INVERGARRY WOOD

FOREST PLAN

May 2017

BRN 237912

Case Ref: 17FGS14378

Prepared on behalf of Glengarry Community Woodlands Ltd

by

Chris Piper FICFor
C J Piper & Co, Chartered Foresters
Wester Finlarig, Rafford, Forres, Moray IV36 2HL
T: 01309 674374 **M:** 07802 833263
E: chrispiper@supanet.com

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INTRODUCTION

INTRODUCTION

This is the Forest Plan for **Invergarry Wood, Glengarry, Inverness-shire**, a former National Forest Estate woodland managed by Forestry Commission Scotland and sold in 2015 to Glengarry Community Woodlands Ltd through the National Forest Land Scheme.

The Plan provides a strategic framework for the next 20 years of management of the woodland by Glengarry Community Woodlands Ltd (GCWL) on behalf of the local community. It brings together the GCWL's vision, management objectives, silvicultural prescriptions, environmental, community and landscape factors into a comprehensive plan that aims to deliver long-term benefits through sustainable forest management.

The Plan's content and structure are aligned with the Scottish Government's Applicant's Guidance for Long Term Forest Plans (FCS 2016).

The Plan provides summary details about the woodlands, the various constraints and opportunities identified before and during the scoping process and that have influenced the content of the Forest Plan prior to final approval by Forestry Commission Scotland, together with future management proposals, prescriptions and a production forecast.

PART A
Description of Invergarry Wood

A.1 Property Details

A.1.1 Property & Scheme

Preparation of the Forest Plan is part funded by the Scotland Rural Development Programme (SRDP) Forestry Grant Scheme and accordingly is the subject of a contract between Scottish Government and Glengarry Community Woodlands Ltd, the case details of which are as follows:

Main Location Code: 455/0221
Business Ref No: 237912 **FIS Ref:** 316904
Case Ref: 17FGS14378

A.1.2 Owner

Invergarry Wood is owned by Glengarry Community Woodlands Ltd for whom the day-to-day contacts and Agent acting on behalf of GCWL are as follows:

Tom Cooper (GCWL Development Officer)
Tel: 01809 501287 Mob: 07946 221791
Email: tom@glengarry.org.uk
Glengarry Community Woodlands Ltd, The Old Forestry Depot
Invergarry PH35 4HG.

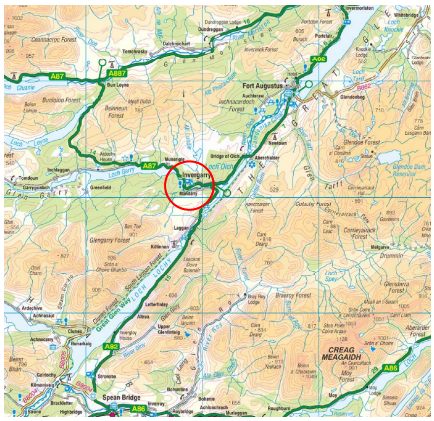
A.1.3 Agent

Chris Piper FICFor
Principal, C J Piper & Co, Chartered Foresters.
Wester Finlarig, Rafford, Forres, Moray IV36 2RU.
Primary contact: Mob: 07802 833263
Secondary contact: 01309 673910
Email: chrispiper@supanet.com / cjpiperandco@gmail.com

A.2 Location and Background

A.2.1 Location

Fig 1 Invergarry Wood – Strategic Location



Invergarry Wood is located approximately 1km west of the village of Glengarry and comprises two blocks dissected by the A87 trunk road, with the main block (25.5ha) lying to the north of the road and a small block of about 4.5ha to the south – see Fig 1 across and Map 1 (appended).

Grid Ref for the main entrance point to the woodland is **NH 28960088**.

A.2.2 Background

Glengarry is a small, widely dispersed community of just over 300 people based mostly in the village of Invergarry on the A87 trunk road at its junction with the A82 Fort William / Inverness road.

Invergarry Wood was purchased from Forestry Commission Scotland by Glengarry Community Woodlands Ltd (GCWL) in December 2015 through the National Forest Land Scheme.

Glengarry village was originally built in Victorian times by the Ellice family as a 'model' village. In 2004 the community replaced the old village hall with a new one sited about 300m to the east of Invergarry Wood, including a café, meeting room, sports assembly room, heritage centre and public toilets.

Although a small community, Invergarry nevertheless has an active core of participants in activities and committees such as the Village Hall Committee and has annual events of high standing including

Highland Games and Craft Fayre. The village has a small primary school which has already been actively involved in discussions about the woodland; however, the village population is generally older with young people leaving the area, partly due to lack of affordable housing but mainly due to lack of employment.

With larger employers such as FCS, Marine Harvest and the Hydro Board having tended to reduce the level of their local employment over recent decades, the village's strategic linkages with the 'Great Glen Way' and location on the tourist route to the west coast and Skye mean the community has become increasingly dependent on tourism as an important source of employment in the area.

A.3 Existing Schemes

The woodland was previously managed on behalf of Scottish Ministers by Forest Enterprise Scotland.

A.4 Scoping & Stakeholder Engagement

Scoping is the process whereby opportunities are given to inform and explain the key aspects of the Forest Plan to relevant stakeholders, take account of their views and where appropriate incorporate adjustments into the Plan that reflect responses to key issues and /or sensitivities that have arisen.

Glengarry Community Woodlands Ltd felt it was most appropriate to carry out the scoping process via a combination of Facebook, email and poster exhibitions in conjunction with two "guided walks" carried out at the woodlands on July 20th 2016 and January 28th 2017.

The outcome of the scoping process, including a list of stakeholders, is contained within the Scoping Report in Appendix I of the Plan.

A.5 Vision, Aims, Management Objectives & Principles

A.5.1 Vision

GCWLtd's vision is that **"Invergarry Wood will be a uniquely welcoming, beautiful and sustainable asset for current and future generations of the Glengarry community and visitors to the area."**

A.5.2 Strategic Aims

These are:

- To promote the woodland as a highly valued environmental and educational asset for all the community and visitors to the area, but particularly for school children and young people.
- To practice sustainable forest management that contributes to climate change mitigation and adaptation.
- To maintain and enhance the biodiversity of the woodlands including an element of restoration of the woodland's native status.
- To develop and achieve the future economic potential from the woodland for the benefit of the community that will lead GCWL away from dependence on external funding towards becoming a sustainable social enterprise.
- To fulfil the potential of the woodland in enhancing the quality of life for the community and visitors through the provision of public access, recreational facilities and other services.

A.5.3 Operational Objectives

Whilst the strategic aims provide the longer-term woodland management "framework", the following operational objectives provide a more tangible basis for management activities to be carried out "on the ground":

- Commence the process of restructuring the currently even-aged age-class of the woodland based on the Forest Plan's 20-year phased felling programme.
- Use the on-going programme of felling and thinning to generate sustainable income from timber production.
- Maintain and enhance the biodiversity and habitat values of the woodland by restoring a proportion of the woodland's native status that does not compromise the woodland's on-going income producing potential.
- Develop a programme of local community firewood production and thereby bring back into management the areas of birch woodland.
- Bring back the birch seed stand into appropriate management.
- Improve and maintain the quality of public access to the woodlands and enhance associated tourism opportunities.
- Develop a well recognised identity for the woodland for the local community (and visitors) through appropriate signage and interpretation.

A.5.4 Management Principles

GCWL will use the following principles as a framework for the future management of Invergarry Wood:

- The woodlands will be managed in accordance with the requirements of the UK Forestry Standard (UKFS)[1] and associated guidelines, and within the general spirit of the UK Woodland Assurance Standard (UKWAS)[2]and /or "Grown in Britain", relevant legislation and forest industry and other relevant good practice guidelines such as the Scottish Outdoor Access Code[3].
- As and when necessary, wildlife management will be carried out in a professional manner in line with relevant legislation and best practice guidelines and in a manner that protects and maintains the biodiversity and ecological integrity of the woodlands. If wildlife control activities are carried out by a third party, this will be by a formal lease or other documented contract with GCWL.
- The owners will promote non-motorised public access to the woodlands, unless such access needs to be temporarily restricted for safety or other reasons due to woodland operations when appropriate signage will be provided.

[1] The UK Forestry Standard (UKFS) is the reference standard for sustainable forest management in the UK and sets out the approach of the UK governments to sustainable forest management, defines standards and requirements, and provides a basis for regulation and monitoring. The UKFS is supported by a series of Guidelines.

[2] UKWAS is a voluntary independent certification standard for verifying sustainable woodland management in the United Kingdom.

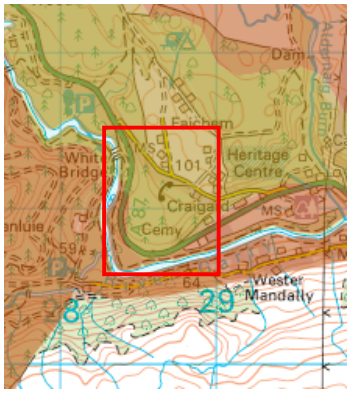
[3] SNH's Scottish Outdoor Access Code sets out public access rights and responsibilities and allows everyone to enjoy a statutory right of responsible access under the Land Reform (Scotland) Act 2003 which covers walking and other activities such as canoeing, horse riding, wild camping and mountain biking.

A.6 General Site Description

A.6.1 Topography, Elevation & Aspect

The northern section of the woodland is generally gently sloping with localised steep areas and bouldary terrain, becoming flatter towards the A87. Elevations above sea level range from approx. 100m at the northern boundary to approx. 60m adjacent the River Garry. Aspect is main south westerly and south easterly.

Fig 2 Invergarry Wood – Soils



A.6.2 Geology and Soils

The underlying geology comprises Pre-Cambrian metamorphic rocks (sedimentary sandstones and mudstones) of the Moine Series.

The section of the wood that lies south of the A87 – about 14% of the total woodland area – is underlain by typical riverside and well drained podzolic soils with pockets of brown earths. The remainder of the wood comprises mostly well-drained brown earths with stony outcrops (see thumbnail extract from the 1:250,000 North Scotland Soils Map of Scotland) capable of supporting a diverse range of productive conifer and broadleaved species.

A.6.3 Climate

The Glengarry area typically has a mean annual rainfall of around 1400mm, with cool winters and warm summers. Sunshine levels are low typically totalling 1044hrs per annum.

A.6.4 Hydrology

Although there are no watercourses within the woodland itself, the southern section of the woodland is bounded to the south by a highly scenic section of the River Garry, which attracts significant recreational use for canoeing / kayaking.

A.6.5 Windthrow

Although there are some pockets of windblow in localised poorly drained areas within the northernmost part of the woodland in the stands of Douglas fir (see also Section A.8.1), the windthrow hazard across the site is generally low and should not pose a significant constraint on future management.

A.6.6 Adjacent Land Use

Adjacent land use is mainly agricultural in mixture with commercial conifer forestry. There is currently no felling within adjacent woodlands that impact on the Invergarry Wood felling plans.

A.6.7 Access

For management and forest operations purposes, ground conditions and access, particularly with regard to future timber harvesting and other woodland operations, are challenging in places due to rockiness and some steep slopes.

The Scottish Hydro overhead power line “wayleaves”, although intruding somewhat on the visual attractiveness and integrity of the woodland because of their linear shapes, do nonetheless provide some key access routes, possibly for future timber extraction, as well as possibilities for reshaping them when planning the felling and replanting of adjacent stands.

For public access and recreation there is at present a significant “discontinuity” between the main woodland block to the north of the A87 and the smaller southern block to the south in terms of use by the local community and visitors for access and recreation.

In the northern block there is currently no formal access provision or path network – although there is ample scope for it. Also with the inclusion in the GCWL’s purchase of the former Forestry Commission “depot”, there are potential opportunities for developing this area as a “hub” (with scope for parking) for future access and recreational activities.

In contrast the southern block is bounded along its western edge by the core path running adjacent to a highly scenic section of the River Garry, which is well used and ideally suited for walkers. There is also scope for improving connectivity with the walking routes in the adjoining Forestry Commission woodlands.

A.6.8 Historic Environment

Invergarry Wood is located within a landscape of outstanding beauty and a rich local history. Invergarry village is situated at the foot of Glengarry on the main route between Fort William and Inverness through the Great Glen, with nearby Loch Oich, Loch Garry and the Glengarry Forest being among the natural attractions of the area together with the close proximity of the Great Glen Way walking and the Great Glen Cycle routes.

Whilst there are no listed sites of importance within Invergarry Wood itself, there are historically important abandoned crofting townships in the locality including Daingean near Invergarry.

A.6.9 Biodiversity

A study of the Forestry Commission Scotland Land Information Search for the property did not identify any formally designated features that may potentially be affected by future woodland management operations. However, the majority of the woodland is recorded in the recent Native Woodland Survey of Scotland (NWSS) as being of former native or near native or PAWs status - see Figs 2a and 2b below and Section A.7.3 for more detailed descriptions.

Despite its even-aged structure, Invergarry Wood has potential for enhanced biodiversity and habitat values, emanating both from the current diverse mix of conifer and broadleaved species, from future PAWs restoration and through other progressive restructuring and further diversification of species. In the Scots pine and larch stands that have been thinned in the past there is a well-developed ground flora indicative of the former (and/ or remnants of) the native upland oak-birch woodland.

Over the next 20 years the combination of small-scale clearfelling and LISS will begin to provide a more varied age class and associated habitats as well as the opportunity to restore a proportion of the woodland back to native species woodland.

Both red and roe deer are present in the woodland although (anecdotally) in relatively small numbers, together with red squirrels, badgers and pine marten.

A.6.10 Invasive Species

A partly successful rhododendron removal programme was carried out by FES within the southern woodland block during the past few years and there is currently a collaborative control project with adjacent land owners to help eradicate rhododendron in the Glengarry area.

There are also potential threats from other invasive vegetation species such as Gaultheria, Japanese knotweed and Himalayan balsam. Invasive animals such as feral pigs and mink are also known to be present in the locality.

A.7 Woodland Description

A.7.1 Crop Types

Table 1 Invergarry Wood – Summary Areas

Item	Area (ha)	%
Stocked woodland	27.69	90
Wayleaves	2.36	8
Other open ground	0.25	1
Depot area	0.17	1
Total Woodland Area	**30.47**	**100**

The make up of the property is summarised in Table 1 below, showing that over 90% of the area containing within the NFLS application area is stocked (i.e standing trees) woodland, with the balance comprising the two Scottish Hydro (SSE) wayleaves that traverse almost the centre of the woodland from north east to south west and also across the north west corner, plus some other open ground and the former Forest Enterprise Scotland "Depot" area.

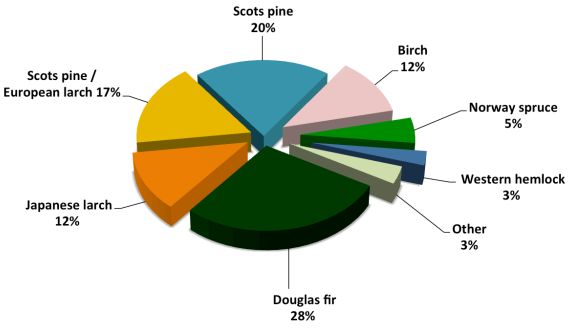
Invergarry Wood is a relatively small woodland (27.69 hectares stocked area) currently characterised by the predominance of even-aged, commercial conifers with some steep slopes and often rocky ground conditions.

However, the mix of species present, together with some areas of birch (including an area that has in the past been formally registered as a seed stand), and its location close - and in part directly adjacent to - the River Garry nonetheless provide the woodland with an innate attractiveness, diversity and potential amenity value that contrasts it with many of the much larger scale, single species commercial plantations found elsewhere in the area.

Although the woodland has received relatively low levels of management input over recent years, probably on account of its small scale in a National Forest Estate context, there are now significant volumes of standing timber which provide a new owner with opportunities not only to generate immediate income from the harvesting of some of the mature or over mature stands, but also to begin the longer term process of restructuring the woodland with a view to providing more diversity in terms of future woodland type.

A.7.2 Species and Age-Class

Fig 1 Invergarry Wood – Existing Species Distribution



The majority of the woodland comprises high forest conifers with some scattered areas of high forest birch with the exception of the birch in the southern block which is mainly of coppice origin. The dominant conifer species are Scots pine (20%) and Douglas fir (28%), with other areas of Scots pine and European larch mixtures, Japanese larch, Norway spruce and western hemlock – see Fig 1 and Map 2 (appended).

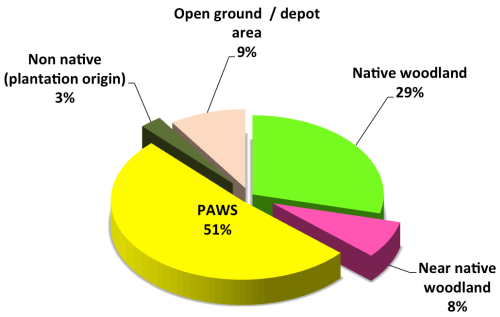
The woodland is of uniform age - FCS records indicating that the entire woodland was planted in 1956. At aged 60 years old, most stands are either now approaching maturity or over mature albeit with growth variation between species.

A.7.3 Native Woodland Status

The majority of the woodland is recorded in the recent Native Woodland Survey of Scotland (NWSS) as being of former native or near native status - see Figs 2a and 2b below Map 3.

In the NWSS, native woodlands are defined as those where the canopy cover is composed over 50% of native species. "Nearly-native" woodlands are woods where native species can in places make up between 40% and 50% of the canopy - although this is not evidenced by the current predominantly larch / Scots pine mix in this part of Invergarry Wood.

Fig 2a Invergarry Wood – Distribution of Native Woodland
Source: Native Woodland of Scotland Survey (Forestry Commission Scotland)



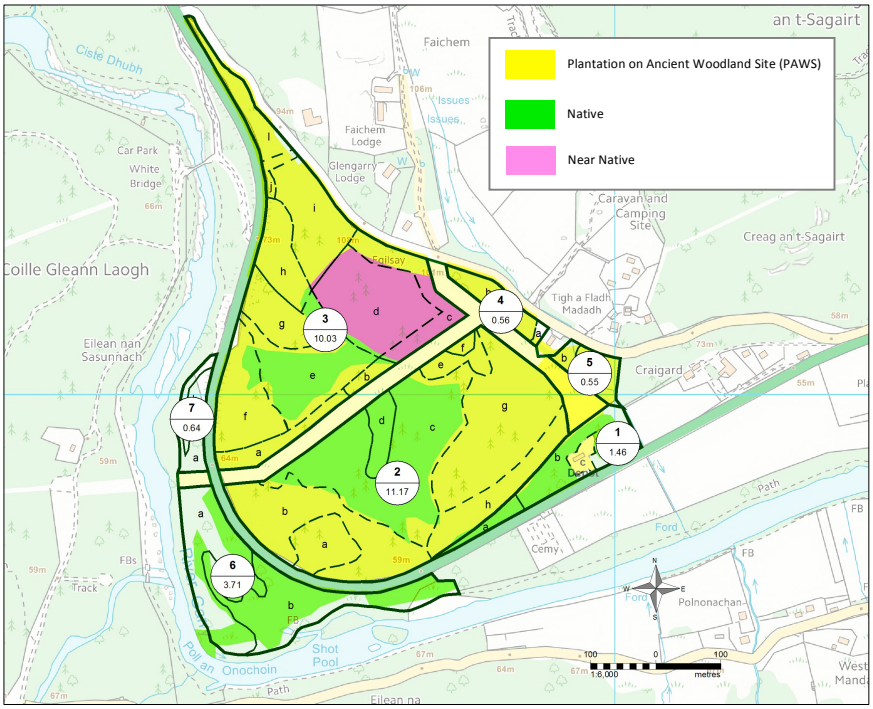
Planted woods on Ancient Woodland Sites (PAWS) are derived from the Scottish Ancient Woodlands Inventory. These woodlands appear to have originated through natural regeneration sometime before the mid-19th century, but were later converted to planted woods, typically commercial conifers – as in the case of Invergarry by the Forestry Commission.

Whilst just over 51% of Invergarry Wood comprises PAWs according to the NWSS, a further more detailed PAWS survey of Invergarry Wood was carried out early in 2016 under the auspices of the Woodland Trust's HLF-funded PAWS Assessment Project.

In summary this survey identified the whole of Invergarry Wood as being ancient woodland type 2a of semi natural origin based on the Ancient Woodland Inventory.

The outputs of this Report are referred to in more detail in Parts B, C and D of this Plan and the full report appended at Appendix IV.

Fig 2b Invergarry Wood – Distribution of Native Woodland
Source: Native Woodland of Scotland Survey (Forestry Commission Scotland)



A.7.4 Standing Crop Survey

A detailed site survey of Invergarry Wood carried out in early 2015 provides the basis for assessing the constraints and opportunities, future management options and financial implications for community ownership.

The survey involved taking measurements in over 70 individual 0.01 or 0.02ha sample plots throughout the woodland of various crop parameters including species, yield class, average tree size and standing timber volumes, and species distributions as well as an overall visual assessment of the woodland location, condition, terrain, and any other relevant features.

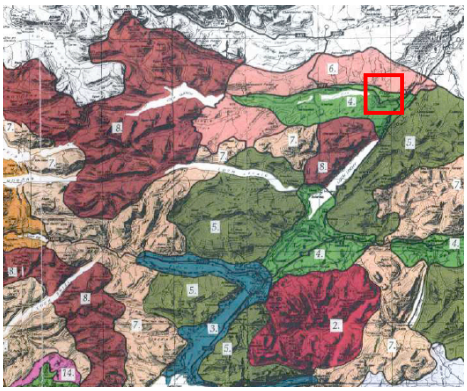
A summary of the key crop parameters is provided in Table 2 over. The full survey sample plot data is provided in Appendix II and a compartment schedule in Appendix III.

Table 2 Invergarry Wood – Summary Crop Survey Data

Crop Type	Species	Area (ha)	Top Ht (m)	Yield Class Range	Vol/tree (m^3)	Vol/ha (m^3)	Total Vol (m^3)
Conifers	DF	7.44	30.0	10-16	0.75	600	4,164
Conifers	Japanese larch	3.31	24.0	10	0.62	475	1,572
Conifers	Scots pine / European larch	4.64	22.0	10-12	0.5	255	1,183
Conifers	Scots pine	5.55	21.0	10-14	0.34	342	1,907
Conifers	Norway spruce	1.43	24.0	10-12	0.44	365	522
Conifers	Western hemlock	0.79	26.5	14	0.7	420	332
Mixed Con / BLV	Birch / Spruce / SP	1.29	16	4-12	0.2	150	195
Broadleaves	Birch	0.96	19.0	2-4	0.3	101	212
Broadleaves / Coppice	Birch	2.28	19.0	2-4	0.19	90	228
Totals		**27.69**					**10,315**

A.7.5 Landscape Character

Extract from the Lochaber District Character Types



In the Lochaber Landscape Assessment (SNH 998), the landscape type in which Invergarry Wood itself is located is categorised as "broad forested straths" with "rocky moorland" taking over immediately to the north.

The broad forested straths are characterised by their rolling relief and sculptured glacial landforms within a large scale mosaic of forested ridges, rolling pastures and heather moorland, but dominated by swathes of commercial forestry, typically lying adjacent to strong communication and service corridors, notably the A87 which dissects Invergarry Wood. The lochs, rivers or canals on glen floor have in places been engineered or substantially altered by man.

A.8 Tree Health

Tree health, together with the possible impacts of climate change generally, are currently major issues in UK forestry with a number of particularly destructive diseases at the forefront in Scotland and that are influencing woodland management options – notably, ash dieback (*Chalara fraxinea*)[1], *Dothistroma* needle blight (DNB)[2] affecting pine and *Phytophthora ramorum*[3] (affecting larches).

While there is currently no evidence of these diseases being present in Invergarry Wood, and the risk of DNB and Phytophthora is currently low, future occurrence is a potential issue and will require on-going vigilance.

Trees found to be infected with Phytopthora will be subject to a Statutory Plant Health Notice(s) issued by the Forestry Commission that normally requires immediate felling. However, there is provision for funding assistance for such felling (and replanting as appropriate) through the Scottish Government's Scotland Rural Development Programme (2014-2020).

[1] http://www.forestry.gov.uk/chalara

[2] http://www.forestry.gov.uk/dothistromaneedleblight

[3] http://www.forestry.gov.uk/pramorum

PART B
Analysis of Information

B.1 Constraints and Opportunities

B1.1 Key Woodland Features

In summary the key features of the woodland that are likely to influence its future management include:

- Visually attractive woodland despite predominance of commercial conifers, but enhanced by the variety of species.
- Standing crops are of varying quality and productivity.
- Status of most of the woodland as being formerly native woodland, now PAWS, of varying quality with scope for some future restoration.
- Woodland is even aged and although the standing crops are at varying stages of maturity, some are now over-mature and ready for felling.
- Some steep slopes and other difficult terrain for forest management operations such as timber harvesting.
- Areas of birch woodland lend themselves to local community-led fuelwood / craft wood (e.g. turnery) activities.
- The route of the core path coincides with the westernmost boundary of the woodland.
- There is little or no formalised public access within the main block of woodland
- Deer are present and a potential threat to future replanting objectives.
- Presence of a formerly registered birch seed stand.
- Stands of larch are potentially at risk of becoming infected with *Phytophthora ramorum*.

B.1.2 Constraints and Opportunities

In conjunction with the above features are a number of key constraints and opportunities that are likely to influence achievement of the future vision and management objectives of the GCWLtd in bringing Invergarry Wood into community ownership.

These are summarised in Table 3 overleaf.

B.1.3 Concept Plan

The spatial response to the constraints and opportunities is illustrated in Map 2 (appended) in the form of a “Concept Plan”. This forms the basis of the “scoping” process whereby the local community and other important stakeholders have been consulted and given the opportunity to engage in the shaping of the Forest Plan.

B.1.4 Environmental / Visual Impact

The survey analysis, issues and constraints and subsequent scoping process have all pointed towards net environmental benefits arising from the Forest Plan’s objectives and operational proposals, principally in terms of their contribution to PAWs restoration and initiation of a gradual restructuring process that will contribute strongly towards future resilience and biodiversity / habitat values.

The planned small scale felling coupes are almost completely separated by at least one 5-year felling phase (see Map 4 appended) and are not considered to have any negative visual impacts. It was therefore not considered necessary to include a visual analysis in the Plan.

Table 3 Invergarry Wood – Constraints & Opportunities

Factor	Constraint	Opportunity
Native Woodland Status	The majority of the woodland comprises Plantations on Ancient Woodland (PAWS)	Opportunity to progressively manage an appropriate proportion of the woodland to restore a more native condition.
Age-Class	The woodland's uniform age and general crop maturity the need to consider early woodland management intervention.	Begin the process of restructuring the woodland to provide a more diverse age range and ultimately more attractive woodland Opportunity for early income generation from an initial phase of felling. Begin the process of introducing a greater range of species and possibly – over the longer term - woodland types, reflecting the GCWLtd's stated aspiration to move towards an appropriate proportion of restored native woodland. (see PAWS above) Opportunity to retain some areas of the woodland using low impact silvicultural systems (LISS) - i.e. avoiding "clear felling"- to maintain significant areas as "permanent" woodland, particularly where most publicly visible.
Public Access	Facilities for public access to the main block of woodland are currently underdeveloped constraining public and community usage / enjoyment.	Improve access to better facilitate a range of future activities (although significant funding would be required to introduce and maintain paths etc.). Variation in terrain in the northern block would make the woodland ideally suited to "entry level;" mountain bike trails.
Use of Depot Area	Restrictions on use of depot – e.g. with regard to waste water management; high capital costs of a major change of usage, and the proximity of the Glengarry Hall and potential conflict with other village aspirations and activities.	Develop the former FCS Depot and surrounding area as a "gateway" or "hub" for future woodland-based (and also linked to the river) recreational activities (trails, biking, rope courses, canoeing etc.), and possibly car parking for woodland users generally. Develop synergy between the GCWT and the Community Hall.
Deer Management	The management of deer is an issue particularly with respect to future re-stocking proposals.	Strive to manage deer to fulfil the GCWL's vision and management objectives. Work with deer management groups and adjacent landowners as appropriate to maintain good relations and ensure that their views and objectives are taken into account.
Timber Transport	Access for timber haulage fro the north of the woodland is constrained by the minor public road leading to Faichem.	Use of this road for timber haulage will require a timber traffic plan and consultation with the Local Authority and neighbours.
Invasive vegetation / animals	Vegetation types include rhododendron Japanese knotweed and Himalayan balsam. Animals include feral pigs and mink.	Continue to control / eradicate invasive plant species. Liaise with neighbours (eg FES) with regard to monitoring of the impact of feral pigs and mink on habitats in Glengarry.
Recreation potential	Separation of the two blocks of woodland by the A87.	Use different management regimes to suit different objectives particularly with regard to type of recreation. Less intensive management such as low intensity silvicultural systems (see above) could be used in conjunction with objectives for enhancing the amenity value and quieter recreation adjacent to the river and the core path, whilst more "conventional" forest management could take place in the larger, more "absorbent" block in the pursuit of longer term restructuring objectives.

PART C
Management Proposals

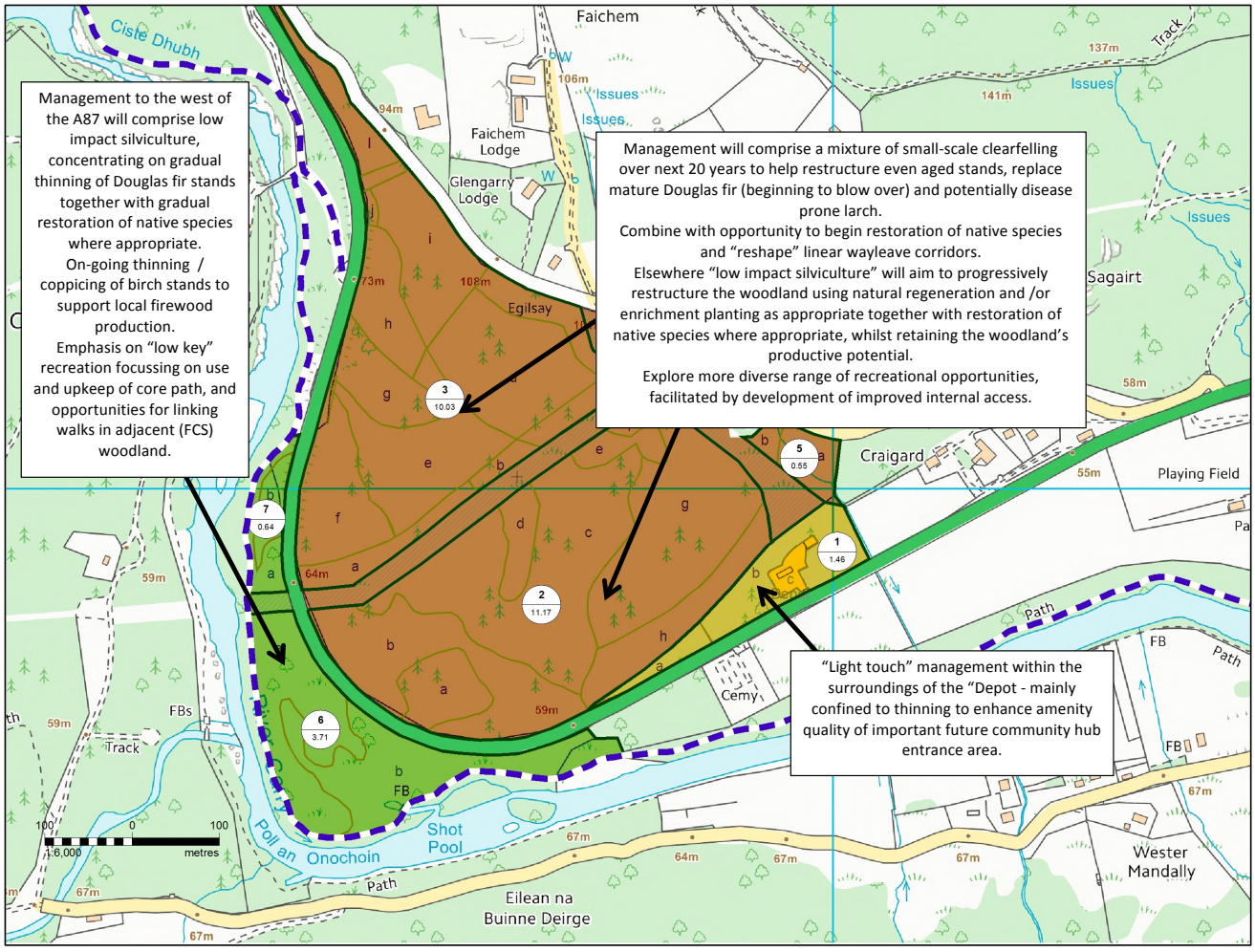
C.1 Management Strategy and Proposals

C.1.1 Management Strategy

The overall management strategy for Invergarry Wood comprises a mixture of elements that - over the nearer and longer terms - will together will deliver the GCW Ltd's vision and strategic aims as well as taking account of the constraints and opportunities already identified.

These key elements have a spatial dimension - different management approaches being adopted for different parts of the woodland (see Fig 3 below) - combined with more technical forest management and silvicultural aspects which are dealt with in C.1.2 below.

Fig 3 Invergarry Wood – Overall Management Strategy



Management of the blocks (Cpts 6 & 7) to the **west of the A87** will comprise principally low impact silviculture, concentrating on gradual thinning of Douglas fir stands in conjunction with gradual restoration of native species where appropriate.

The birch stands will be managed by on-going thinning / coppicing to support local firewood production.

The emphasis for provision of recreational facilities will be on "quiet" pedestrian use focussing on the core path, plus possible opportunities for linking with other walking routes in adjacent (FCS) woodland.

Management of the main block **east of the A87** (Cpts 2,3,4 &5) will comprise a mixture of small-scale clearfelling coupes over the next 20 years to help restructure the existing even-aged stands, replace mature Douglas fir stands (beginning to blow over) and (within first 10 years) the stands of Japanese larch that are potentially prone to infection by *Phytophthora ramorum*. This felling can be combined with opportunity to begin restoration of native species and "reshape" linear wayleave corridors. Larch could be replaced by native broadleaves to begin the process of PAWs restoration (linking with recommendations in the Woodland Trust PAWs Assessment).

Elsewhere in this block "low impact silvicultural systems" (LISS) will aim to progressively restructure the woodland by avoiding clearfelling in favour of increasing intensity of thinning over time in combination with natural regeneration and /or enrichment planting. This also offers opportunities for progressive restoration of native species where appropriate, whilst retaining an appropriate proportion of the woodland's productive potential from softwood timber.

A more diverse range of recreational opportunities can be considered as appropriate, and could be facilitated by development of improved internal access.

"Light touch" management will be carried out within the surroundings of the former Forestry Commission "Depot" area - mainly confined to thinning to enhance amenity quality of what is likely to become a important future community hub entrance area.

C.1.2 Silvicultural Practice

Invergarry Wood is bearing some productive and high quality timber, available for harvesting now and in the longer term, particularly with respect to the Douglas fir, Norway spruce and larch stands. Furthermore the woodland has the ability to continue to grow a diverse range of both broadleaves and conifers with scope to consider restoration of native woodland on some or all of the woodland over the longer term subject to prevailing management priorities and objectives.

However, because the woodland has received low intensity management inputs over the past few decades most of the stands are now significantly overstocked (in terms of density of trees per hectare), which in some cases reduces the possibility of resuming a normal thinning pattern - such as in the unthinned stand of western hemlock - due to increased potential for windblow damage.

Indeed there is already incipient windblow in the Douglas fir stands to the north of the wood which has now reached the point whereby some early felling needs to be considered to prevent loss of value – not only of the timber in economic terms but also of the wider woodland in terms of amenity and environmental values.

There is an opportunity to manage the existing birch woodland for local firewood production (see also C.2.2 below).

C.2 Prescriptions

C.2.1 Felling

Based on the woodland assessment, crop survey data and informed by the constraints and opportunities, proposals for the progressive restructuring of the woodland over the initial a 20-year Forest Plan period are shown Map 4 and Table 4.

The restructuring will comprise a mix of clearfelling and restocking and low impact silvicultural systems (LISS) – see C.2.3 below.

The four clearfelling phases programmed for the next 20 years to 2037 are shown in Table 4 below and Map 4.

Implementation of these phases is subject to other physical factors that might occur during the course of the Forest Plan such as windblow, disease etc. and require them to be adjusted. Where possible the design of felling coupes has followed wind firm edges and/or well defined species boundaries and phases separated by at least one 5 year period to allow re-stocking to take place in accordance with UKFS guidance (see Section A.8).

Table 4 also shows the small scale of clear areas in each phase in the context of the whole woodland will also help reduce the visual impact of the felling although much of the felling will not be particularly visible with the exception of the Phase 1 coupes that are adjacent to the A87. Where there are well established broadleaves with well developed crowns within existing conifer stands, these will be retained to maintain diversity and to help mitigate the visual impact of felling operations.

Within Cpt 3, adjacency of Phases 1 and 2 and 3 and 4 will be addressed through the felling and restocking years. Phase 1 will be felled within the first year of the Plan and felling and restocking in the northernmost Phase 2 area delayed until near the end of Phase 2 to provide 8-9 years of growth for the Douglas fir before the adjacent sub compartment is restocked. Similarly the Phase 3 felling in Cpt 3 will be carried out early and the adjacent Phase 4 area delayed to provide at least 7-8 growth for the Sitka spruce in the Phase 3 area. No adjacent coupes will be felled until 2 metre height separation occurs between adjacent coupes.

All felling operations will follow UKFS Forest and Water Guidelines.

Table 4 Felling

Scale of Proposed Felling Area (including LISS final fell areas)											
Phase 1 (Ha)	**%**	**Phase 2 (Ha)**	**%**	**Phase 3 (Ha)**	**%**	**Phase 4 (Ha)**	**%**	**Long Term Retention (Ha)**	**%**	**(LISS) Area outwith 20yr Plan Period**	**%**
2.81	10	3.21	12	2.68	10	4.64	17	0.80	3	13.55	48

C.2.2 Thinning

Although some thinning has been carried out over much of the woodland under previous ownership, many of the stands are now over stocked and would benefit from further thinning.

Whilst there are constraints on thinning such as ground conditions, access for felling and extraction machinery and possible risk of windblow that will have to be taken into account and may restrict thinning possibilities in some areas, for the purposes of the Forest Plan it is assumed that a rolling programme of selective thinning on a 5-7 cycle will be attempted over the majority of Invergarry Wood in conjunction with the felling phases.

Provision has therefore been made for thinning of 46.55ha over the first 10 years of the Plan (24.87ha during Phase 1 and 21.67ha during Phase 2) - see Table 5 opposite and Map 5.

Table 5 Thinning

Species	Thinning Areas Years 1-10 (ha)	
	Phase 1	Phase 2
Bi	3.24	3.24
DF	7.44	6.15
SP	5.55	5.41
SP/L	4.64	4.64
JL	3.31	0.94
NS	0.75	-
Mixed	1.29	1.29
Total	**24.87**	**21.67**

Thinning intensity will be at or below "marginal intensity" - i.e. whereby 70% of mean annual increment (as measured by Yield Class) is removed over the thinning cycle. This intensity may vary at individual stand level where LISS are being adopted, particularly where this is for PAWs purposes where reducing the canopy density may need to be carefully controlled in order to benefit regrowth of certain native species such as old oak coppice - for example using "halo" thinning. The stands of coppice birch in Compartments 6 and 7 to the south of the A87 lend themselves to sustainable, small-scale, community firewood production which would fulfil the need for on-going thinning and also periodic coppicing that will help provide biodiversity as well as local economic benefits from income generation and possibly part time employment.

C2.3 LISS

It is planned to adopt LISS management for almost 50% (13.5ha) of the stocked area of the woodland, although felling of the final LISS area overstorey is not anticipated until after the 20 year Plan period.

LISS will involve gradual / progressive restructuring carried out by varying intensities of thinning followed by natural regeneration and/or artificial restocking without the need to use more traditional clearfelling and replanting. LISS can include a number of different silvicultural techniques ranging from selection to shelterwood systems and will vary from stand to stand according to species, management objectives, ground conditions and other site factors.

The Compartments concerned are 1a, 1b, 2b, 2c, 3b,3f, 3l, 6ab and 7ab, all of which will continue to be selectively thinned over the next 10 years , after which they will be selectively felled in order to create small coupes for regeneration totalling approx. 30-40% of the compartment areas. Compartments being restocking through natural regeneration will be monitored and maintained throughout the establishment phase. Minimum stocking densities will be 2,500 per ha for conifers and 1,600 per ha for broadleaves. Should these densities not be met by year 5, beating up will be carried out to bring the areas concerned up to the minimum required stocking densities. Annual monitoring for natural regeneration will be carried out in each coupe.

C2.4 PAWs Restoration

Whilst PAWS restoration will be an integral element of the woodland restructuring process, its scale will be balanced between the need to ensure the long-term economic sustainability of the community woodland (with on-going income from timber production from at least part of the woodland being an imperative) and the principally environmental objectives of restoration.

PAWS restoration will commence with the replanting of Phase 2 and Phase 3 felling areas with native broadleaves.

Thereafter restoration will be generally focussed on LISS areas and Cpt 2g in Phase 4 (see Map 7). Here gradual thinning over the next 20 years will help reduce shade whilst avoiding complete removal of the canopy and during which time remnant native woodland species will be encouraged to develop using the management principles set out in the HLF / Woodland Trust PAWs Report (see Appendix IV).

C2.5 Restocking

Future restocking will aim to maintain an appropriate balance between retaining the timber-growing productivity of the woodland for future income generation together with part restoration / conversion of the woodland to provide a significantly greater proportion than present of native species. The latter will include Spots pine and native broadleaves (principally oak and birch) to reflect the ancient woodland type previously present here.

The current and proposed future species distribution fits well with UKFS requirements except for open ground which is very low. Currently only the SSE wayleave provides openings within the woodland but these are linear and unnatural. However this provides an opportunity to introduce areas of designed open ground adjacent to the wayleave corridor(s) over time to create more organically shaped edges and the restocking plan incorporates this open ground accordingly. Whilst this only increases the overall area of designed open ground to 4% by Year 20 of the Plan, further open ground will be introduced for later phases with the intention of gradually moving towards the UKFS requirement.

The restocking proposals are shown in Map 7 and in Table 6. Table 7 illustrates the gradual change in distribution of species, including native broadleaves, over the next 20 years.

Table 6 Restocking

Felling Phase	Sub Cpt No	Restocking Species	Restocking Area (ha)
Phase 1	2a	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.68
Phase 1	3g	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.79
Phase 1	3i	DF	1.29
Phase 1	3j	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.05
Phase 2	2d	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.34
Phase 2	2e	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.29
Phase 2	2f	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.09
Phase 2	2h	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	1.01
Phase 2	3a	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.20
Phase 2	3c	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.22
Phase 2	3p	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.44
Phase 2	3q	NBL (SOK 60%, BI 25%, ROW 10%, CH 5% WSH 5%)	0.12
		Total Restocking Area	**5.52**

All compartments will be restocked within 5 years of clearfelling. Stocking densities will be a minimum 2,500 per ha for conifer and 1,600 per ha for broadleaves. Restock compartments will be monitored and maintained throughout the establishment phase, with losses being replaced to maintain the minimum required stocking densities. Seed zone 201/205 will be used for all native stock wherever possible. Should this seed zone not be available an adjacent seed zone will be used and the FCS guidance note followed. Prior to adjacent seed zones or any other seed being used FCS will be consulted to agree what zone should be used.

See Section C.2.3 for LISS restocking proposals.

Table 7 Area by Species

Area by Species						
Species	Current		Year 10		Year 20	
	Area (ha)	%	Area (ha)	%	Area (ha)	%
DF	7.44	24	7.44	24	1.87	6
SP	5.55	18	5.41	18	0	0
SP/L	4.64	15	4.64	15	3.68	12
JL	3.31	11	0.94	3	0	0
NS	1.43	5	0	0	0	0
WH	0.79	3	0	0	0	0
Mixed	1.28	4	1.28	4	1.28	4
BI	3.24	11	3.24	11	0.80	3
SS	0	0	0	0	1.74	6
DF/NS	0	0	0	0	3.50	11
DF/SS	0	0	0	0	1.89	6
DF/SP	0	0	0	0	2.07	7
SP / NBL	0	0	0	0	2.60	9
NBL	0	0	4.01	13	7.2	24
Wayleave / Depot	2.53	8	2.53	8	2.53	8
OG	0.26	1	0.98	3	1.31	4
Totals	**30.47**	**100**	**30.47**	**100**	**30.47**	**100**

C2.6 Protection

As referred to in Section A.6.9 above, there are deer present in the woodland and given the adjacency of Invergarry Wood to other large-scale areas of woodland, on-going movement of deer through the Wood can be expected.

Deer will pose a threat to newly planted / replanted areas and appropriate protection measures will be required. Given the size and topography of the woodland and amount of public access (which can be expected to increase as access provision is enhanced by GCWL), deer management by shooting is unlikely to be an appropriate option. However, GCWL will engage with other local landowners to exchange information and, where appropriate, cooperation in keeping updated and mitigating specific deer management issues.

C2.7 Fencing

Protection against unacceptable levels of deer damage to restocked areas will require either deer fencing or individual tree protection using shelters, as appropriate.

C2.8 Roading

While no forest roads are planned for Inveragrry Wood during the current Plan period, this will be kept under review. In the meantime it is possible that a forwarder track will be created to provide improved harvesting access within the northern section of the wood and to facilitate extraction towards the Depot area and the Faichem Roadfor onward haulage to timber markets directly via the A87 (see Map 6 appended).

A layby and loading area may be constructed adjacent to the Faichem Road to facilitate timber haulage and to mitigate risk of damage to the minor road and disruption to adjacent neighbours, for which work Planning Consent will be obtained. Consultation with neighbours will be carried out at planning stage and prior to construction works and a traffic management plan agreed with the Highland Council prior to any haulage work commencing,

C2.9 Public Access

GCWL welcomes and intends to promote and enhance public access through the community woodland as a key management objective. Pedestrian access within the northern section of Invergarry Wood woodlands is informal whilst the southern block is served by a core path that runs just inside the property.

GCWL will draw up an overall woodland risk assessment at an early stage to establish key potential safety issues - for example, tree health and condition of the mature broadleaves adjacent to the core path and the stands of trees adjacent to the A87.

This assessment would incorporate a programme of regular site safety visits, particularly after significant storm events, (if necessary carried out by an qualified arborist) to update / identify any safety issues / hazards and recommend corrective actions as appropriate.

In the northern block there is ample scope for developing a footpath network and more expansive recreational facilities in due course, together with the potential for the former Forestry Commission depot area as a “hub” for future access and parking.

Appropriate explanatory signage and procedures, as per HSE guidance, will be used during all felling and thinning operations. If any paths need to be closed for safety reasons a detour will be identified if possible, failing which path closure will be kept as brief as possible.

C2.10 Historic Environment

There are no specific items of historic importance within the woodlands. Any veteran or other trees of particular amenity value within the woodland will be protected and retained for as long as possible. If any historic remains are found during woodland operations, UKFS Forest & Historic Environment guidelines will be followed.

C2.11 Biodiversity

The biodiversity and habitat values of Invergarry Wood will be maintained and enhanced through the integration of the phased restructuring programme with LISS, the long retention of the birch seed stand, increased diversity of the conifer restocking species mix, restoration of native broadleaves and gradual increase of open ground

Standing and fallen deadwood will be retained after harvesting operations in line with current UKFS guidelines.

Prior to all felling or thinning operations, site assessments will be undertaken to establish if any protected species - in the case of Invergarry Wood bats, badgers and red squirrels – are present. If present, specific surveys will be done to ensure that breeding / resting sites are not disturbed or damaged, based on the relevant FCS guidance.

C2.12 Tree Health

Routine inspections of the woodland will include visual checks for any general signs of plant health issues, particularly with respect to P.ramorum (See Section A.8 above). Where issues relating to plant health are found, these will be addressed by referring to the relevant guidance.

C2.13 Invasive Species

As described in Section A.6.10 the success of the rhododendron removal programme carried out by FES within the southern woodland block during the past few years will be monitored and follow on control measures carried out as appropriate, including for Gaultheria. There is also the opportunity for GCWLtd to join a proposed collaborative control project involving a number of other adjacent landowners.

C.3 Environmental Impact Assessment and Permitted Development Notifications

The GCWLtd will consider whether internal access infrastructural improvements require to be carried out to facilitate more economic timber extraction. Should forest tracks or roads be considered these will be subject to EIA and / or Prior Notification.

There are no other activities planned within the current Plan period that will require EIA or permitted development notifications.

C.4 Tolerance Table

Table 8 below sets out the "tolerances" proposed for Invergarry Wood in accordance with FCS Forest Plan Applicants' Guidance (2016).

Table 8 Tolerances

	Adjustment to felling period	**Adjustment to felling coupe boundaries**	**Timing of restocking**	**Changes to Restocking species**	**Changes to road lines**	**Designed open ground**	**Windblow Clearance**
FC approval normally not required.	Fell date can be moved within 5 year period where separation or other constraints are met.	Up to 10% of coupe area.	Up to 2 planting seasons after felling.	Change within species group eg evergreen conifers or broadleaves		Increase by up to 5% of coupe area.	
Approval by exchange of letters and map.		Up to 15% of coupe.	Between 2 and 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.	Additional felling of trees not agreed in plan. Departures of > 60m in either direction from centre line of road.	Increase by up to 10%. Any reduction in open ground within coupe area.	Up to 5ha
Approval by formal plan amendment may be required.	Felling delayed into second or later 5-year period. Advance felling 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.			More than 10% of coupe area. Colonisation of open areas agreed as critical.	More than 5ha

PART D
Production Forecast

D.1 Production Forecast

The production forecasts for Invergarry Wood is based on the FCS pro *forma* spreadsheet, an extract of which is shown below.

These forecasts accord with the felling and thinning schedules set out in Tables 4 and 5 and illustrated in Maps 4 and 5.

Coupe Data						Stand data						Restructuring areas by successor crop types (hectares)							Optional stand data						
Coupe Reference	Period 1		Period 2		Planned Felling Year	Species	Planting Year	General Yield Class	WHC	Previously Thinned	Net Area (ha)	Sitka Spruce	Other Conifer	Mixed Broadleaves	Native Broadleaves	Caledonian Scots Pine	Natural Regeneration	Other Land	Compartment, Sub compartment / Stand ID	Component / Crop Element	Spacing at Planting	Stems per Hectare	Mean dbh	Basal Area per Hectare	Year of Assessment
	Fell/Thin Period	Intervention Type	Fell/Thin Period	Intervention Type																					
Invergarry																									
3i	2017-21	Fell			2017	DF	1956	16	2	y	1.34		1.34												
3g	2017-21	Fell			2017	WH	1956	14	2	y	0.79				0.79										
2a	2017-21	Fell			2017	NS	1956	12	2	y	0.68				0.68										
3ac			2022-26	Fell	2022	JL	1956	10	2	y	1.36				1.36										
2edf			2022-26	Fell	2022	NS	1956	12	2	y	0.83				0.83										
2h			2022-26	Fell	2022	JL	1956	10	2	y	1.01				1.01										
1a,b	2017-21	Thin				Bi	1956	4	2	y	1.29														
2b	2017-21	Thin				DF	1956	16	2	y	2.22														
2c	2017-21	Thin				SP	1956	10	2	y	3.67														
2d,e	2017-21	Thin				NS	1956	12	2	y	0.75														
2f	2017-21	Thin				SP	1956	10	2	y	0.09														
2g	2017-21	Thin				SP	1956	10	2	y	2.75														
2h	2017-21	Thin				JL	1956	10	2	y	1.01														
3a	2017-21	Thin				JL	1956	10	2	y	0.50														
3b	2017-21	Thin				Bi	1956	4	2	y	0.16														
3c	2017-21	Thin				JL	1956	10	2	y	0.86														
3d	2017-21	Thin				SP	1956	10	2	y	1.89														
3e	2017-21	Thin				SP	1956	10	2	y	1.74														
3f	2017-21	Thin				DF	1956	16	2	y	1.28														
3h	2017-21	Thin				Bi	1956	4	2	y	0.80														
3i	2017-21	Thin				DF	1956	16	2	y	0.58														
4b	2017-21	Thin				JL	1956	10	2	y	0.51														
5a	2017-21	Thin				JL	1956	10	2	y	0.43														
6a	2017-21	Thin				DF	1956	16	2	y	1.78														
6b	2017-21	Thin				Bi	1956	4	2	y	1.93														
7a	2017-21	Thin				Bi	1956	4	2	y	0.35														
7b	2017-21	Thin				DF	1956	16	2	y	0.29														
1a,b			2022-26	Thin		Bi	1956	4	2	y	1.29														
2b			2022-26	Thin		DF	1956	16	2	y	2.22														
2c			2022-26	Thin		JL	1956	10	2	y	3.67														
2g			2022-26	Thin		SP	1956	10	2	y	2.75														
3b			2022-26	Thin		Bi	1956	4	2	y	0.16														
3d			2022-26	Thin		SP	1956	10	2	y	1.89														
3e			2022-26	Thin		SP	1956	10	2	y	1.74														
3f			2022-26	Thin		DF	1956	16	2	y	1.28														
3h			2022-26	Thin		Bi	1956	4	2	y	0.80														
3i			2022-26	Thin		DF	1956	16	2	y	0.58														
4b			2022-26	Thin		JL	1956	10	2	y	0.51														
5a			2022-26	Thin		JL	1956	10	2	y	0.43														
6a			2022-26	Thin		DF	1956	16	2	y	1.78														
6b			2022-26	Thin		Bi	1956	4	2	y	1.93														
7a			2022-26	Thin		Bi	1956	4	2	y	0.35														
7b			2022-26	Thin		DF	1956	16	2	y	0.29														

MAPS

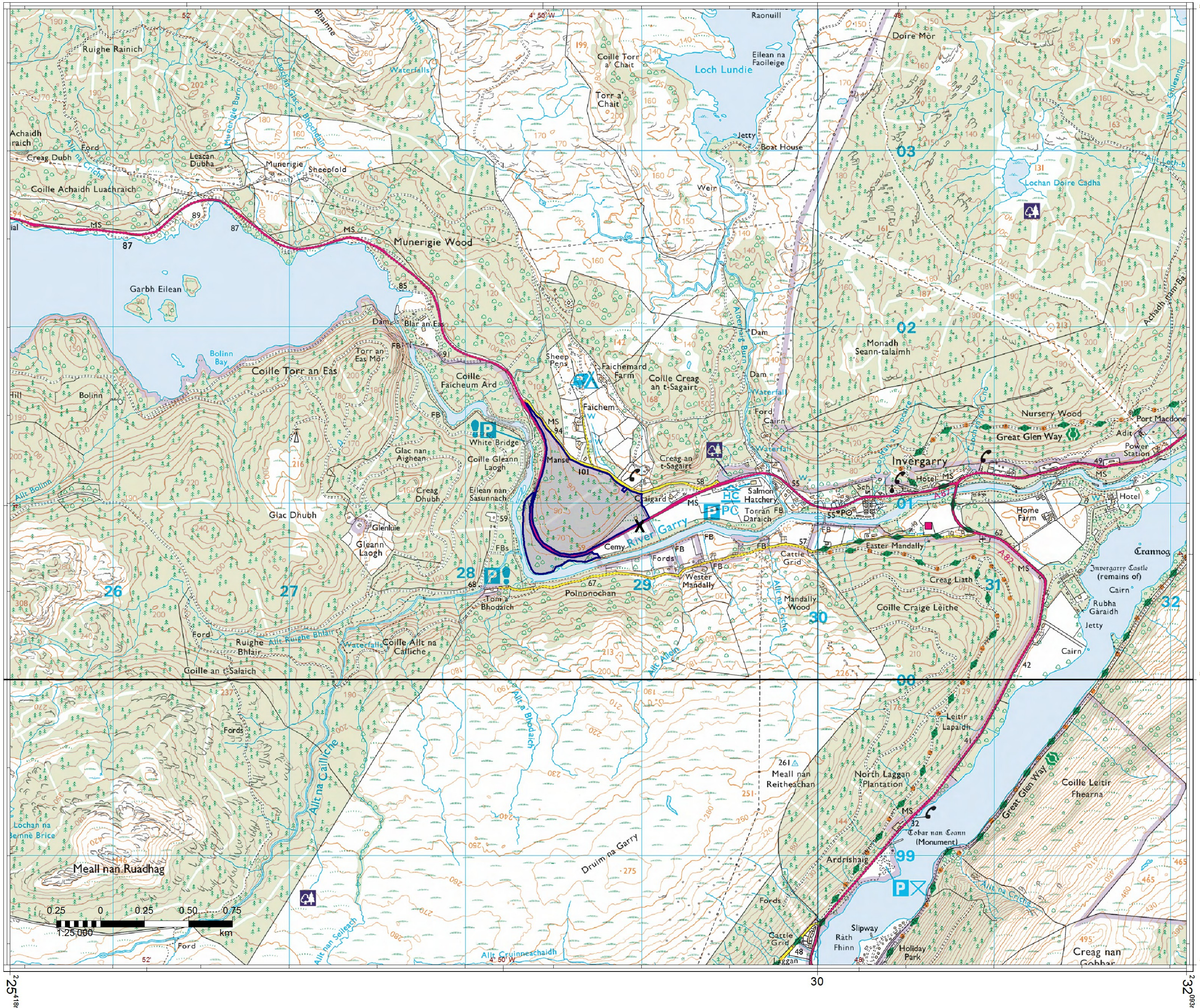
GLENGARR
communit
woodland

INVERGARRY WOO

Forest Pla

BRN: 210515 MLC: [Awaite

Map 1 - Locatic



LEGEND

Total Plan Area – 30.6ha

Forest Plan Boundary

X **NH 28960088** - Main Entry Point

Scale at A3
1:5,000

Map Ref
Inv G Wood FP1 / Location

Date
10/16

chartered foresters
C J PIPER & CO

Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com

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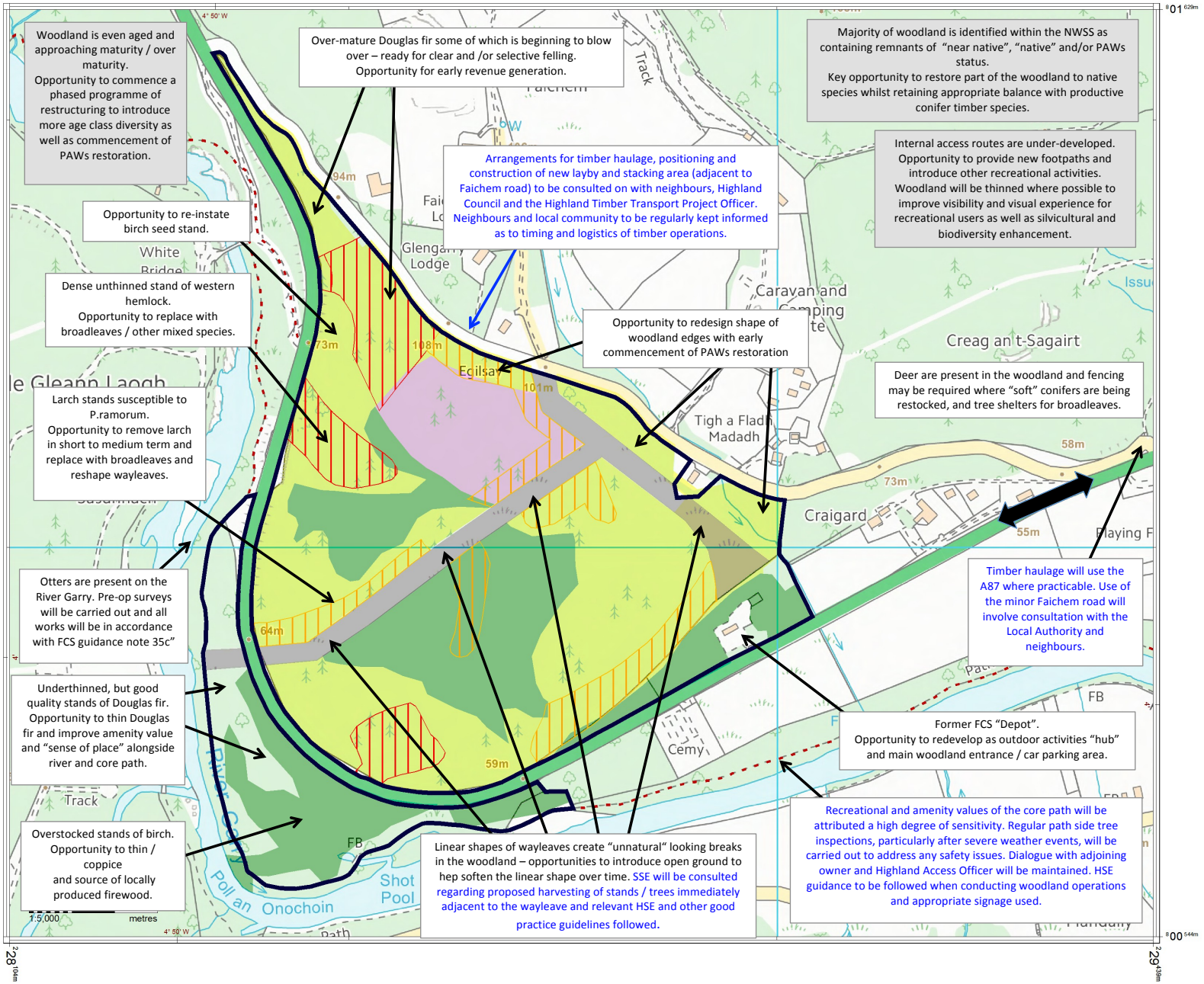


GLENGARRY community woodlands

INVERGARRY WOOD

Forest Plan

Map 2 Concept Plan

LEGEND

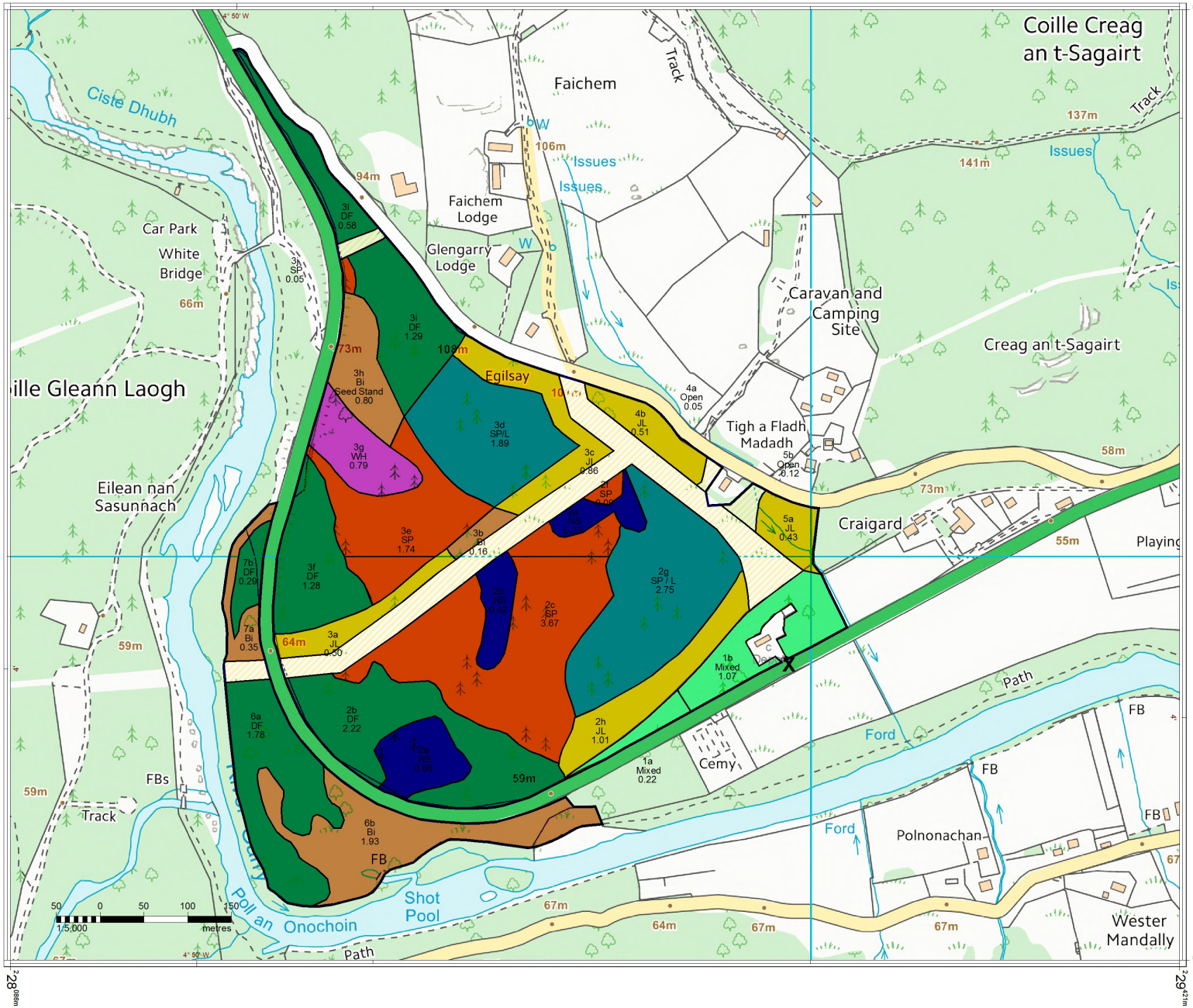
- Forest Plan Boundary
- NWSS PAWs
- NWSS Native
- NWSS Near Native
- Electricity Wayleave
- Phase 1 Felling
- Phase 2 Felling
- Core Path
- A87 Trunk Road

Scale at A3
1:5,000

Map Ref
Inv G Wood FP / Concept

Date
May 2017

chartered foresters
C J PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com



GLENGARRY community woodland

INVERGARRY WOOD

Forest Plan

BRN: 210515 MLC: [Awaited]

Map 3 - Existing Species

LEGEND

- Woodland boundary
- Sub Compartment boundary
- 2c SP 3.67 — Compartment No / Sub Cpt Species Area (hectares)
- Douglas fir (7.44ha)
- Scots pine (5.55ha)
- Scots pine / larch (4.64ha)
- Japanese Larch (3.31ha)
- Norway spruce (1.43ha)
- Western hemlock (0.79ha)
- Birch (3.24ha)
- Mixed Woodland (1.29ha)
- Wayleave / open ground / Depot (2.88ha)
- X — **NH 28960088** - Main Entry Point

Scale at A3
1:5,000

Map Ref
Inv G Wood FP2 / Species

Date
09/16

chartered foresters C J PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com

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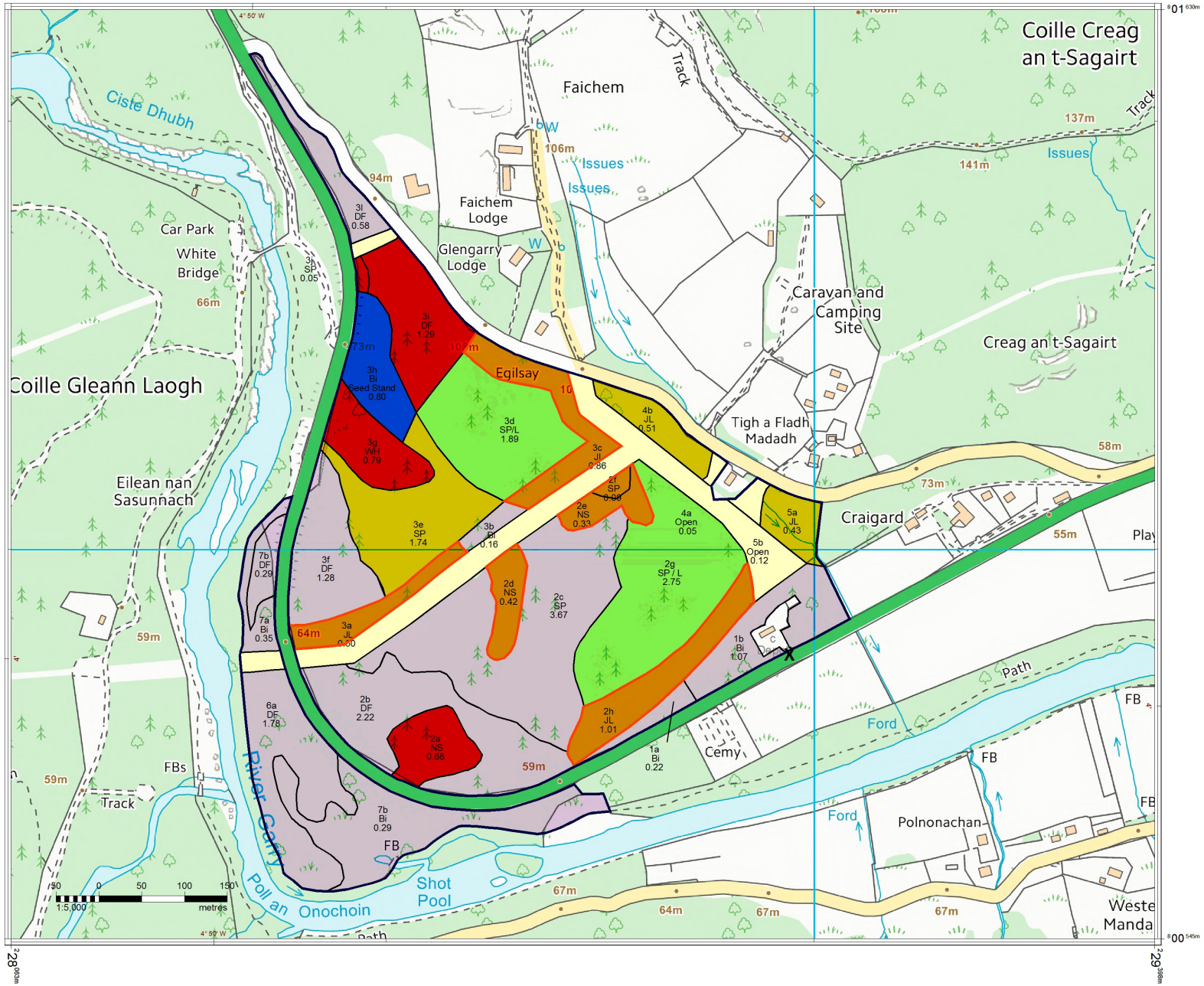


GLENGARRY community woodlands

INVERGARRY WOOD

Forest Plan

BRN: 210515 MLC: [Awaited]

Map 4 – Felling Plan

LEGEND

- Woodland boundary
- Sub Compartment boundary
- 2c SP 3.67 — Compartment No / Sub Cpt, Species, Area (hectares)

Felling Phases

- Phase 1 - 2.82ha
- Phase 2 - 3.21ha
- Phase 3 - 2.67ha
- Phase 4 - 4.64ha
- LISS - 13.54ha
- Long Term Retention
- Wayleave / open ground

X **NH 28960088** - Main Entry Point

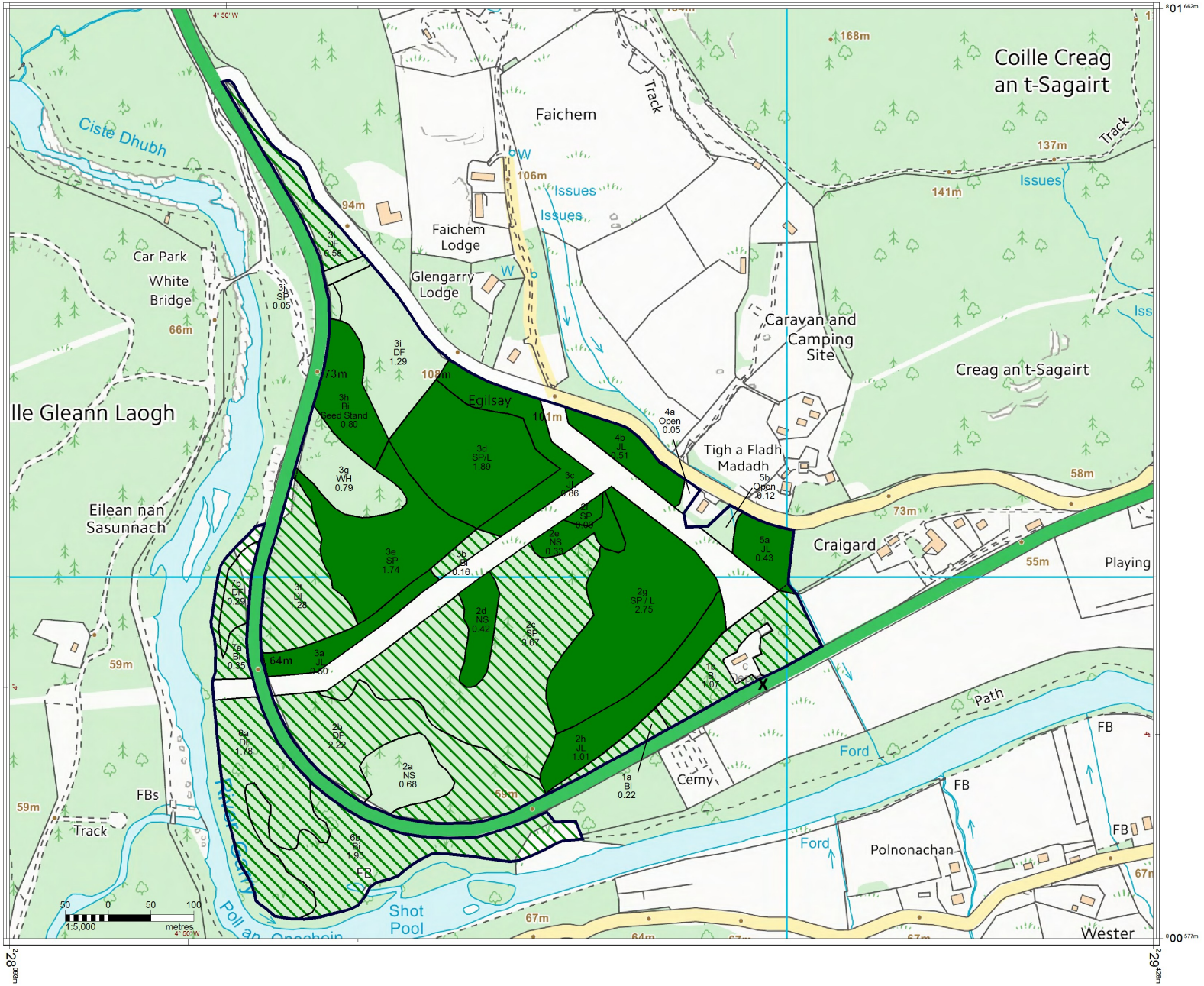
Scale at A3
1:5,000

Map Ref
Inv G Wood FP4 / Felling

Date
10/16

chartered foresters C J PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com

N



GLENGARRY community woodlands

INVERGARRY WOOD

Forest Plan

BRN: 210515 MLC: [Awaited]

Map 5 - Thinning

LEGEND

- Woodland boundary
- Sub Compartment boundary
- 2c SP 3.67 — Compartment No / Sub Cpt, Species, Area (hectares)
- Thinning – 11.32ha
- LISS Thinning – 13.55ha
- X **NH 28960088** - Main Entry Point

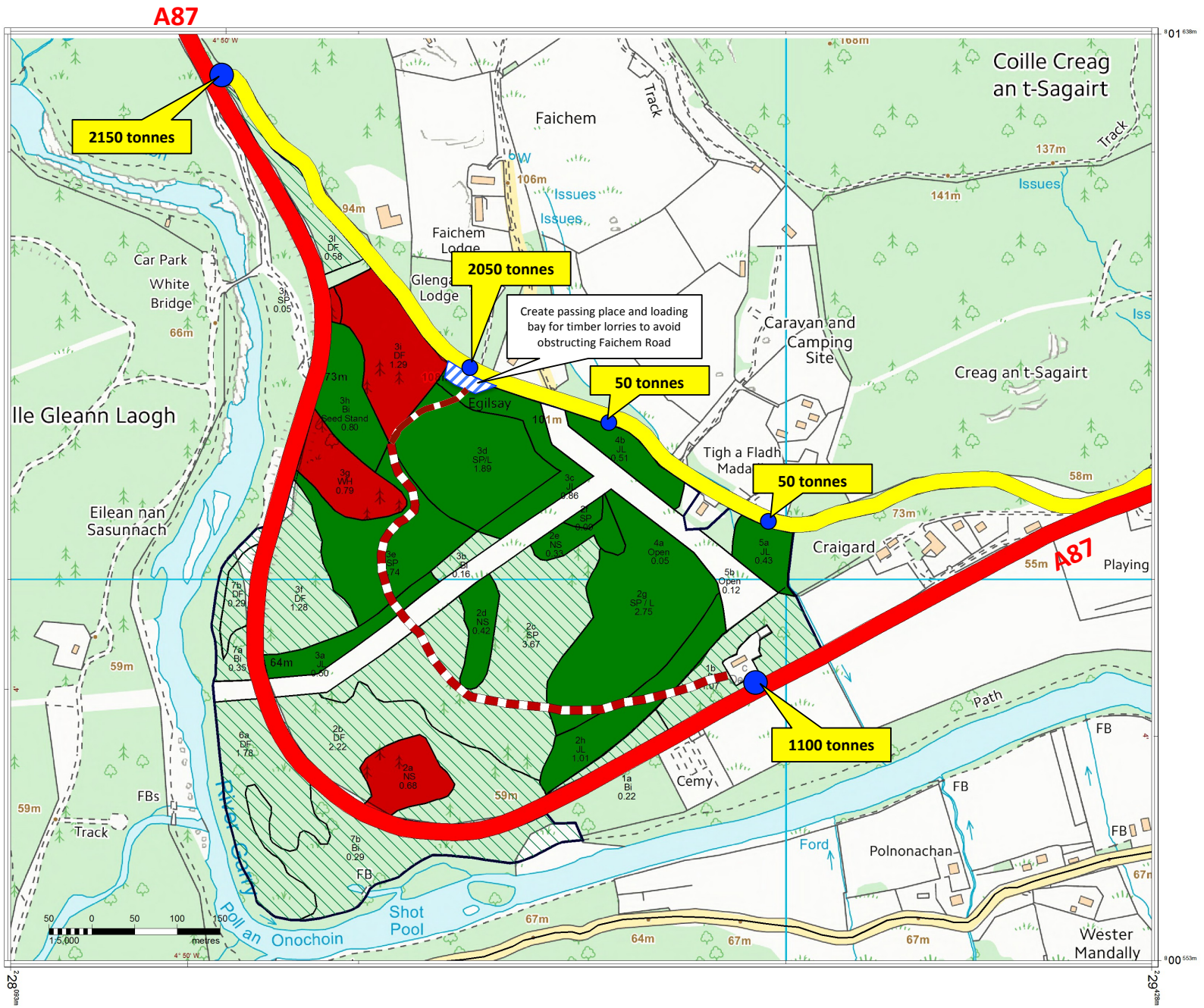
Scale at A3
1:5,000

Map Ref
Inv G Wood FP5 / Thinning

Date
10/16

chartered foresters C J PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com

N



GLENGARRY community woodlands

INVERGARRY WOOD

Forest Plan

BRN: 210515 MLC: 455/0221

Map 6 – Timber Haulage & Estimated Extraction

LEGEND

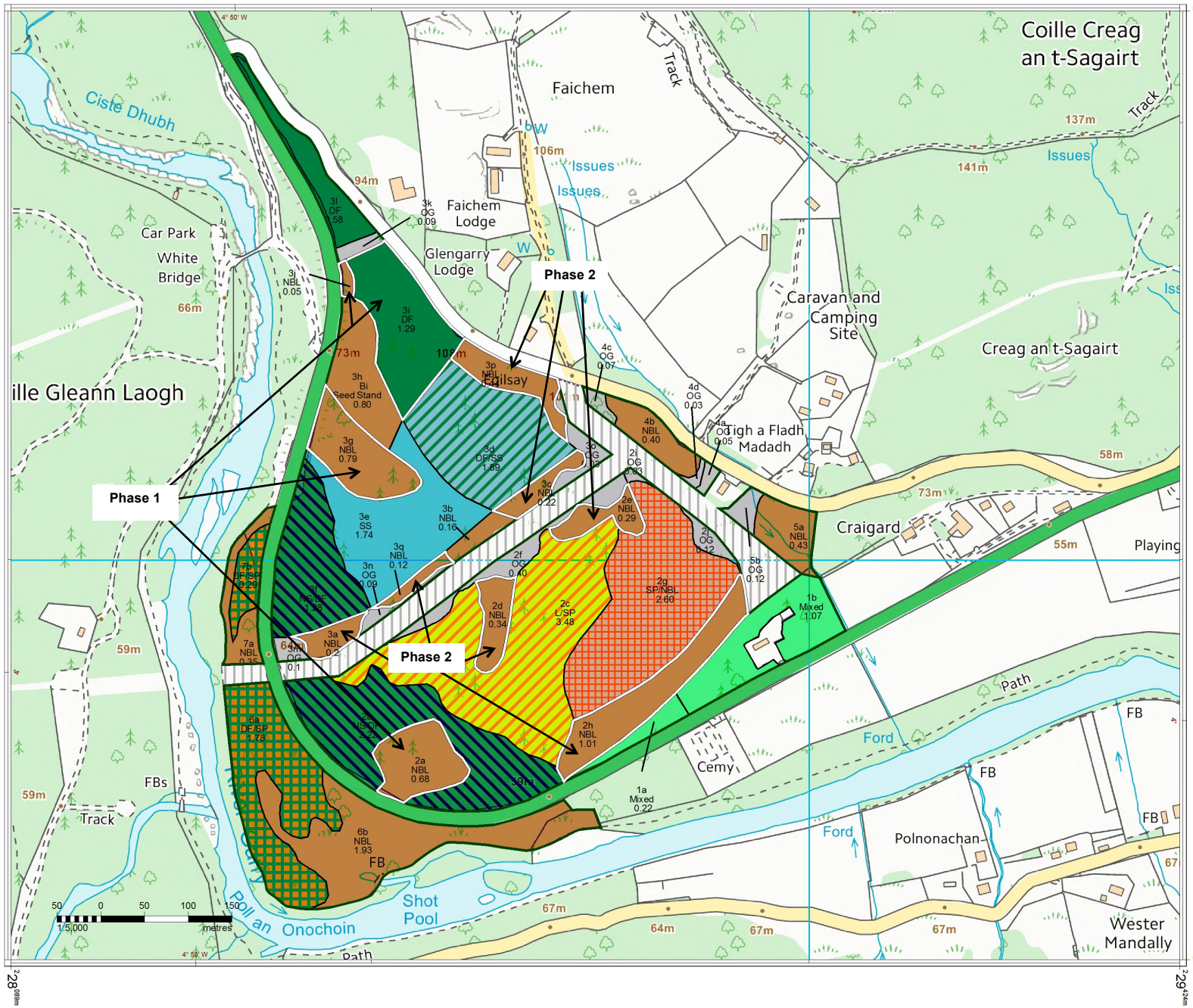
- Woodland boundary
- Sub Compartment boundary
- 2c SP 3.67 — Compartment No / Sub Cpt Species Area (hectares)
- Main Exit Point on to A(T) Road
- Exit Point on to Minor Road
- Forwarder Track
- Public A(T) road (A87)
- Exit Point on to Minor (Faichem) Road
- Phase 1 Felling
- Phase 1 Thinning
- Phase 1 LISS Thinning
- X **NH 28960088** - Main Entry Point

Scale at A3
1:5,000

Map Ref
Inv G Wood FP6 / Timber Haulage

Date
03/17

chartered foresters CJ PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com



GLENGAR communi woodlan

INVERGARRY WO

Forest Pl

BRN: 210515 MLC: [Await

Map 7 - Restocki

LEGEND

- Compartment boundary
- Sub Compartment boundary
- 2c SP 3.67 — Compartment No / Sub Cpt, Species, Area (hectares)
- Douglas fir (1.87ha)
- Larch / Scots pine (3.48ha)
- Norway spruce / Douglas fir (3.50ha)
- Douglas fir / Scots pine (2.07ha)
- Scots pine / native broadleaves (2.60ha)
- Douglas fir / Sitka spruce (1.89ha)
- Sitka spruce (1.74ha)
- Native Broadleaves (8.23ha)
- Mixed Conifers/ broadleaves (1.28ha)
- Open Ground (1.30ha)
- Electricity Wayleave

X **NH 28960088** - Main Entry Point

Scale at A3
1:5,000

Map Ref
Inv G Wood FP7 / Restock

Date
10/16

chartered foresters C J PIPER & CO
Wester Finlarig
Rafford
Forres
Moray
IV36 2RU
T: 01309 674374
M: 07802 833263
E: chrispiper@supanet.com

N

APPENDICES

APPENDIX I
Scoping Report

Scoping Report

Part 1 – General Details	
Property Name:	Invergarry Wood
FGS number:	17FGS14378-001
Forest Plan area:	30.6hectares
Type of scoping:	Email, Correspondence & Guided Woodland Walks (20/07/16 & 28/01/17)

Assessment of local impacts and key issues

Prior to the scoping process itself, Glengarry Community Woodlands Ltd (GCW) assessed the impacts of the preliminary Forest Plan proposals on the local community and other local interests. These were discussed with our Woodland Officer during a meeting where we agreed key issues, and which stakeholders should be included in the scoping process. Scoping was undertaken by email correspondence and on a face-to-face basis by hosting two woodland walks (held on July 20th 2016 and January 28th 2017) to which the local community and other local stakeholders were invited to attend. The stakeholders contacted by email and that attended the woodland walks are listed below. The woodland walks were advertised on the GCW's website and Facebook pages.

The assessment of the impacts of the Forest Plan proposals highlighted the neighbours on the Faichem Road adjoining the northern boundary of Invergarry Wood as being those most likely to be affected by forest operations – primarily stacking of timber by the roadside and subsequent timber traffic. We also considered the impacts to local access to the woodland and the core path adjoining the south western boundary and the potential impact of timber operations in the immediate vicinity of the SSE powerline.

Stakeholders

A copy of the pre-scoping map and a summary of the woodland were sent by email to the following stakeholders.

Name	Organisation	Address	Response received
Iain MacEchern	Forest Enterprise Scotland, Lochaber Forest District (Torlundy)	iain.macerchern@forestry.gsi.gov.uk	Yes, no comment
Grant Stuart	Highland Council Planning Department	grant.stuart@highland.gov.uk	No
Cathy Mayne	SNH, Torlundy	Cathy.maine@snh.gov.org	No
SEPA	Dingwall & Fort William	planning.dingwall@sepa.org.uk	Yes, no comment
Colin Sage (Immediate neighbour to west)	Agent for Paul Williamson	colin@tiroran.co.uk	No
Aberchalder Estate (Neighbour)	Per Callum Nicholson (Tilhill Forestry)	callum.nicholson@tilhill.com	Yes, no comment
Marigold Maclennan	Glengarry Community Council	Catherine.maclennan123@btinternet.com	No

List of attendees at Woodland Walks

Tom Cooper (GCWLTd Development Officer) Alan White (GCWLTd Chair), Chris Piper (Forestry Advisor to GCWLtd), Colin Grant (Director, GCWLtd)
Lindsay Rogers, Bryan Millar, Doris Millar, Matthew Phipps, Hector Rogers, Brian McShane, Anne Guthrie, Norma Edwards, Cecilia Dychoff, Bruce Kocjan, Gilliam Baxter, Jake Green, Mac Provan, Sandra Coy, Chris Coy, Ken Grant, Grace Grant, Irene Rodgers.

Part 2 – Key Issues				
Key Issues	**Raised by**	**Likely impact**	**Action(s) to be taken to address key issues and identify location within Forest Plan**	**Notes**
Timber operations & haulage in vicinity of Faichem road.	GCWLtd representatives	Disruption to neighbours and potential damage to the (Faichem) minor public road to the north of the woodland, and the turning of timber lorries on to the main trunk road.	Agree timber haulage, positioning and construction of new layby and stacking area (adjacent to Faichem road) with neighbours, Highland Council and the appropriate Highland Timber Transport Project Officer. Neighbours and local community to be regularly kept informed as to timing and logistics of timber operations.	Planning consent will be required for the layby construction work. Timber haulage map will accompany the Forest Plan. Timing of timber haulage will be considered with neighbours
Timber harvesting in vicinity of the SSE powerline	GCWLtd representatives	Possible hazard to powerline.	Consult and agree harvesting proposals for stands immediately adjacent to the powerline wayleave with SSE.	Follow relevant HSE and other good practice guidelines.
Control of deer, mammals and pests	GCWLtd representatives	May constrain natural regeneration and development of under storey, particularly on PAWs and LISS sites and also damage unfenced restock sites.	Monitor any damage to under storey in LISS areas. Monitor deer numbers as necessary and liaise with adjoining landowners with regard to possible methods of control. Deer Management Plan not considered necessary at this stage unless damage levels identified as becoming above acceptable limits.	Deer numbers are low at present, but fencing will be required on soft species restock sites (such as Douglas fir). Best practice will be followed.
Public Access (core path)	GCWLtd representatives	Health and safety for users, joint responsibility for maintenance & signage etc with adjoining landowner. Damage from woodland operations, flooding.	Carry out regular path side tree inspections, particularly after severe weather events. Maintain dialogue with adjoining owner. Follow HSE guidance when conducting any woodland operations and use appropriate signage. If path has to be closed for operations, liaise with Highland Access Officer to identify an alternative route.	Open space along the core path will be retained for visual, safety and amenity reasons and woodlands operations will be attributed a high degree of sensitivity.

APPENDIX II
Crop Survey Data

Crop Component Ref	Crop Type	Plot Size	No. of Plots	Species	Trees / ha	Av Top Ht (m)	Mean DBH (cms)	Av. Vol / tree (m^3)	Gross Volume / ha (m^3)
A	SP/L	0.02	8	Larch	431	22.8	25	0.535	231
	SP/L	0.02	8	SP	206	20.8	25	0.431	89
B	SP	0.01	8	SP	1025	21.6	24	0.395	405
C	JL	0.01	8	JL	950	23.7	26	0.622	591
	Birch	0.01	8	Birch	63	10.0	15	0.076	5
DHI	DF	0.01	8	DF	975	30.9	29	0.814	794
H (SP)	SP	0.01	1	SP	700	19.3	23	0.341	239
E	Birch	0.01	1	Birch	700	20.0	19	0.193	135
E(WH)	WH	0.01	4	WH	750	26.5	27	0.701	525
	Birch	0.01	4	Birch	375	19.7	23	0.304	114
J & K	NS	0.01	6	NS	1033	24.3	23	0.439	454
A (Riverside)	DF	0.01	4	DF	875	29.0	27	0.675	591
	SP	0.01	4	SP	125	24.5	29	0.658	82

APPENDIX III
Compartment Schedule

Cpt	Sub Cpt	Area (ha)	Species	Planting Year	Top Height (m)	Yield Class Range	DBH (cms)	Av. Vol / tree (m^3)	Vol / Ha (m^3)	Total Volume (m^3)	Remarks
1	a	0.22	Birch	1956	20	2-4	23	0.3	90	20	
	b	1.07	Birch	1956	20	2-4	23	0.3	90	96	
	c	0.17	-	-	-	-	-	-	-	-	Depot
Sub totals		**1.46**								**116**	
2	a	0.68	NS	1956	24	10-12	23	0.44	365	248	
	b	2.22	DF	1956	30	10-16	29	0.81	475	1,055	
	c	3.67	SP	1956	21	10-14	24	0.4	345	1,266	
	d	0.42	NS	1956	24	10-12	23	0.44	365	153	
	e	0.33	NS	1956	24	10-12	23	0.44	365	120	
	f	0.09	SP	1956	22	10-14	24	0.40	345	31	
	g	2.75	SP/L	1956	22	10-12	29	0.48	255	701	
	h	1.01	JL	1956	24	10	26	0.62	475	480	
Sub totals		**11.17**								**4,055**	
3	a	0.50	JL	1956	24	10	26	0.62	475	238	
	b	0.16	Birch	1956	20	2-4	19	0.19	100	16	
	c	0.86	JL	1956	24	10	26	0.62	475	409	
	d	1.89	SP/L	1956	22	10-12	25	0.48	255	482	
	e	1.74	SP	1956	22	10-14	24	0.4	345	600	
	f	1.28	DF	1956	30	10-16	29	0.81	675	864	
	g	0.79	WH	1956	26	14	27	0.7	420	332	
	h	0.80	Birch	1956	20	2-4	19	0.19	100	80	Former registered birch seed stand
	i	1.29	DF	1956	30	10-16	29	0.81	675	871	Windblow commencing
	j	0.05	SP	1956	19	10-14	23	0.34	190	10	
	k	0.08	Open	-	-	-	-	-	-	-	
	l	0.58	DF	1956	30	10-16	29	0.81	675	392	
Sub totals		**10.03**								**4,292**	
4	a	0.05	Open	-	-	-	-	-	-	-	
	b	0.51	JL	1956	24	10	26	0.62	475	242	
Sub totals		**0.56**								**242**	
5	a	0.43	JL	1956	24	10	26	0.62	475	204	
	b	0.12	Open	-	-	-	-	-	-	-	
Sub totals		**0.55**								**204**	
6a	a	1.78	DF	1956	29	10-16	27	0.68	475	846	
6b	b	1.93	Birch	1956	20	2-4	19	0.19	100	193	
Sub totals		**3.71**								**1,039**	
7a	a	0.35	Birch	1956	20	2-4	19	0.19	100	35	
7b	b	0.29	DF	1956	29	10-16	27	0.68	475	138	
Sub totals		**0.64**								**173**	
Wayleaves		2.36									
GRAND TOTALS		**30.47**								**10,120**	

APPENDIX IV
PAWS Assessment Report

GLENGARRY COMMUNITY FOREST

ASSESSMENT OF PLANTATIONS ON ANCIENT WOODLAND SITES (PAWS)

The PAWS assessment was prepared by Steve Morris, Ancient Woodland Restoration Adviser on behalf of the Woodland Trust HLF funded Project at the request of the landowner

RDI Associates

WOODLAND TRUST SCOTLAND

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PAWS Management Principles……. 5
Historical Context…….. 6
Survey Findings…… 11
Summary of Recommendations…….. 19

Appendix 1 - A guide to understanding the Scottish Ancient Woodland Inventory (AWI)
Appendix 2 – Glengarry Community Forest Compartment Map

Introduction

Plantations on Ancient Woodland Sites (PAWS) are areas which have been mostly wooded for thousands of years, and have developed a biodiversity value which goes far beyond the present tree cover. Much of the 55,000ha of PAWS in Scotland is reaching the end of a first rotation under conifers. The remnant biodiversity in these sites will be put at increased risk by a second rotation of coniferous plantation.

This report provides an assessment of the PAWS area within Glengarry Community Forest, Invergarry, Inverness. It identifies the ancient woodland remnants on the site, assesses their vulnerability and advises on management for the maintenance and restoration of these remnants. It is hoped that such recommendations can then be taken forward in a future woodland management programme.

Emphasis is placed on a gradual management approach that allows surviving woodland remnants to adjust to a new environment over a period of time. Such an approach complements continuous cover methods of forestry or where a progressive thinning regime is possible. It is appreciated that in many areas such management options might not be available.

The Ancient Woodland Inventory (AWI) identifies the whole area of Glengarry Community Forest as ancient woodland 2a of semi natural origin.

It is important when using AWI data to take note of the precautions highlighted in the SNH document "A guide to understanding the Scottish Ancient Woodland Inventory" see Appendix 1.

Methodology

Research has shown that in most PAWS, remnant historical and ecological features survive in amongst the conifer crop. These can be grouped into four categories:

1. Deadwood
2. Trees and understory shrubs
3. Archaeological features
4. Woodland Plants

The assessment aims to identify the remnant features still to be found in the wood, and the level of threat that those features are under, using the following classification:

Critical: need urgent action to avoid irreversible loss or serious decline

Threatened: unlikely to be lost in the short term, given current conditions, but long term survival is doubtful without intervention

Secure: likely to remain the same or improve given the current conditions

Recommendations are given on future management of the site. These recommendations are based on the following best practice guidance:

- the premise that all PAWS are likely to retain some value from the ancient woodland
- identifying the type, distribution and condition of remnant features is key to planning operations
- gradual change and management of light levels will, in nearly all cases, be more beneficial than clear felling
- two distinct operational phases are recommended. Firstly to make the surviving features identified more robust by reducing the threats to their survival. Secondly to make long-term improvement to the ecological value of the site. The management objectives for the woodland need to be incorporated into this second phase from timber production, game management or improving capital value.

Following map research, a number of visits to the woodland were carried out by Steve Morris, Ancient Woodland Restoration Adviser in early 2016.

PAWS Management Principles

Listed below are some management principles which should be considered in developing the gradual management approach to the PAWS areas on Glengarry Community Forest

Woodland Ground Flora –

- Gradually reduce shade, but avoid removing the canopy cover entirely to avoid the dominance of coarse vegetation as well as the spread of bracken within the wood.
- Focused light thinning carried out over a number of years may bolster remnant features ahead of more disturbing operations or unavoidable clear felling.
- Avoid severe disturbance in "hotspot" areas such as in the flushed areas and streams.
- Time operations to minimise ground damage.
- Consider leaving time for brash to rot in between operations. Avoid burning as it changes soil and encourages colonisation of coarse vegetation.
- Mark wood ants nests to avoid damage during future thinning & extraction operations.

Deadwood –

- Avoid damage to old snags & stumps during future thinning & extraction operations.
- Retain any semi-mature trees in a stand to provide future deadwood habitat.
- Reduce shade gradually in the immediate vicinity to ensure the maintenance of a shaded micro-climate.

Trees and understorey shrubs -

- Retain pre-plantation aged trees and understorey including Scots pine, oak, rowan, birch, holly, hazel and aspen.
- Reduce shade gradually in the immediate vicinity of individual pre-plantation aged trees, through selective or halo thinning.
- Avoid, where possible, driving machinery over the root systems of old trees. A general rule of thumb is to maintain a zone with a minimum radius of fifteen times the diameter of the tree's trunk.
- Identify any potential "new veteran trees" in the current plantation which could be allowed to develop, particularly in the vicinity of the existing pre-plantation aged trees.
- Re-instate appropriate shrub understorey.

Historical context

Roy Military Map 1750

Fig 1

The earliest maps of Scotland depicting woodland are the General Roy military maps from 1750 (Fig 1) this clearly shows areas of woodland along the South bank of the river Garry and cultivated land to the North of the river.

The OS surveys from the 1860's onward are the first cartographically reliable maps and the area around Invergarry was surveyed in 1871 with a 25 Inch to the mile map published in 1873 (Fig 2). This map shows the Glengarry Community Woodland area to be covered in mostly broadleaved woodland with an occasional conifer symbol.

A 6 Inch to the mile map based on the same survey was also published in 1873 (Fig 3) and this version along with the Roy map was used when compiling the Ancient Woodland Inventory (AWI).

An overlay of the OS First Edition and the AWI (Fig 4) shows the clear correlation between the wooded area mapped in 1873 and the area identified on the AWI as Category 2a of semi-natural origin (Fig 5).

OS maps through the 20th Century shows the woodland area remained unchanged through to the 1960's when the Forestry Commission acquired the site and afforested it with commercial non-native species resulting in its current designation as PAWS woodland.

The other significant change being the change of route of the A87 through the woodland. (I don't have a date for this, but it must have been after 1960)

OS 25 Inch to the mile 1873

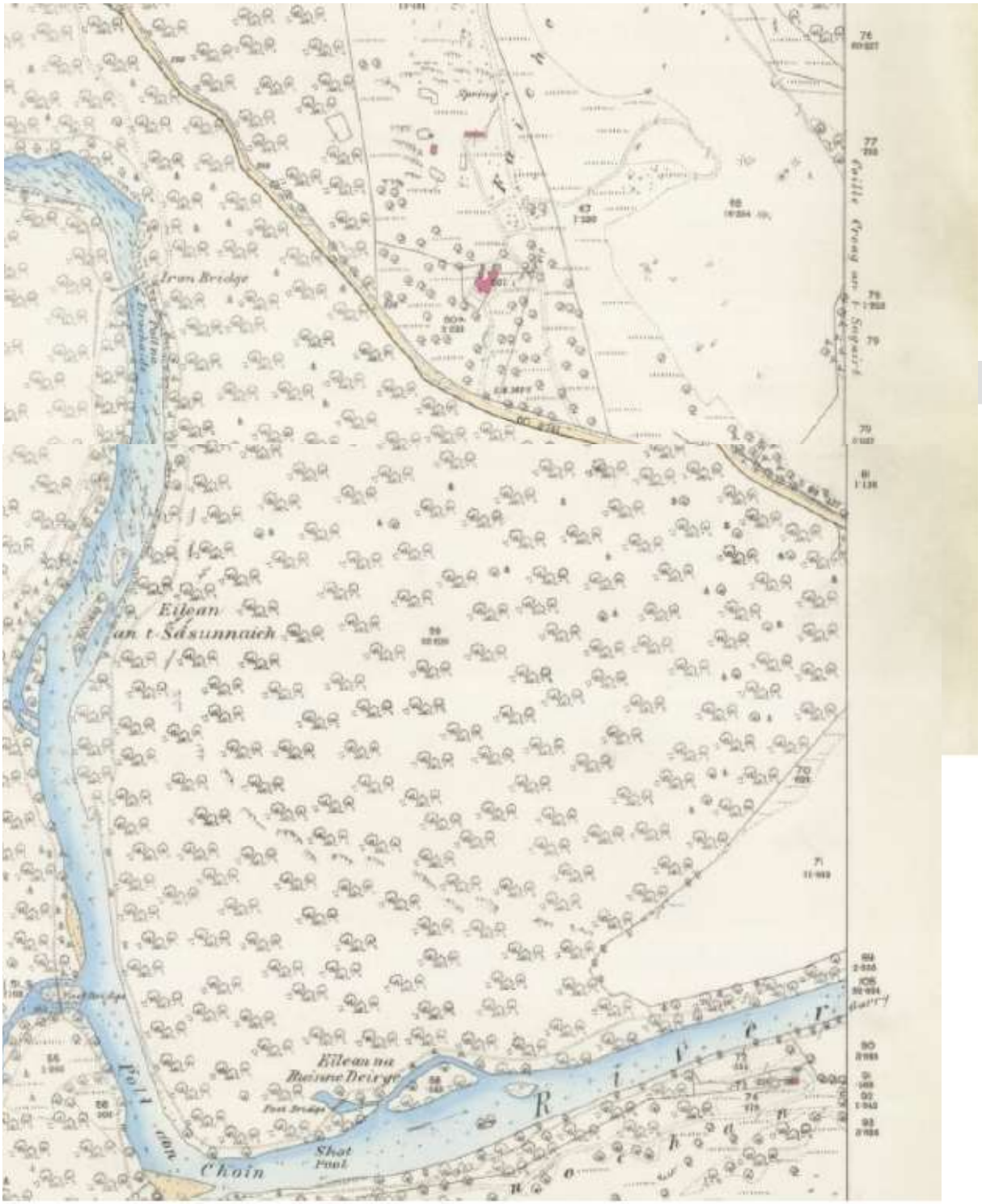

Fig 2

OS 6 Inch to the mile 1873

Fig 3

OS 1st Edition with overlay of Ancient Woodland Inventory

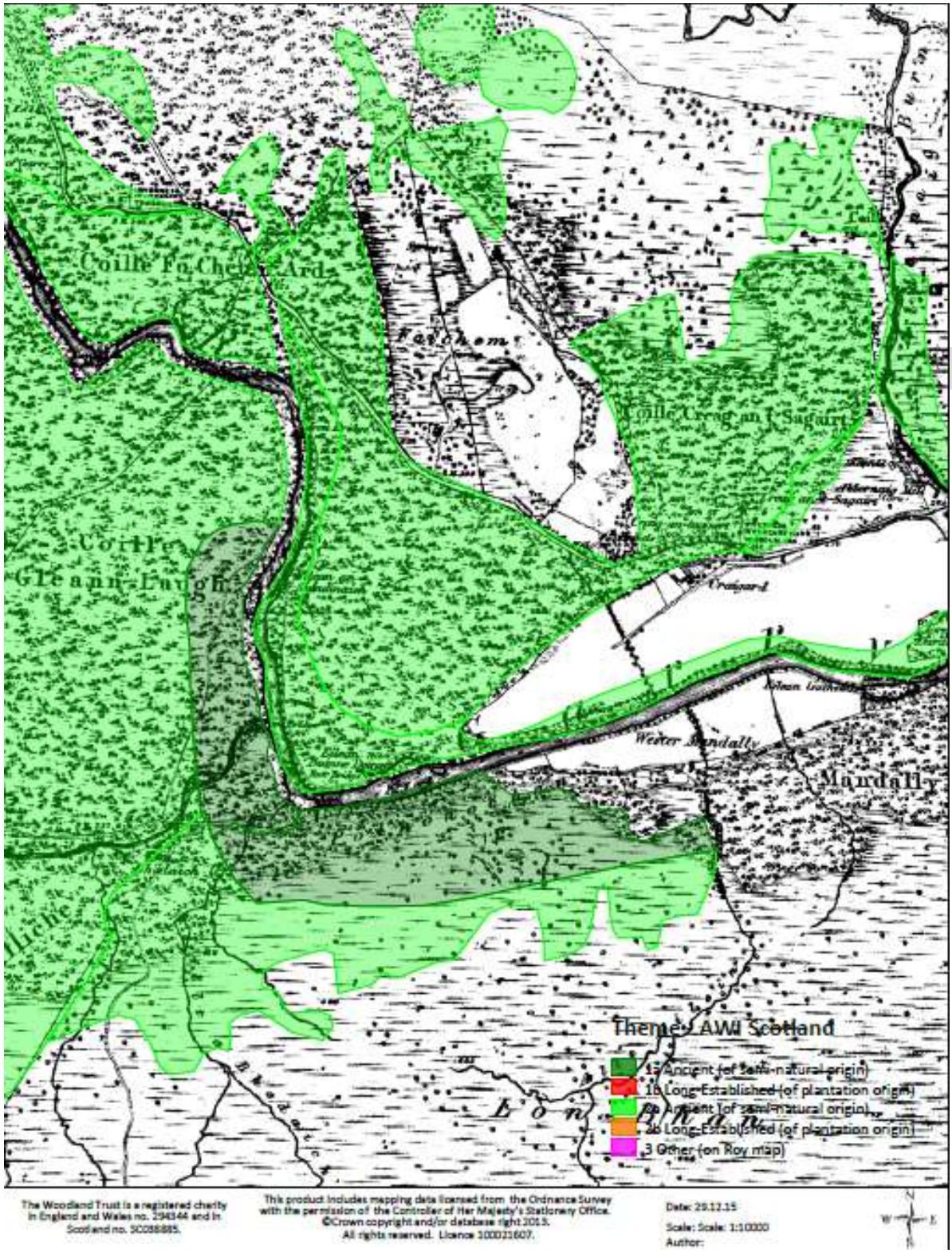

Fig 4

Ancient Woodland Inventory

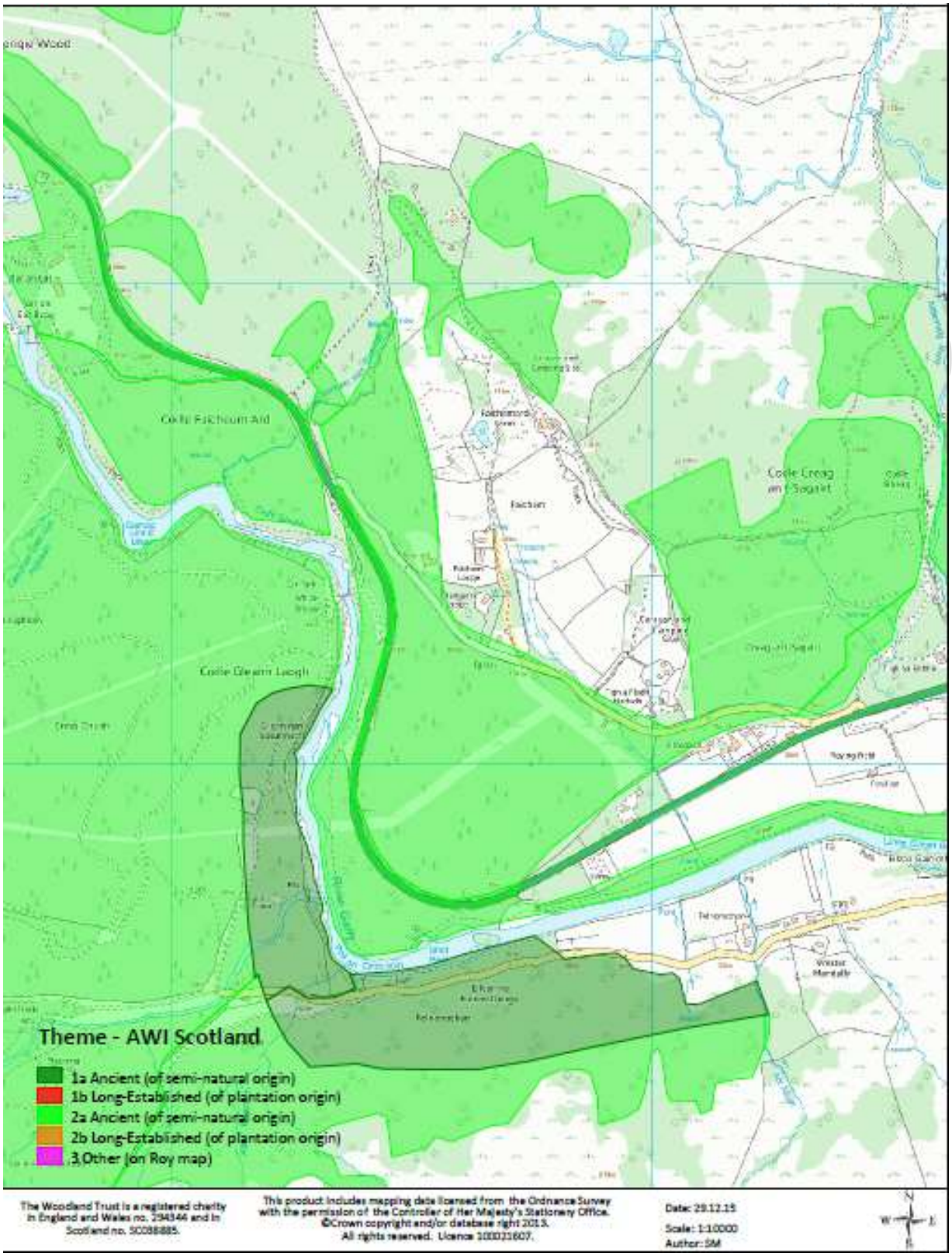

Fig 5

Survey Findings & Recommendations

For the purpose of the survey, I am using the Compartment Numbers produced for the Glengarry Community Woodland feasibility study.

Cpts 6 & 7 Secure (Threatened in very localised areas)

These two compartments next to the river consist of a mixture of broadleaf woodland with mature oak near the river, some younger birch stands and some high quality Douglas Fir. As well as the mixed broadleaved stands with healthy woodland ground flora and bryophyte communities, there are a number of veteran oak trees under the canopy of the Douglas Fir **(localised threat)** , these would benefit from increased light levels by thinning the Douglas which would also increase the light levels reaching the forest floor. Sustainable management of the birch stands for firewood and the high quality Douglas Fir for timber products could provide the community group with a regular income stream while enhancing the biodiversity of this highly attractive area of the woodland. I recommend retaining a number of the large Douglas Fir with a view to managing the area on a continuous cover mixed broadleaf/conifer basis.

There is however a major constraint on any form of management in this part of the woodland, as it has very poor access which is restricted by the A87 on one side and the river Garry on the other. It may be possible to extract small quantities of timber with small scale equipment by gaining access permission from neighbouring landowners. As for felling and extracting the large Douglas Fir this is going to require an innovative approach and having consider a number of different ideas I would suggest a slow and steady approach, felling small quantities and perhaps converting the produce in the wood into sizes thqat can be moved by small scale equipment. This method would result in less drastic changes to the woodland and provide a steady income stream. The choice of machinery purchase or contractor is going to be critical to the success of this approach.

There are small quantities of non-native invasive species present **(localised threat)**, both Galtheria and Rhododendron which are not causing a huge problem at the present time but will need to be monitored and preferably removed at an early stage. There are significant seed sources of Rhododendron (& presumable also of Galtheria) present on neighbouring land so the issue will remain a constant threat.

Mature Oak with regenerating broadleaves next to river Gary

Tree lungwort *(Lobaria pulmonaria)* on a Mature Birch tree

Non-native Invasive Species

Galtheria next to path

Rhododendron bushes between path and River Gary

Cpt 2 cg&h & 4 Threatened (due to deer browsing)

These sub-compartments consist of a mixture of Scot's Pine and Larch and due to a combination of both of these species allowing more light through the canopy and previous thinning history there is a healthy woodland ground flora present. There a range of common acid loving plants including Heather, *Calluna vulgaris* and Bleaberry, *Vaccinium myrtillis* both are quite heavily browsed by deer, in addition there are a wide range of bryophytes present including *Ptilium crista-castrensis* which can be an indicator of ancient woodland. The ground flora is indicative of an upland oak-birch woodland and there is a significant quantity of broadleaf trees present as an understorey with a lot of oak regenerating from coppice stools from trees felled prior to the current plantation being established along with rowan, birch, holly and hazel also present.

After an initial impression that much of this ground would be difficult to work, the evidence of access tracks and previous thinning shows that much of this area has been thinned and there is an opportunity to re-introduce a thinning regime. By continuing to gradually thin this area a tree canopy of larch trees could be retained while a native understorey develops which would have the dual benefit of a steady income stream and retaining the woodland cover. Note this assumes *Phytophthora ramorum* a disease prevalent in the SW of Scotland doesn't infect the stand, the woodland is in the moderate risk zone for the disease and there have been a small number of infections in the North West currently restricted to coastal locations.

Left: Oak in amongst Larch trees

Below: Access track in previously thinned Larch

Cpt 5 Secure

This area is quite different to any other part of the site with a patch of blackthorn at one edge along with a rich variety of woodland ground flora plants including Wood Sorrel, Wood sage, Wood Anemone, Primrose along with brambles. The area is planted with Larch and these have grown very tall, a number of broadleaf trees have established beneath the canopy including Oak Ash & Hazel. The small steam that runs through the centre of the stand overflows during periods of high rain which has led to a small amount of wind throw.

Access to this part of the site is very difficult as it is effectively cut off by one of the overhead powerlines and the site is also very steep. There has been a certain amount of self-thinning of the Larch which has resulted in a number of larger dominant trees and it could be possible to thin the stand favouring these trees. This may be a fell to waste operation in the more inaccessible parts of the stand with some removal of produce on the lower slopes.

As with the neighbouring compartments retention of the Larch over storey would retain a woodland canopy in this area while the native under storey develops.

Mature Larch with large crown

Cpt 2ab & 3 Threatened (by shading of non-native conifers)

These compartments are dominated either by Douglas Fir/Western Hemlock/Spruce or in areas of Scot's Pine or Larch, the terrain precludes thinning.

As a result of previous non-thin management the options are limited to clear fell and in some areas the trees are unstable and there are instances of windthrow.

I recommend Clear Felling of WH at an early stage to reduce the seed source of this freely regenerating species which casts dense shade.

There may be the opportunity to try retaining some of the Douglas Fir but that will always be a gamble and in terms of PAWS restoration the priority would be to revert areas of Scot's pine and Larch to native species post clear fell and depending on the priorities of the Community group there is no imperative to restock the whole woodland with site native species. There are areas of the woodland that have grown high quality Douglas Fir and it would be sensible to continue this particularly on more accessible parts of the site.

The birch seed stand is an interesting feature of this part of the wood and will provide a seed source for natural regeneration of adjacent areas which could then be managed to produce high quality birch. It would be worth thinning the stand to favour the best trees but unfortunately the crowns of these trees have not been allowed to develop due to completion from their neighbours so are unlikely to respond much to extra light at this stage.

Summary of Recommendations

- Thin DF in Cpt 6 & 7 to release vetran oak trees and move towards continuous cover.
- Remove all non-native invasive species as soon as possible and monitor regeneration.
- Thin Birch in Cpt 6 to provide sustainable fuelwood
- Thin SP/JL in Cpts 2,4 & 5 to encourage native broadleaves and maintain woodland canopy.
- Clear Fell WH in Cpt 3 sooner rather than later to reduce seeding.
- Consider retaining good quality DF where stability allows
- Thin Birch seed stand in Cpt 3 to provide a seed source for adjacent Clear Felled areas.

APPENDIX 1

A guide to understanding the Scottish Ancient Woodland Inventory (AWI)

Summary and policy statement

This summary is intended for developers, planners, foresters, ecologists and others who need to use the AWI in their work. It defines Ancient Woodland, briefly describes why it is important and gives the meaning of the categories in the AWI.

Ancient Woodland

In Scotland, Ancient Woodland is defined as land that is currently wooded and has been continually wooded, at least since 1750.

Ancient Woods are important because:

They include all remnants of Scotland's original woodland; their flora and fauna may preserve elements of the natural composition of the original Atlantic forests.

They usually have much richer wildlife than that of more recent woods.

They preserve the integrity of soil ecological processes and associated biodiversity.

Some have been managed by traditional methods for centuries and demonstrate an enduring relationship between people and nature.

Woods and veteran trees are ancient monuments whose value to the local community and historians may be as great as that of the older buildings in a parish.

Once destroyed, they cannot be recreated.

Although there is no legislation specifically protecting ancient woodland, Scottish Planning Policy identifies it as **an important and irreplaceable national resource that should be protected and enhanced**, as should other native and long established woodlands with high nature conservation value. SNH will seek to use the planning system to protect ancient woodland. The Scottish Government's policy on control of woodland removal states that there is a strong presumption against removing ancient semi-natural woodland or Plantations on ancient woodland sites, amongst other types of woodland.

Other woodlands, hedgerows and individual trees, especially veteran trees, may also have significant biodiversity value and make a significant contribution to landscape character and quality, so should be protected from adverse impacts resulting from development.

If a development would result in the severing or impairment of connectivity between important woodland habitats, workable mitigation measures should be identified and implemented, potentially linked to the creation of green networks.

The Ancient Woodland Inventory is a map-based tool that shows the location of many of our most valuable woodlands.

The Ancient Woodland Inventory

The Ancient Woodland Inventory (AWI) is a PROVISIONAL guide to the location of Ancient Woodland. It contains three main categories of woodland, all of which are likely to be of value for their biodiversity and cultural value by virtue of their antiquity:

i.

Ancient Woodland (1a and 2a)

Interpreted as semi-natural woodland from maps of 1750 (1a) or 1860 (2a) and continuously wooded to the present day. If planted with non-native species during the 20th century they are referred to as Plantations on Ancient Woodland Sites (PAWS).

ii.

Long-established woodlands of plantation origin (LEPO) (1b and 2b)

Interpreted as plantation from maps of 1750 (1b[1]) or 1860 (2b) and continuously wooded since. **Many of these sites have developed semi-natural characteristics, especially the oldest ones, which may be as rich as Ancient Woodland.**

iii.

Other woodlands on 'Roy' woodland sites (3)

Shown as unwooded on the 1st edition maps but as woodland on the Roy maps. Such sites have, at most, had only a short break in continuity of woodland cover and may still retain features of Ancient Woodland.

A note of caution

The AWI was derived from the Roy maps (c1750) and the OS 1st edition (c1860). It is not definitive and should be used with care; when evaluating woods it is important to:

Examine the site on the ground, looking for archaeological, biological and other indicators of antiquity and of its current biodiversity value

Examine old maps; the OS 1st edition and Roy maps are available on www.nls.uk. **Woods not shown on the AWI, but present on the historic maps, are likely to be ancient and should be treated as such** unless evidence is available to the contrary.

seek specialist advice if in doubt

Information on AWI can also be accessed form the Land Information Search (LIS) from the Forestry Commission Scotland.

[1] This category was not originally used, although the information was preserved in the database. At digitisation these sites were reclassified as 1b (Plantation on Roy map) to recognise their greater age.

APPENDIX 2

Map 2 Invergarry Wood – Species