detailed Aspect Method of Scoring. This represents the amount of physically damaging wind that forest stands experience in the year. The values vary very little and mean the block is in the "sheltered" zone.



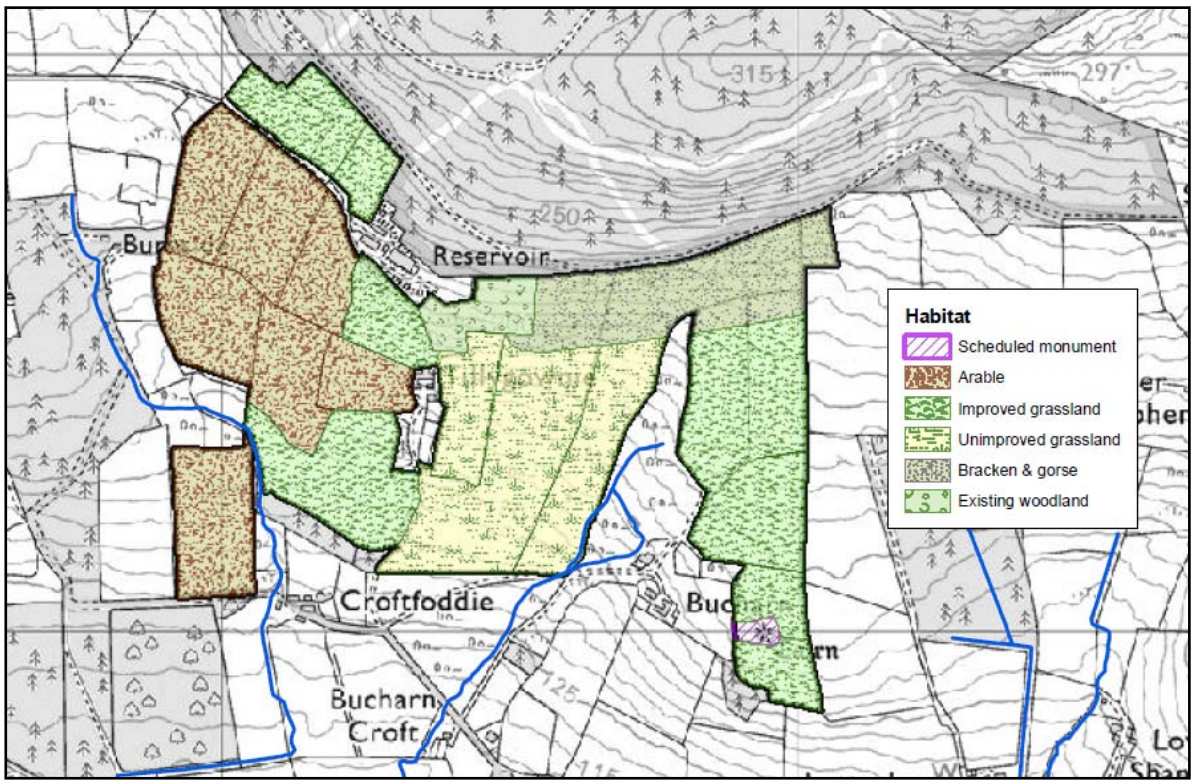
MD is the Moisture Deficit for the area. Moisture deficit reflects the balance between potential evaporation and rainfall and therefore emphasises the dryness of the growing season (rather than the wetness of the winter or whole year). The values above place the block in the “moist” zone.

These results will be used to help assist in the choice of tree species for restocking in this LMP. Each tree species has tolerances for these and other factors and they will be used to identify species suitable for the site conditions.

Further information on these criteria and the application of ESC can be found in Forestry Commission Bulletin 124 - An Ecological Site Classification for Forestry in Great Britain.

2.3 Biodiversity and environmental designations

A full report on the vegetation of Tillygownie was undertaken by an ecologist in August 2014. The full report can be seen at appendix 2.



The report does not identify any habitats of high biodiversity value that should not be planted.

The Bucharn Cairn in the south eastern corner of the site has been a scheduled site since February 2014. In addition six rectangular structures are present in the bracken at the north east corner and there are stone structures near the southern boundary of the unimproved grassland area.

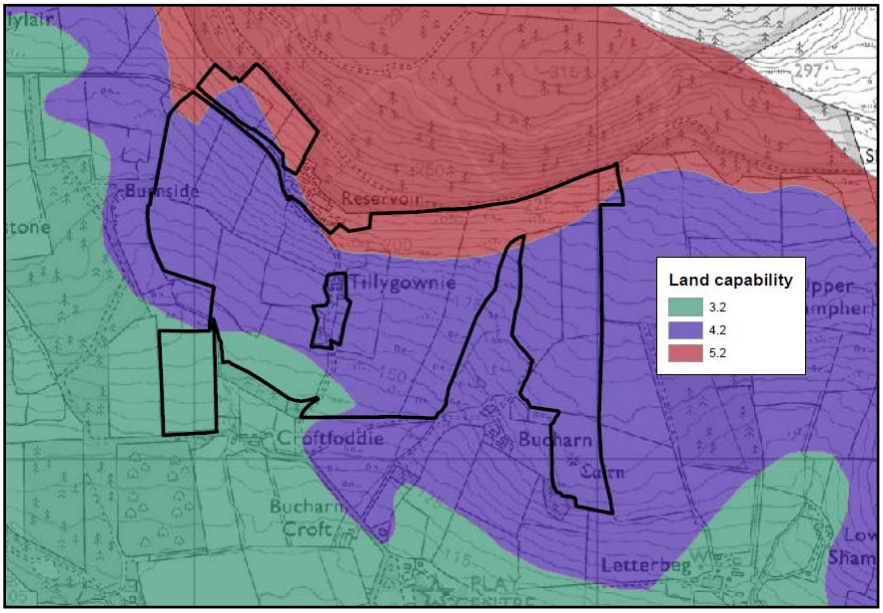
2.4 The existing land use

Prior to FES purchasing the land Tillygownie was managed as part of an agricultural unit. The total area of the purchase was 61ha which breaks down as per the table below.

Land use	Area (ha)	%
Arable/ploughable pasture	39.1	64
Rough Grazing	20.2	33
Existing woodland	1.7	3
Scheduled monument	0.3	0
Total	**61.3**	

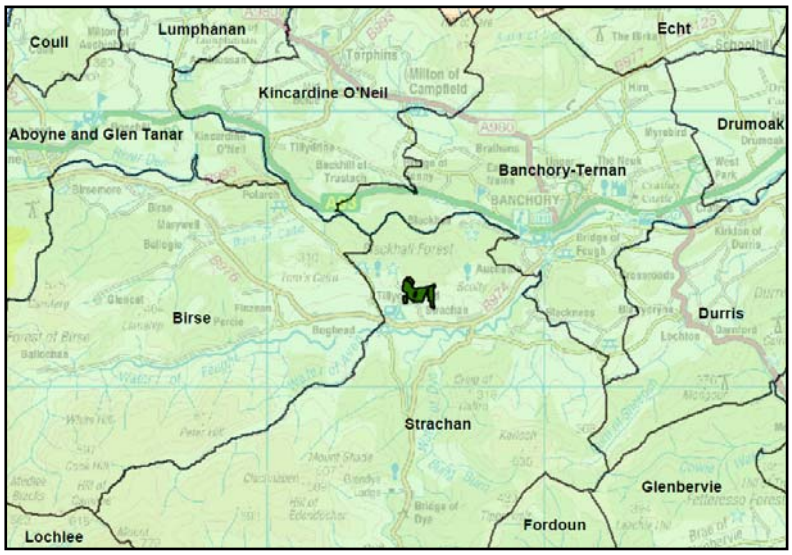
The land lies between 130 and 250 meters and has a predominantly south facing aspect. The area is sheltered from the north by the Hill of Goauch and the existing Blackhall forest.

Land classification	Area (ha)	%
3.2	6.8	11
4.2	44.5	73
5.2	10.0	16

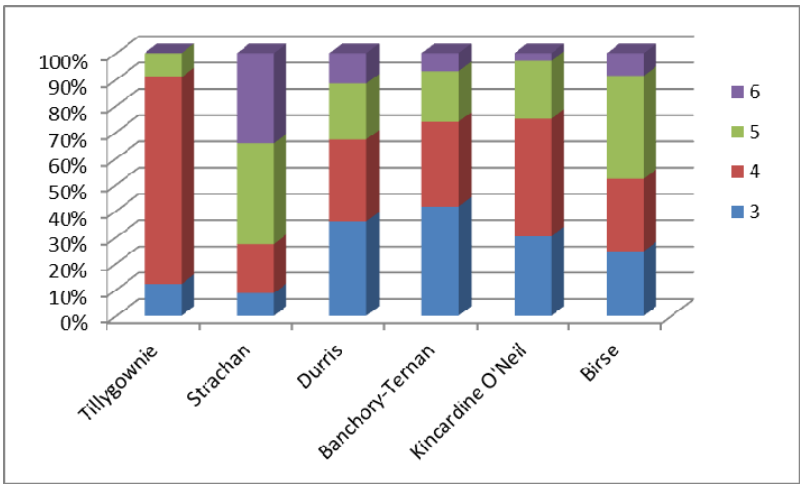


The capability for the land according the JHI land classifications is:

- 3(2) land is capable of growing a modest range of crops with an increasing trend towards grass within the rotations.
- 4(2) land is primarily suited to grassland with some limited potential for other crops (such as barley, oats or forage crops).
- 5(2) land is capable of use as improved grassland; sward establishment presents no difficulties but physical limitations can cause maintenance problems.



When the land capabilities at Tillygownie are compared to those of the parish of Strachan, in which Tillygownie is situated, it is clear that the area is better than the average for the area.



Impact of potential loss of agricultural land to the local economy

Any loss of agricultural land due to tree planting, and therefore agricultural production, will inevitably have an impact on the local economy, both directly and indirectly. To quantify this impact it is necessary to establish the proportion of the local production that would be lost following the removal of any area planted with woodland.

A comparison with the Strachan parish, containing Tillygownie, and those surrounding it is shown below. The data was supplied by the Scottish Government Rural Payments & Inspections Division to allow the comparisons to be undertaken.

	Arable Crops(1)		Utilised agricultural land(2)		Total agricultural land	
	Holdings	Hectares	Holdings	Hectares	Holdings	Hectares
Strachan	28	695	54	4,755	54	5,025
Durris	42	2,331	61	2,994	61	3,081
Banchory-Ternan	47	1,982	82	3,768	88	4,064
Kincardine O'Neil	64	2,622	96	4,157	100	5,546
Birse	21	1,692	31	8,695	33	11,462

(1) Includes crops, fallow land and grass under five years old
(2) Includes arable land, grass over five years old and rough grazing

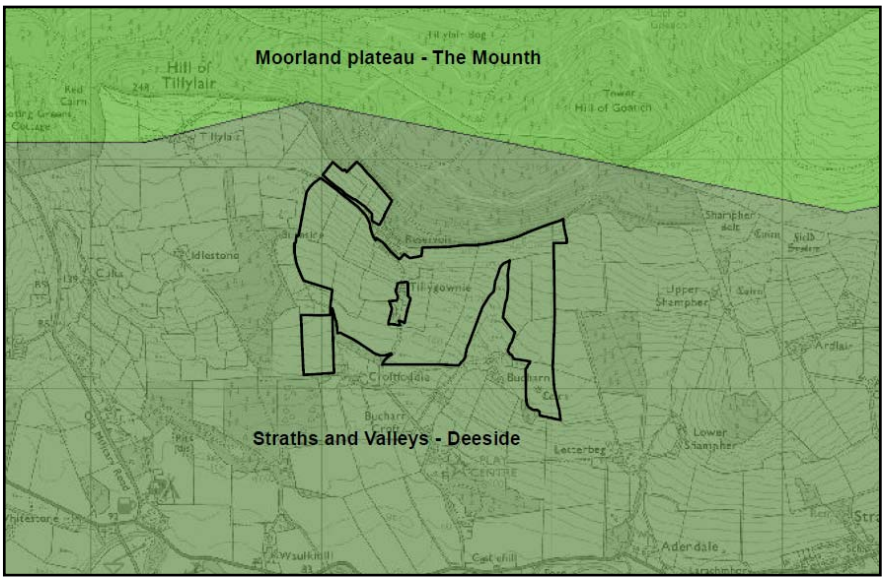
When compared to the figures for the various agricultural production categories the 39ha of arable crops at Tillygownie is equivalent to just 0.42% of this type of land. The total area of 59.2ha of land in all capabilities represents just 0.20% of the total of agricultural land locally.

2.5 Landscape and land use

2.5.1 Landscape Character and Value

Scottish Natural Heritage, in partnership with local authorities and other agencies, has carried out a national programme of Landscape Character Assessment (LCA). This programme aims to improve knowledge and understanding of the contribution that landscape makes to the natural heritage of Scotland. It considers the likely pressures and opportunities for change in the landscape, assesses the sensitivity of the landscape to change and includes guidelines indicating how landscape character may be conserved, enhanced or restructured. These assessments are considered during the preparation of all land management plans.

The Tillygownie land management plan falls within the area covered by Scottish Natural Heritage Review No102, South and Central Aberdeenshire: Landscape Character Assessment, produced in 1998.



The area falls into the Straths and Valleys - Deeside character area. This encompasses both the valley of the Dee and that of its tributary, the Water of Feugh, with both exhibiting a similar mix of wooded slopes, open fields and profuse settlement. The key characteristics of the area include:

- Generally narrow valley but expanding into more open land around Strachan.

- Richly wooded landscape often providing a strong sense of enclosure.

- Great diversity of trees and rich understorey forming a landscape of colourful foliage and dappled light; striking colours in autumn.
- Pockets of open agricultural landscape along the Water of Feugh contrast with woodland along the Dee.

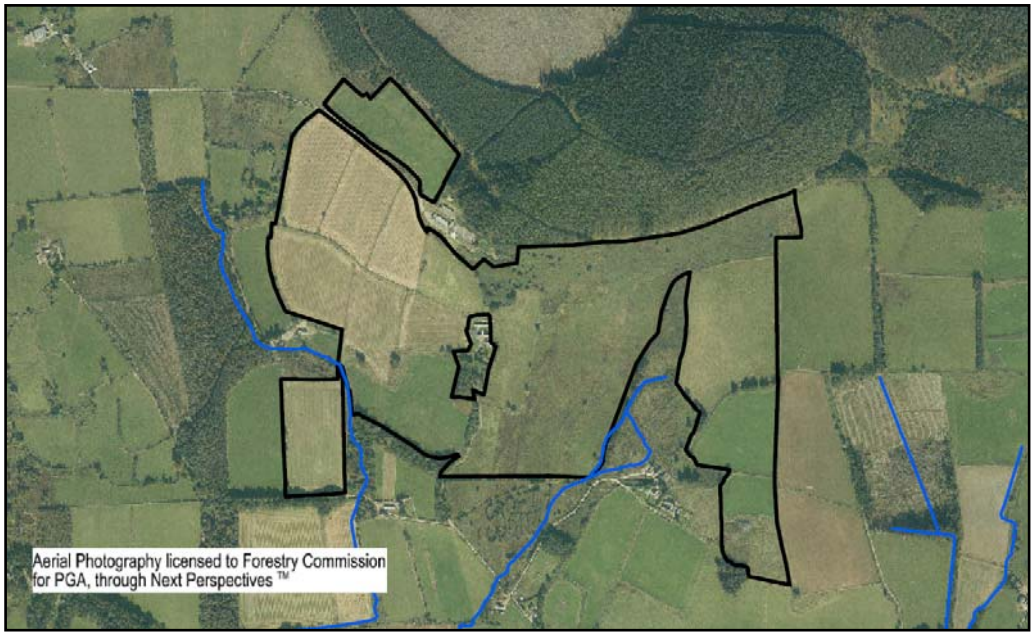
Some of the specific guidance includes the aim to conserve the diverse woodland species mix by:

- Management of woodlands along the strath will conserve the diversity of species within the lush river valley.
- Extension of woodland planting within the open farmed landscape will extend the unique character of Deeside; but periodic open views to the uplands are essential to the experience of this landscape and extension of tree cover would be likely to close off these views still further.

2.5.2 Neighbouring land use

Tillygownie is on the boundary between the agricultural area of the Water of Feugh valley and the existing forest of Blackhall. The aerial photo below shows the current situation.

There are several neighbouring properties, including one surrounded by the site, and a Scottish Water treatment works.



2.6 Social factors

2.6.1 Recreation

There is currently no public recreation undertaken on the site.

2.6.2 Community

The closest settlement of any size is Strachan which is about 1.5 km from Tillygownie.

There are several farms and residences closer to the site along the Water of Feugh valley.

Information from stakeholders and the local community has been sought via written correspondence.

Letters were written to all known neighbours, both contiguous and in the local vicinity, all known local interest groups and statutory consultees.

A summary of all the responses received from this information gathering are in appendix 4.

2.6.3 Heritage

There is one Scheduled Monuments in the plan area, the Bucharn cairn, which was designated in February 2014. The monument is a round cairn, a burial monument likely to date to the Bronze Age (second millennium BC). It is visible as a substantial mound of bare stones, measuring approximately 30m in diameter and standing at least 4.5m high. Stones abutting the base of the cairn give the appearance of a platform. The monument is situated on a prominent ridge at a height of 170m OD, on a S-facing slope overlooking the Water of Feugh. The monument is of national importance as an extremely well-preserved Bronze Age burial cairn with considerable potential to make a significant addition to our understanding of early prehistoric burial monuments and funerary practices.

In addition a search of the SMR shows two other sites of interest.

- NO69SE0040 - The footings of at least five rectangular structures lie in an area of rough ground to the northeast of Tillygownie Farm. There is also a length of curved bank showing to the southwest of the foundations.

- NO69SE0044 - Two small buildings are depicted at this location on the edge of a field on the OS map of 1866. By the 1888 edition they are no longer visible. It is unknown if anything now survives.

  These are shown on the key features map and their significance will be taken into account as part of the planning process.

3.0 Analysis and Concept

Refer to Map 4: Analysis and concept.

The information gathered in the previous section (2.0 - Background information) needs to be analysed for its relevance to the plan. This will then inform the design concept plan which is based on the land management objectives (section 1.3) and the analysis background information and stakeholder views.

These two processes have been undertaken and are presented in the table below. This has been set out against the national themes of the FES strategic directions document and the issues highlighted in the Moray & Aberdeenshire strategic plan.

National theme	Issue	Analysis	Concept
Healthy	Resilience and adaption to climate change	The climate of the site is predicted to change in the future.	Use the ESC decision support system and its' built in predicted future climate models to help guide the selection of species suitable for planting.
Productive	Transition to a low carbon economy	New planting areas would increase the amount of carbon sequestration occurring on the site.	Once established new woodland areas will be managed to produce timber and contribute to a low carbon economy locally.
	The Scottish Government's woodland expansion policy.	Tillygownie can contribute to the Scottish Government's woodland expansion target of 10,000 ha per year.	Identify areas where land can be removed from agriculture and planted with trees that will expand the woodland cover in the area.

Cared for	Safeguard archaeological sites.	There is a scheduled monument, and examination of known records, has highlighted several sites of archaeological interest.	Ensure all known archaeological sites are protected during the planning and land management process.

4.0 Land Management Proposals

Refer to Map 6: Management.

4.1 New woodland

4.1.1 Conifer woodland

As this woodland area will form the transition from the conifers growing in Blackhall plantation and the wider landscape a predominantly conifer planting will fit with the existing woodland structure.

Douglas fir will fulfil the objective of growing a quality timber crop on the site. The soil and climate data indicate that it would be an appropriate species to plant in this location as it is suited to the site conditions.

The planting will be at a spacing of 2m x 2m to give an average stocking density of approx. 2,500 stems per hectare. This planting spacing will ensure that the woods can be managed to be productive in the future.

4.1.2 Broadleaf woodland

Where the planting area adjoins watercourses, heritage features and neighbouring properties it would be more appropriate to plant a mix broadleaf species to soften the potentially hard conifer edges that would otherwise be created.

The planting will be made up of native tree and shrub species including birch, wild cherry, hawthorn, hazel and blackthorn. They will be planted in groups of intimately mixed species with 50% open ground around the groups. Within the individual groups the shrubs will be planted at approx. 2m x 2m spacing.

4.2 Open ground

Open ground is any area that has less than 20% tree cover. On this site the main reasons for retaining open areas is to maintain wayleaves associated with the

powerlines and water pipes and buffer zones around the heritage features and water supply points.

Due to the number of powerlines and water pipes an excessive amount of open ground will be left unplanted if wayleaves wider than the minimum requirements are left unplanted. Therefore for most of their length there will be no overly wide areas of open space along the service corridors.

There is a potential that in some of the water pipe wayleaves low growing native shrubs may become established. If this is the case this will be acceptable as it provides a valuable biodiversity. However the heritage features and water supply point and their buffer zones will be maintain as open ground by removing encroaching natural regeneration.

4.3 Existing woodland

There are a small number of existing broadleaves scattered across the area. There is a mix of species including beech, sycamore, oak and alder, in the wetter areas. The majority of these trees are mature but of poor form so are of very little commercial value. Therefore they will be retained for their visual and biodiversity value and the new planting will take place around them.

4.4 Species Table

Species	Area (ha)	Percentage (%)
Douglas fir	27.5	44.9
Broadleaves	4.9	8.0
Norway spruce	5.9	9.6
Sitka spruce	10.3	16.8
Open ground	12.7	20.7

4.5 Recreation

During the consultation process for the plan local horse riders requested a route across the site that will allow them to gain access to the adjacent Blackhall forest block.

Despite the fact that we are unable to commit resources to recreation infrastructure on this site it is possible to retain a simple grass track that will be left unplanted. This would not be mown in the future so it will rely on the level of use to prevent it from becoming overgrown. Access to Blackhall forest will be facilitated with a rider friendly gate if a deer fence is erected. (see map 6 – management)

If the route was to become overgrown in the future this will be taken as evidence that the demand for it is not sufficient to justify its ongoing existence.

4.6 Heritage

The scheduled and non-scheduled monuments will be protected during all operations on site. A buffer of open ground will be maintained around all features to help ensure their ongoing protection (See map 6 – management).

Prior to planting the site a walk over archaeological survey will be undertaken. Any features identified will be protected during operations and will be buffered with open ground. The results of the survey, along with any revisions to the planting plan, will be sent to the local archaeology service for their records.

Appendix 1 – The national and local context of Tillygownie

National context

Tillygownie was purchased to support the objectives of the Scottish Government as set out in **"FES Corporate Plan 2017-2019"**[1]. This document describes the role of and strategic directions for Scotland's National Forest Estate (NFE).

The NFE is one of the biggest opportunities for the Scottish Government to directly implement the principals laid out in its **Land Use Strategy**[2]. The Land Use Strategy aims to deliver multiple benefits from Scotland's countryside. Tillygownie, as part of the NFE, provides an opportunity to implement the Scottish Government's climate change commitments by harnessing the ability of trees to sequester carbon. It can provide additional environmental services including contributing to flood mitigation and ensuring the NFE, and its biodiversity, is robust and able to adapt to future climate change.

Within this context the role of the NFE can be described in terms of the services it has the potential to provide:

• Supporting services such as primary production, nutrient dispersal and cycling;
• Provisioning services such as timber, food (farmed and wild), water, minerals, energy (hydropower, wind energy and biomass fuels);
• Regulating services such as carbon sequestration and climate regulation, flood management, purification of water and air, detoxification of contaminated sites and biological reservoirs for crop pollination and pest and disease control;
• Cultural services around recreational experiences, cultural, intellectual and spiritual inspiration and scientific advancement.

1. FES Corporate Plan 2017-2019
   http://www.forestry.gov.uk/fesplans
2. Getting the best from our land – A land use strategy for Scotland - http://www.scotland.gov.uk/Topics/Environment/Countryside/Landusestrategy

The Rationale for Woodland Expansion[3] lays out the Scottish Government's thinking on how woodland expansion can best increase the delivery of public benefits from Scotland's land. The document identifies a number of woodland creation priorities for Scotland:

- Helping to tackle greenhouse gas emissions. Carbon sequestration, timber and fuel production.
- Restoring lost habitats and adapting to climate change. Forest habitat networks and new native woodlands.
- Helping to manage ecosystem services. Sustainable flood management and protection of soil and water resources.
- Underpinning a sustainable forest products industry. Consistent and reliable timber supply for timber processing and wood fuel investments.
- Supporting rural development. Supporting local businesses and farm diversification.
- Providing community benefits. Provision of welcoming and well-managed woodlands in and around communities and where health and community need is greatest.
- Enhancing urban areas and improving landscapes. Improving derelict, underused and neglected land, improving degraded or unsightly environments and diversifying farmed landscapes.

The Nature Conservation (Scotland) Act 2004 places a specific duty on all public bodies to further the conservation of biodiversity and to have regard to the Scottish Biodiversity Strategy[4]. That strategy, published in 2004, aims to achieve by 2030 a landscape where, amongst other things:
"Organisms can move, feed, reproduce and disperse effectively, and are better able to adapt to changing circumstances of land use and climate change".

Habitat networks are one of the main ways identified to achieve this. Habitat networks are patches of habitat that are physically or functionally connected, so that dependent species are able to move and/or disperse between patches to create interlinked populations. The development of networks should increase the resilience of species populations to threats, which is especially important for species which are slow colonisers and/or those living in small fragmented populations.

3. The Scottish Government's Rationale for Woodland Expansion - http://www.forestry.gov.uk/forestry/INFD-7FWEQ5
4. Scottish Biodiversity Strategy - http://www.scotland.gov.uk/Publications/2004/05/19366/37239

Networks should help wildlife adapt to climate change, both by encouraging more robust populations that can survive change in situ, and by making it easier for species to colonise new areas if current sites become unsuitable. The predicted pace of climate change means that networks will need to be developed and functioning over the next few decades to relieve the growing pressures on our wildlife.

As there are no specific national policies for agriculture in Scotland it is difficult to link the management of the agricultural elements at Tillygownie to an overarching national strategy. However the background to the industry is that livestock numbers have been dropping since 2005. This is as a direct result of the **Common Agricultural Policy** (CAP). With CAP currently under review it is not possible to know what impact this could have on the future for the agricultural industry in Scotland.

Local context

The strategic directions document for the NFE was published in 2013 and lays out in broad terms the story of, nature of, and vision for the NFE. The **Strategic Plan for Moray & Aberdeenshire District**[5] is the next level down in the planning framework. This sets out at the district level how different parts of the local NFE will contribute to the national picture.

The Strategic Plan for Moray & Aberdeenshire drives our Land Management Plans (LMP) and integrates varied land management priorities to maximise public benefit, and optimise ecosystem service provision. Ecosystem services include such varied objectives as conserving vulnerable species, to maintaining a supply of timber and biomass, and providing the largest area for recreational provision in Scotland.

5. Moray & Aberdeenshire Forest District Strategic Plan (Public consultation) - http://www.forestry.gov.uk/fesplans

Aberdeenshire Council has a **Forestry and Woodland Strategy 2017**[6]

The Strategy's Vision is that:

The forestry and woodlands of the Aberdeenshire Local Development Plan area are resilient to the effects of climate change, protect and enhance the environment, habitats, species and local culture, benefit and support the local and national economy and are valued and enjoyed by people, both residents and visitors.

The Strategy is split into themed sections within which the key issues and opportunities in relation to its 10 aims are outlined.

Theme 1 **Climate Change and Tree Health** aims to:

- Aid trees and woodlands' resilience to the negative effects of climate change and tree disease
- Promote trees and woodlands as a means to aid Scotland in mitigating and adapting to climate change

Theme 2 **Timber and Business Development** aims to:

- Support expansion of Aberdeenshire's woodland coverage in line with Scottish Government targets
- Promote and support the forest industry

Theme 3 **Communities, Development, Access and Health** aims to:

- Strongly protect and enhance trees and woodlands in the planning and construction of built development
- Promote and support woodland's role in providing opportunities for community development, education and recreational access

Theme 4 **Environment, Landscape and Historic Assets** aims to:

- Promote woodland creation and management practice which protects and enhances environmental quality and biodiversity
- Promote woodland creation and management practice which protects and enhances landscape and historic assets

The Strategy presents a map of **Preferred Areas for New Woodland Creation**, identifying where new woodlands could go so as to maximise benefits and promote integrated land use.

6. Aberdeenshire Forestry and Woodland Strategy 2017- http://www.aberdeenshire.gov.uk/media/20174/8-aberdeenshire-forestry-and-woodland-strategy.pdf

Appendix 2 – Summary report on the vegetation of Tillygownie

Farm Habitats Survey

Report on the Vegetation of Waulkmill Farm, Moray and Aberdeenshire, August 2014

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Survey commissioned by Forestry Commission Scotland, Aberdeenshire Forest District
Contract manager, Philippa Murphy

INTRODUCTION

A habitat survey of the vegetation on Waulkmill Farm, Strachan, NO654 934, was carried out on 29th August 2014. The purpose of the survey was to make a habitat map of the farm and identify priority habitats that should be conserved. The survey methodology followed that detailed in "Habitat Survey Method for recording UK Biodiversity Action Plan habitats on land managed by Forest Enterprise Scotland, Draft. Version 4, April 2009".

Waulkmill Farm is situated about 3 miles south of Banchory and west of Strachan village on a hill sloping from the edge of Blackhall Forest at c 250m to Bucharn Cairn at 170m. The area of farm surveyed is 61.3 hectares. The farm is a mixture of arable fields with barley, improved grassland cut for silage or hay and semi-improved and rough grassland. The fields of semi-improved and rough grassland were grazed by cattle and with calves as a single unit on the day of the survey.

A walking route was chosen to obtain clear views of all areas of the farm. Field boundaries were used to split the farm into 23 polygons and 1 sub-polygon. Each polygon was given a number and marked on the Waulkmill outline map provided by Forestry Commission Scotland. Details of the vegetation recorded for each polygon are given in a Microsoft Excel spreadsheet. The outline 1:10,000 map and spreadsheet are provided separately.

VEGETATION SURVEY

Arable: Polygons 3, 4, 5, 11, 7, 8 and 9 were planted with barley. Most fields were planted to near the field edge; marginal neutral grassland was present in some fields.

Grassland: Polygons 1, 2 and 6 are improved grassland with some bracken and gorse around the margins. Polygon 10 had been cut and baled for silage. Polygons 19, 20, 21 and
22 have been reseeded with a rye grass mix; these fields all have considerable amounts of
bracken around their edges which form a dense fringe. Polygons 14, 17 and 18 are neutral grassland with rushes and large areas of damp grassland dominated by *Deschampsia cespitosa*, all grazed as one unit by cows with young calves. These fields are open to polygon 16 which is an area of dense bracken and gorse.

Neutral grassland is dominant in polygon 12, a track leading to barley fields (Polygons 3, 4, 5, 7 and 8).

Woodland: Polygons 15 and 1a are scrub woodland of hawthorn, elder and rowan with bracken, beside the road into the water treatment plant. There are a number of gean trees (*Prunus avium*) with hawthorn along the track at the edge of polygon 6. Polygon 13 is broadleaved woodland, ash, gean and rowan with gorse, broom and bracken.

Field boundaries are fenced with the remains of some stone walls. Trees, mainly rowans, occur occasionally along the fence lines.

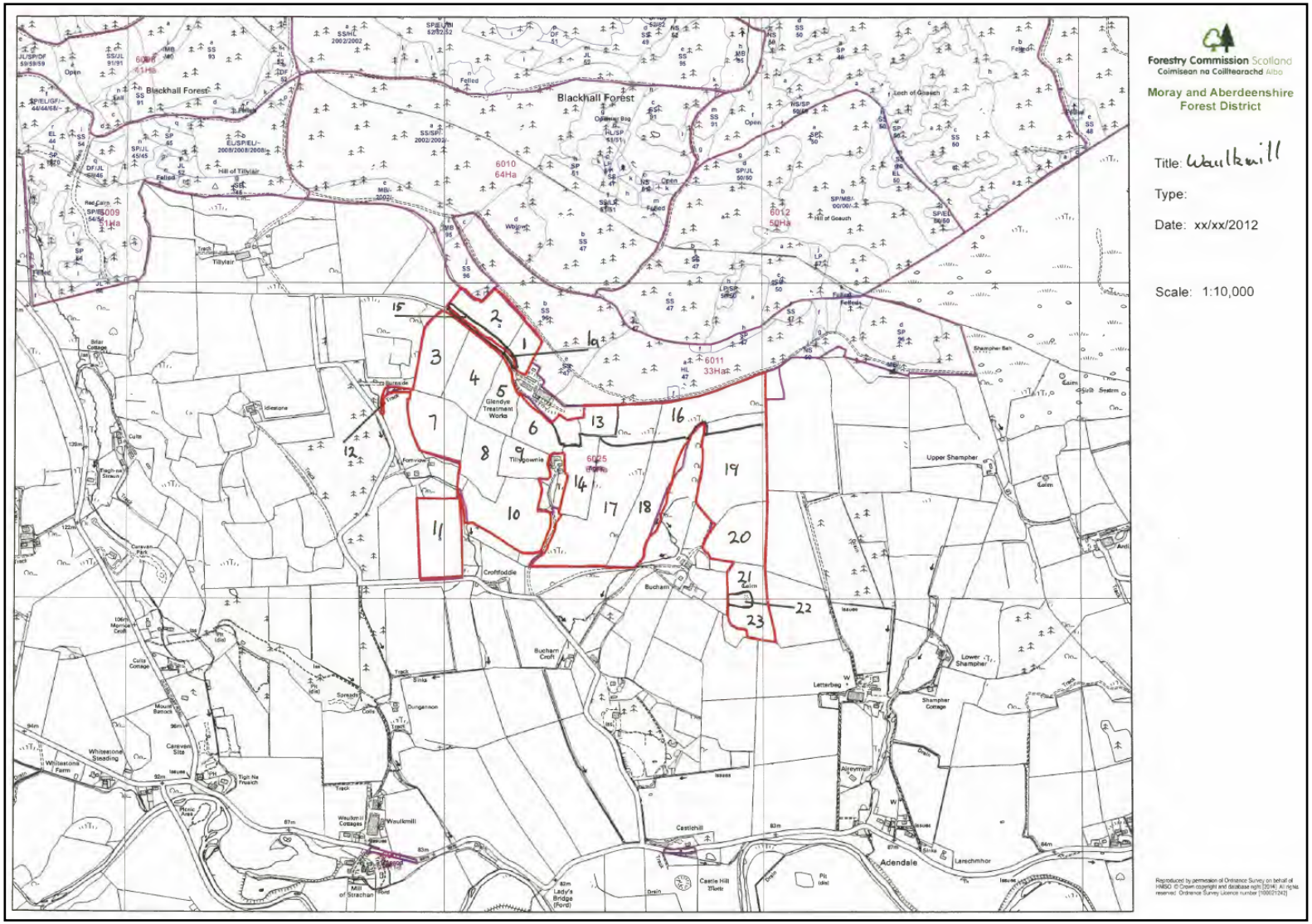
Archaeological sites: Bucharn Cairn in polygon 22 has been a scheduled site since February 2014 (Canmore ID 36205, RCAHMS Site No. NO69SE 3). Six rectangular structures are present in bracken at the NE end of polygon 16; these are probably house foundations, (Canmore ID 186158, RCAHMS Site No. NO69E 56). Stone structures near the southern boundaries of Polygons 17 and 18 may be of historical significance although not listed on the Canmore website.

Priority Habitats on Waulkmill Farm

No priority habitats were recorded at Waulkmill. The rough grassland in polygons 17 and 18 are probably the most interesting botanically. Marshy areas should be conserved in these fields or planted sparsely with willow and alder. Several sites of historical interest are present on the farm, polygons 16, 22, and possible sites in 17 & 18.

Recommendations

- Areas of archaeological interest should not be planted (parts of Polygons 16, 18 and 17, none of 22).
- Wetter grasslands and drainage areas should be left unplanted or only planted with a few alder and willow species (Polygons 17, 18).


Blackhall Forest
Blackhall Forest
6010
64Ha
6011
33Ha
6012
50Ha
6009
51Ha
6025
Forestry Commission Scotland
Coimisean na Coilltearachd Alba
Moray and Aberdeenshire
Forest District
Title: Waulkmill
Type:
Date: xx/xx/2012
Scale: 1:10,000

Appendix 3 – Tolerance table

	Adjustment to Felling period	Adjustment to felling coupe boundaries	Timing of restocking	Change to species	Changes to roadlines	Designed open space	Windblow Clearance
FC Approval not normally required	Fell date can be moved within 5 year period and between phase 1 and phase 2 felling periods where separation or other constraints are met	Up to 10 % of coupe area	Normally up to 2 planting seasons after felling. Where hylobius levels are high up to four planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised.	Change within species group e.g. conifers, broadleaves.		Increase by up to 5% of coupe area	
Approval by exchange of letters and map		Up to 15 % of coupe area	Between 2 and 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised.		Additional felling of trees not agreed in plan Departures of more than 60m in either direction from centre line of road.	Increase by up to 10%. Any reduction in open ground within coupe area.	Up to 5 ha
Approval by formal plan amendment may be required	Advanced felling (phase 3 or beyond) into current or 2nd 5 year period	More than 15% of coupe area	More than 5 planting seasons after felling subject to the wider forest and habitat structure not being significantly compromised.	Change from specified native species. Change between species group.	As above depending on sensitivity.	More than 10% of coupe area. Colonisation of open areas agreed as critical.	More than 5 ha

Appendix 4 – Consultation record

Consultee	Date contacted	Date response received	Issue raised	Forest District response
Aberdeenshire council	24 April 2017 25 Jan 2018	No response to date		
RSPB	24 April 2017 25 Jan 2018	4 April 2018 Meeting on site	"I would just like to confirm that after seeing the current vegetation and location of the rough grassland fields (polygons 17 and 18 in the Land Management Plan), it is unlikely that they would hold a significant population of breeding waders. As stated in my response dated 23rd February 2018, I am still of the view that these particular fields would provide a greater biodiversity benefit if the recommendations from the vegetation survey were implemented and the wetland and marshy areas in this field were left unplanted or planted sparsely with native broadleaf species."	The district agrees that biodiversity could be increased in the area highlighted but at the expense of lost planting ground. As productivity is the primary objective along with wanting to reach the governments targets for new planting area we will not take this option forward for this plan.
SEPA	24 April	19 Feb	"The plan should … not have any impact on	

	2017 25 Jan 2018	2018	the downstream waterbody as long as the UK Forestry Standard Guidelines are followed."	
SNH	24 April 2017 25 Jan 2018	26 Jan 2018	"In the section 2.3 'Biodiversity and environmental designations' it would be worth noting that the site is within the catchment of the River Dee Special Area of Conservation. Compliance with the UKFS requirements for forests and water will ensure management protects the interests of the River Dee SAC."	Plan has been updated to reflect that the site is within the river Dee SAC catchment.
SGRPID	24 April 2017 25 Jan 2018	31 Jan 2018	"…we have no comment to make regarding the new planting site at Tillygownie."	
Scottish tenants farmers association	24 April 2017 25 Jan 2018	No response to date		
NFU Scotland	24 April 2017 25 Jan 2018	5 April 2018 Meeting at Durris office.	Requested not to plant the better quality ground and investigate the possibility of undertaking a land exchange with a local farmer.	The proposed land exchange was investigated soon after the site was originally purchased and found not to provide ground as suitable for new planting opportunities. A further new request for a land exchange was requested by the NFUS which only lead back to the original investigations. As no new options were being put forward there was benefit to FES

				to pursue this further.
SSE	24 April 2017	25 July 2017	Your management plan suggests that the area surrounding the majority of the overhead powerlines will be Douglas fir. As this may require silvicultural management in the future including thinning and clear felling, we would welcome the opportunity to reduce the future 'red zone' constraint as much as practically possible. You have already included open ground to partially reduce the risk, and if there was any leeway to include native shrub species as a further buffer to reduce the future 'red zone', this would also be greatly appreciated.	Due to the quality of the ground we do not want to lose additional area to production. Therefore planted native broadleaves would be managed productively. This would mean we would still need to access the red zone for management operations. Therefore we would intend to go with the commercial conifers (Douglas fir) as they are going to give us a better return on our investment.
Scottish water	24 April 2017 25 Jan 2018	No response to date		
Historic environment Scotland – Nicki Hall	24 April 2017 25 Jan 2018	21 Feb 2018	"The Forests and Historic Environment: UK Forestry Standard Guidelines (2011) advocates, the *minimum* buffer for this is 20m from the edge of the scheduled area. We very much welcome the commitment in the plan to create an open area around the monument in order to allow its setting to be better appreciated. In this case, the monument is a Bronze Age burial cairn which is situated on a ridge at about 170 OD, and as such, its relationship within its wider landscape is crucial to our understanding,	We will maintain a 35m open ground buffer around the scheduled monument, rather than the 20m required as a minimum. This enlarged buffer will help to maintain the views both to and from the monument.

			appreciation and experience of the monument. In particular, views both from and towards the monument are important parts of its setting. In light of this, we would therefore encourage you to consider opening up these views to enhance the setting of the monument."	
Feughdee west community council	24 April 2017 25 Jan 2018	31 March 2018	"...at last weeks Community Council Meeting someone asked if it would be possible to create a path to the burial cairn/ ancient monument?"	There will be informal access to the scheduled monument across the site but there are no plans to create any formal access provisions.
CONFOR	24 April 2017 25 Jan 2018	No response to date		
Tenant farmer	24 April 2017 25 Jan 2018	No response to date		
Neighbours	24 April 2017 25 Jan 2018	Various	Concerns about water supply points and pipelines.	The district consulted Dr T R Nisbet, Head of Physical Environment Research Group to ensure that the final planting proposals are unlikely to significantly affect the yield of the private water supply while its quality can be expected to markedly improve. The proposed planting layout has been

			Planting to the immediate west of neighbouring properties and erection of deer fence adjacent to neighbouring properties. Continuing access to Blackhall and additional vehicle access to site for recreation. Details of planting schedule and site access for planting.	changed to address the concerns over planting and deer fence erection adjacent to neighbouring properties. There will be an informal access retained across the site to allow access to Blackhall. However this will not be promoted and should not create additional vehicle access to the site. Currently the planting is planned for 2020/21 as part of the national new planting programme. Access for planting activities will use the current access points but we will take account of where this could impact on third party access.
Local residents	24 April 2017 25 Jan 2018	Various	Design of planting and retaining open character of landscape. Access through the site to Blackhall for horse riders.	The area was purchase with the intention of helping to achieve the Scottish Government targets to increase woodland cover and to produce timber. The final planting plan has attempt to achieve these objectives while taking into account the local landscape. An informal route has been included in the plan. This will be grass path left unplanted within the crop.

Appendix 5 – Private water supply report

Assessment of Potential Impact of Proposed Woodland Creation on Private Water Supply at Tillygownie, Banchory

This assessment considers the potential impact of proposed woodland creation at Tillygownie, Banchory on a local private water supply. Concern has been raised by residents that the tree planting will reduce the water yield of the supply potentially leading to future water shortages. The following draws on scientific understanding of the water use by trees and local information (including photographs) on the nature of the site and private water supply. The supply is groundwater fed and serves two properties.

The Tillygownie Private Water Supply

The water supply is located in the middle section of a moderately sloping hillside at NO 651933. It comprises a rectangular, breeze block/concrete tank with a plastic cover. Water inflow is via a small diameter metal pipe entering at a point near the top of the upslope side of the tank. The tank sits in the centre of a fenced grass enclosure within a grass field. There appears to be no obvious surface flow or seepage of water immediately above or below the fenced enclosure indicating that the source of the piped water is further upslope.

The source of the water is believed to be shallow groundwater emerging at the top edge of the field. The ground here is saturated with visible surface seepage and some rush vegetation. The water is collected in a shallow ditch that runs along the base of a walled embankment. There was no evidence of surface of groundwater flow within the field above the embankment or surface water flowing into the ditch from either side of the field. It is thought that the water pipe entering the tank leads to the shallow ditch and possibly draws water from a gravel sump fed by the emerging groundwater. This is supported by anecdote that the supply becomes easily discoloured when cattle congregate along the edge of the walled embankment and ditch.

Soils on the hillslope are mapped as humus iron podzols, brown forest soils and gleys overlying glacial till or shallow drift derived from schists or granites. They are mainly freely draining apart from in wetter areas on concave lower slopes and surface depressions where gley soils dominate. The underlying till can generate shallow groundwater flows, especially

where sandier horizons and gravel interbeds outcrop above the low permeability, underlying schist and granite bedrock.

The small volume of the seepage water and nature of the soils, geology and topography suggests that the water supply is mainly derived from shallow groundwater draining from a relatively localised, superficial deposit of till, possibly outcropping at the lower edge of the embankment. It is difficult to define the precise extent of the till contributing water to the supply but the presence of a break in slope along the upslope edge of the field above indicates a possible boundary.

No information is available on the reliability of the water supply but its small size and shallow nature suggests that it could be limited at times.

Impact of woodland creation on the yield of the private water supply

Trees, especially conifers, have the potential to evaporate more water than grass and therefore reduce the volume of water available for local supplies. The Forestry Commission Information Note 'Water use by trees' explains that this is mainly due to the ability of tree canopies to 'intercept' rainfall, which can reduce the annual yield of water by 15-20% for a complete cover of 'closed-canopy' (typically >15 years old) conifer forest within wet upland areas (Nisbet, 2005). Broadleaved woodland has a much lower water use compared to conifers due to reduced interception loss during the leafless period. As a result, water yield from a broadleaved cover is expected to be similar to or slightly lower than grass (<5% difference), particularly in the uplands with restricted tree growth rates and crown development.

Based on the above, the decision to restrict woodland planting to broadleaved trees in the upslope field, which is believed to form the main source area for the shallow groundwater supply, should ensure that any reduction in water yield caused by land use change is minor/unmeasurable. In addition, the plan to leave unplanted the area immediately above the water tank and along the walled embankment where the groundwater collects should protect the water supply from any direct disturbance by future land management activities on the site.

Impact of woodland creation on water quality

Implementation of the UK Forestry Standard (2017) should ensure that the proposed planting not only protects the quality of the water supply but also enhances it. This reflects the nature and style of planting and the fact that the current agricultural land use is likely to be exerting a much

greater pressure on the supply. For example, animal grazing and sheltering along the walled embankment has already been noted to cause water discolouration and can be expected to generate significant faecal contamination of emerging groundwater, as well some water turbidity. Similarly, existing regular cultivation plus fertiliser and probably pesticide inputs to the field above forming the main source of the supply is likely to lead to chemical contamination. Consequently, the removal of livestock from the lower field and cessation of cropping in the upper field should greatly reduce pollutant inputs, and combined with improving soil conditions under the planted woodland, help to protect and deliver a higher quality water supply. The main risk of an adverse impact will be from ground disturbance caused by any heavy machinery trafficking along the lower edge of the walled embankment or across the buried water pipe in the field below. This can be easily controlled by excluding trafficking within this area.

Overview

To summarise, the nature of the proposed woodland creation in relation to site conditions means that tree planting is unlikely to significantly affect the yield of the private water supply at Tillygownie, while its quality can be expected to markedly improve.

Dr T R Nisbet
Head of Physical Environment Research Group
4th May 2018

References

Forestry Commission, 2017. UK Forestry Standard. Forestry Commission, Edinburgh (225pp).

Nisbet T.R, 2005. Water Use by Trees. Forestry Commission Information Note No. 65. Forestry Commission, Edinburgh (8pp).


View 1
View 2


View 3


View 4


View 5
View 6


View 7
View 8


View 9


View 10