



Cowal and Trossachs Forest District

Land Management Plan

Rhynaclach




Rhynaclach Land Management Plan 2016-2025

Cowal and Trossachs Forest District

RHYNACLACH

Land Management Plan



 Forestry Commission	
Third Schedule	
Map relevant to Application No:	033901647
O.S. Grid Reference	NN610024
Map Scale	1:10,000
(Owner / Lessee)	
Signature
Date
Signature
Date
(For and on behalf of The Forestry Commissioners)	
Signature
Date	30 JUN 2016

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

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



Approval date: 30 JUN 2016
Plan Reference No: LMP-7-2015
Plan Approval Date: 30 JUN 2016
Plan Expiry Date: 30 June 2026

Rhynaclach Land Management Plan 2016-2025

CSM 6 Appendix 1b

FOREST ENTERPRISE - Application for Land Management Plan Approvals in Scotland

Forest Enterprise - Property

Forest District:	Cowal & Trossachs
Woodland or property name:	Rhynaclach
Nearest town, village or locality:	Port of Menteith
OS Grid reference:	NN 610024
Local Authority district/unitary Authority:	Stirling Council/LLTNP

Areas for approval

	Conifer	Broadleaf
Clear felling	0ha	0ha
Selective felling	n/a	n/a
Restocking	0ha	0ha
New planting (complete appendix 4)	0ha	51.6ha

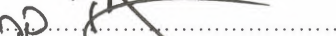
- I apply for Land Management Plan approval for the property described above and in the enclosed Land Management Plan.
- I apply for an opinion under the terms of the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999 for afforestation as detailed below.
- I confirm that the initial scoping of the plan was carried out with FC staff on 20th April 2015.
- I confirm that the proposals contained in this plan comply with the UK Forestry Standard.
- I confirm that the scoping, carried out and documented in the Consultation Record attached, incorporated those stakeholders which the FC agreed must be included.
- I confirm that consultation and scoping has been carried out with all relevant stakeholders over the content of the of the design plan. Consideration of all of the issues raised by stakeholders has been included in the process of plan preparation and the outcome recorded on the attached consultation record. I confirm that we have informed all stakeholders about the extent to which we have been able to address their concerns and, where it has not been possible to fully address their concerns, we have reminded them of the opportunity to make further comment during the public consultation process.
- I undertake to obtain any permissions necessary for the implementation of the approved Plan.

Signed



Forest District Manager

Signed



Conservator

District

...Cowal & Trossachs FD

Conservancy

Perth & Argyll

Date

.....6th June 2016.....

Date of Approval

30 JUN 2016

Date approval ends

30 June 2026

Rhynaclach Land Management Plan 2016-2025

CSM 6 Appendix 4

FOREST ENTERPRISE - Application for Approval of New Planting

1. Forest Enterprise – Property

Forest District:	Cowal & Trossachs
Woodland or property name:	Rhynaclach
Nearest town, village or locality:	Port of Menteith
OS Grid reference:	NN 610024
Local Authority district/unitary	Stirling Council/LLTNP

2. Proposed areas to nearest tenth of a hectare

New Planting	51.6
Open Ground	101.5
Existing woodland	14.4
Total	167.5

3. Special areas and protected land

Designation	Area Name or Number	Comments

4. Proposal details of new planting

Area Name or number	Gross Area (Ha)	P Year	Spp	Area (Ha)	Open Ground (Ha)	Comments
Rhynaclach	167.5	2017/18	MB	51.6	101.5	See Table 5.1 in main text for species breakdown

Rhynaclach Land Management Plan 2016-2025

I apply for Authority to plant 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

District Cowal & Trossachs FD

Date 30th November 2015

Date approval ends:

<p>Conservator Forestry Commission Scotland Perth and Argyll Conservancy</p> <p>30 JUN 2016</p> <p>Tom Davies - Senior Operations Manager</p> <p>Signature: </p>
--

30 June 2026

Determination Enquiry Form

Complete this form to find out if you need consent, from the Forestry Commission (under the EIA Regulations 1999), to carry out your proposed work.

Section 1

Please tick the box to indicate the type of work you are proposing to carry out. Give the area in hectares and where appropriate the percentage of conifers and broad leaves.

Proposed work: Afforestation ha BL Con Forest Roads M
 Deforestation ha BL% Con 100% Forest Quarry ha

Location and district: _____

Please attach map(s) showing the boundary of the proposed work and also give details of the operations.

Section 2

Property Details

Property Name:

Grid Ref: (eg AB 123/789)

Local Authority: LLTNPA

Nearest Town: Aberfoyle

Section 3

Applicant's category: (please put a cross in one box)

PE Personal occupier PU Public ownership
 BU Business occupier OT Other
 VO Voluntary organisation CT Crofting tenant

Section 4

Applicant's type: (please put a cross in one)

LS Lessee TE Tenant OW Owner TR Trust

Section 5

Your agent or woodland manager's details

Title (Mr, Mrs, Ms, etc) _____ Initials: Surname:

Organisation:

Address:

 Postcode:

Tel: Mobile

Fax: _____ Email:

Is this the address for correspondence? YES NO



Section 6

Applicant's details:

Title (Mr, Mrs, Ms, etc): Mr Initial S Surname: Murphy

Organisation: Forestry Commission Scotland

Position (eg partner, director etc): Planning Forester

Address: Cowal & Trossachs Forest District
Aberfoyle
Stirling

Postcode: FK8 3UX

Tel: 0300 067 6600

Mobile:

Fax:

E-Mail: stephen.murphy@forestry.gsi.gov.uk

Is this the address for correspondence?

YES

NO

Section 7

Sensitive Areas: Give the area of the proposal that is covered by any of the following designations.

<u>Sensitive Area as listed in "Schedule 2" of the 1999 EIA Regulation</u>	<u>Area (ha)</u>
a. Sites of Special Scientific Interest (SSSI) or Proposed Sites of Special Scientific Interest (PSSSI)	<input type="text"/>
b. SSSI's with a Nature Conservation Order (Section 29 of the Wildlife and Countryside Act 1981)	<input type="text"/>
c. National Park	<input type="text" value="21.2"/>
d. The Broads	<input type="text"/>
e. World Heritage Site	<input type="text"/>
f. Scheduled Ancient Monument (SAM)	<input type="text"/>
g. Area of Outstanding Natural Beauty (AONB)	<input type="text"/>
h. "Natura 2000" site – (<i>European network of special areas of conservation and special protection areas under the Wild Birds Directive</i>)	<input type="text"/>



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- i) Consultation record
- ii) Tolerance table
- iii) Land management plan brief
- iv) Scoping meeting minutes
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Support documents: Maps

- Analysis and concept
- Future habitats and species
- Conservation and heritage
- Viewpoints
- Perspectives

Summary of Proposals

The Rhynaclach Land Management Plan (LMP) reflects the key themes of the Scottish Forestry Strategy (SFS) (2006), and Cowal & Trossachs Forest District's strategic plan. Rhynaclach is a new acquisition and this plan describes, in some detail, proposals for afforestation of previously agricultural ground. Approval is sought for approximately 52ha of new planting. The overall objectives of the plan are to plant broadleaved species in order to contribute to Scottish Government targets on carbon sequestration and woodland expansion. In addition the bulk of the broadleaves are to be for productive purposes and the site will also demonstrate the best principles of integrated land use management.

The key objectives are as follows:

1. Expand the area of broadleaved woodland on the National Forest Estate.
2. Contribute to targets for carbon sequestration.
3. Grow broadleaved trees for timber production.
4. Demonstrate best practice in integrated land use management.

Rhynaclach Land Management Plan 2015-2024

1.0 Introduction:

1.1 Setting and context

Rhynaclach Land Management Plan area lies between the villages of Port of Menteith and Thornhill in the County of Stirling (Figure 1.1). Most of the site, which has a total area of 167.5ha, lies between the A81 Glasgow to Callander and the A873 Glasgow to Stirling roads, the south west corner meeting both these at their junction. A smaller part is to the north of the A81 and is within Loch Lomond and The Trossachs National Park. There are access tracks to Rhynaclach farmhouse off the A873 and the northern section is accessed from a track off the A81. There are also several field entrances off the A81. The site lies immediately south of the Highland Boundary Fault, falling steadily from the lower slopes of the Menteith Hills to the fringes of the River Forth floodplain. There is a transition from the moorland and rough grazing of the hills to improved grazing and arable land at lower elevations. The area is well wooded with commercial conifer plantations along the A81 corridor and patches of native woodland, hedgerows and standard trees adding variety to the agricultural landscape. About 72ha of the southern section of the property will be retained as a Starter Farm (Figure 1.2).

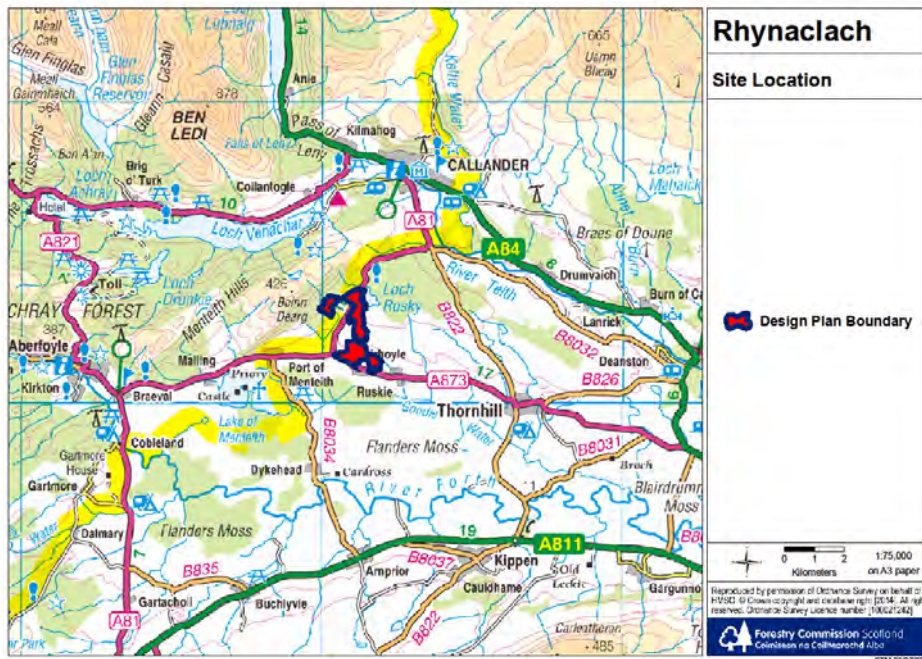


Figure 1.1 Rhynaclach: location

Rhynaclach Land Management Plan 2015-2024

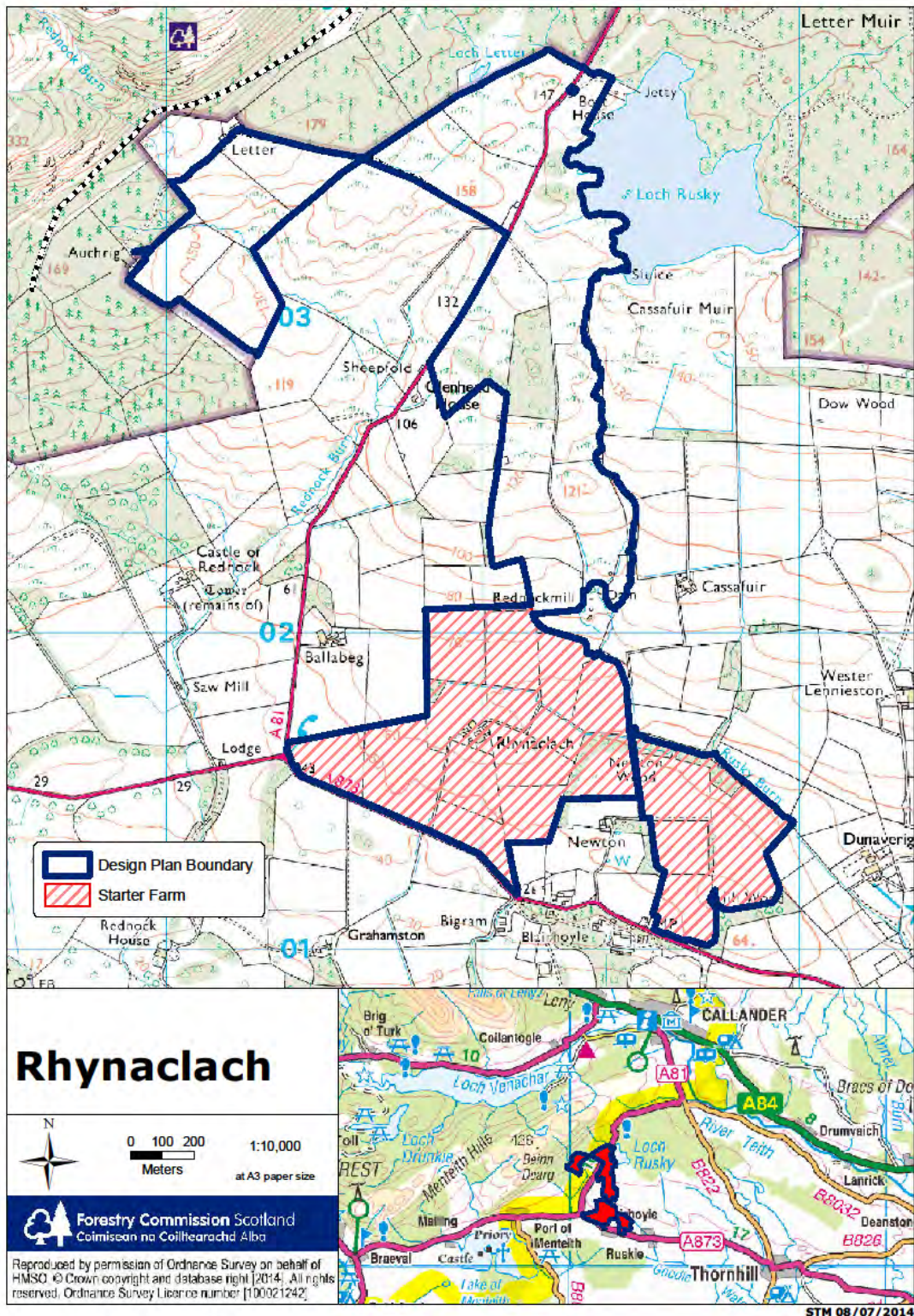


Figure 1.2. Plan boundary and Starter Farm

2.0 Analysis of previous plan

This is a new acquisition and therefore this is the first Land Management Plan (LMP) for the site.

3.0 Background information

3.1 Physical site factors

3.1.1 Geology, soils and landform

Rhynaclach occupies the south facing lower slopes of the Menteith Hills, to the south of the Highland Boundary Fault. It is underlain by Old Red Sandstone sedimentary rocks of the Devonian Period. The solid geology is covered with a thin layer of glacial material and the bedrock is close to the surface in places, often appearing as linear features parallel to the ridges of the Hills. The ground is irregular with steeper, rocky sections in places, irregular knolls and areas of flatter ground on low plateaux or basins. Elevation ranges from 40m at Blairhoyle to 175m at Letter Cottage.

The plan area is not covered by any detailed soil survey but field investigations have revealed the predominance of surface water gleys (Figure 3.1) with induration at variable depth. Some of the drainage problems are due to animal poaching but better drained brown earths occur on some steeper slopes, mounds and ridges. Deep peat and peaty gleys have developed in flush lines, plateaux areas and basins.

Table 3.1 summarises the nutrient and moisture regimes of the main soil types. Past agricultural activity will probably have improved the inherent nutrient status of the soils, which will be maintained, at least in the short to medium term. In general podzolised brown earths will be poorer than typical and slightly gleyed brown earths. Shallower and stonier sites will be towards the drier end of the moisture regime spectrum.

Rhynaclach Land Management Plan 2015-2024



Figure 3.1 Middle slopes of Rhynaclach Farm, dominated by surface water gley.

Soil type	Soil moisture	Soil nutrient
Typical/podzolic Brown earth	Slightly dry to moist	Poor to medium
Upland brown earth	Fresh to moist	Poor
Intergrade	Moist	Poor to very poor
Iron pan soil	Very moist	Very poor
Surface water gley	Very moist to wet	Poor to medium
Peaty gley	Wet to very wet	Very poor to poor
Flushed peat	Very wet	Poor to medium
Unflushed peat	Very wet	Very poor

Table 3.1 Rhynaclach: summary of soil properties

3.1.2 Water

The Rusky Burn, emanates from Loch Rusky and several smaller burns drain into it. The Loch and the burn mark the eastern boundary of Rhynaclach. The upper part of the site is drained by the Rednock Burn though the marshy ground associated with Loch Letter drains into Loch Rusky. There is a private water supply taken from the Rusky Burn which feeds the cattle sheds at both Ballabeg Farm and Rhynaclach. A water main crosses the site and a line from this feeds to Rednock Mill. There is a well marked on the early OS maps, close to the access to Letter Cottage, but this is no longer discernable on the ground.

3.1.3 Climate

Using the measures of warmth and wetness defined in the Ecological Site Classification (ESC, see Forestry Commission Bulletin 124) Rhynaclach, is considered to be warm and moist, only the very highest parts becoming marginally cool and wet. The annual temperature range is relatively small and about 60% of the annual precipitation, of about 1600mm, occurs in winter. Although much of the site is open to the south west, Rhynaclach is either sheltered or considered to be only slightly exposed.

In practical terms these conditions suggest that a range of tree species are suitable for use in the LMP area.

3.1.4 Future climate

Predicting the impact of future climate change presents one of the biggest challenges in forest planning. Analysis carried out by Forest Research indicates an overall increase in average temperatures with warmer summers and milder winters (Figure 3.2 top). There will be regional variation in the future rainfall pattern and distribution, with a decrease in summer rainfall in the east but an increase in the west of the country. This will lead to more frequent drought in the east but a reduction in moisture deficit in the west (Figure 3.2 bottom).

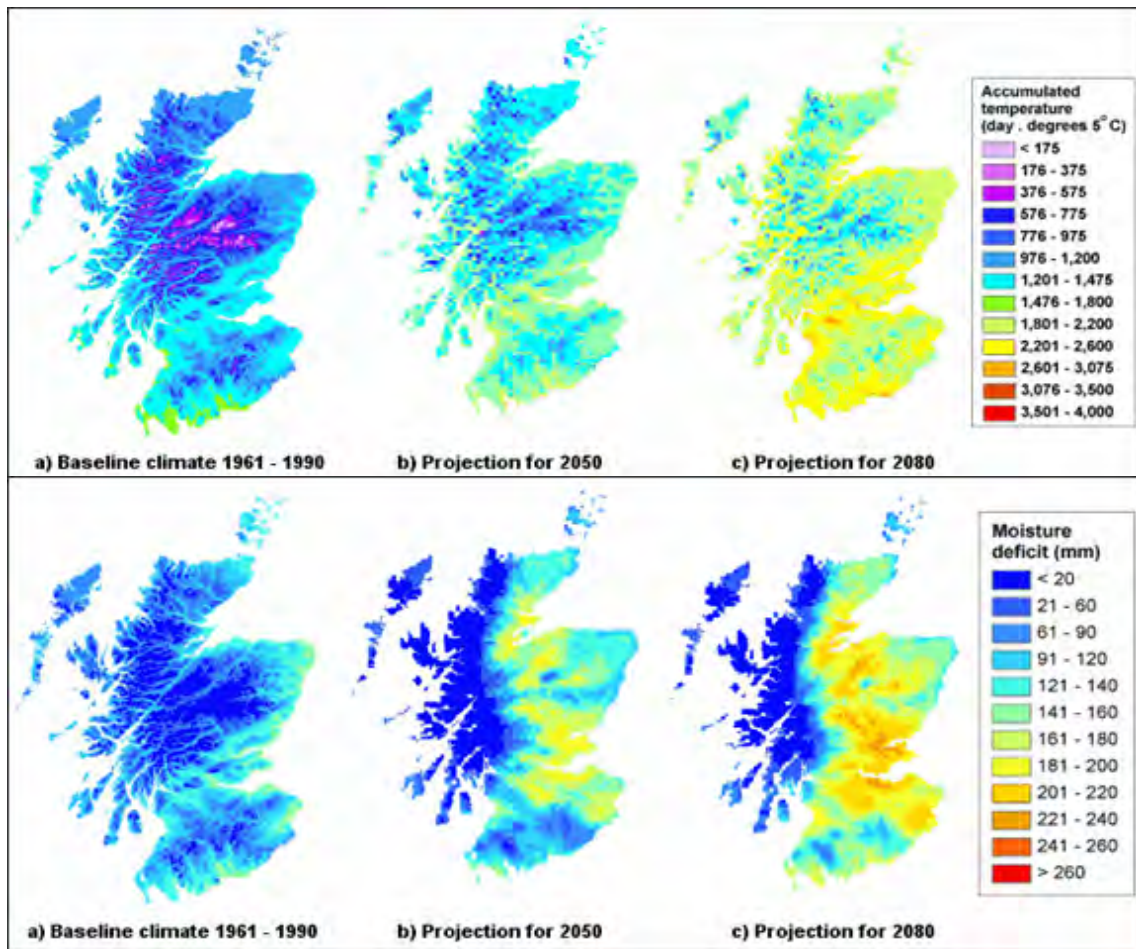


Figure 3.2 Predicted future warmth (top) and moisture deficit (bottom) – high emissions scenario

There is less confidence in predicting changes in other climatic parameters such as windiness and extreme winter cold or summer heat. However there is a general belief that the number of frost days will decrease but that the incidence and severity of extreme events (e.g. gales and heavy rain) will increase.

Data for the surrounding area suggest an increase in warmth of about 25% by 2050, compared to baseline 1960 – 1990 data. However for high emission scenarios the increase could be as much as 70% by 2080. Up to a 30% decrease in summer rainfall is predicted but this is compensated by a predicted rise of about 10% in winter precipitation and an overall slight decrease in annual precipitation is indicated. Moisture deficit is predicted to have fallen by 2050 but then rise by up to 120% of baseline in 2080. Potentially there could be an increase in growth rate in all tree species and a wider range of species become suitable, where exposure is not the limiting factor. Moisture deficit is not expected to be a limiting factor over most of the area.

3.2 Biodiversity and environmental designations

Rhynaclach is currently agricultural land dominated by improved and semi-improved grassland much of which is now being invaded by rushes. There is limited species diversity and there are no statutory environmental designations on the site.

The agricultural ground is broken up by small areas of woodland, of variable character and condition, and there are numerous hedgerows, with standard trees in places. These provide potential habitat linkages across the site.

The Rusky and Rednock Burns drain the area. The former emanates from Loch Rusky and is lined with mature trees; the smaller Rednock Burn is largely open. Loch Rusky is a managed trout fishery and migratory fish possibly use the lower reaches of the Rusky Burn. There is a large area of marshy ground associated with Loch Letter where there is a transition from the open water of the loch to poorly flushed, molinia-dominated, bog.

Several birds of prey are known to nest on the site or nearby. Otters are also known to inhabit the general area.

3.3 Existing woodland

3.3.1 Species, age structure and yield class

Existing woodlands range from a degraded long established plantation to individual trees along burns and in hedgerows (Figures 3.3 and 3.4). In the plantation there is a range of species. Birch and oak dominate the woodland but there are some poor quality larch on the margin and much open space. The age of the mature trees is uncertain and there is very little natural regeneration. The small woodland on the shore of Loch Rusky has a number of mature species including larch, Scots pine and some broadleaves. There is an understory of shrubby species including willow and alder. Willow, alder and birch are also found in other, more open, wet sites. The Rusky Burn is largely tree lined and species here include beech, sycamore and ash. Although largely open, trees and shrubs associated with the Rednock Burn include willow, alder and crab apple. Ash is also found as a standard in many of the hedgerows. There are several small stands of trees and a degraded shelterbelt in the lower part of the site.



Figure 3.3 Existing woodland to south west of Loch Rusky, mature oak with birch.



Figure 3.4 Existing woodland along the Rusky Burn, at this point mainly mature beech with some young ash.

3.3.2 Access

There is a track to Rhynaclach Farm off the A827 which can be used to access the lower half of the site. A second track leads off the A81 to Letter Cottage and Auchrig. Opposite this is a field entrance where a disused track meets the public road and there are several other field entrances either side of the A81.

3.3.3 LISS potential

The sheltered situation, and decision to plant only broadleaved species, offer good potential for the use of low impact silvicultural systems (LISS). Stands will be assessed approximately 15 to 20 years after planting as they approach age of first thinning to determine possible options.

3.3.4 Current and potential markets

Being adjacent to the A81 Glasgow to Callander and A827 Glasgow to Stirling roads provides the site with ready access to a wide range of potential markets.

3.4 Landscape and land use

3.4.1 Visibility, landscape character and value

Rhynaclach is at the junction of lowlands and uplands, at a point where large, commercial plantations give way to mixed agriculture, forestry and mosses of the Forth Valley (Figures 3.5 and 3.6). Although the slopes on which Rhynaclach sits blend into the landscape, when viewed from a distance, its position in relation to the public road network give the fields some prominence. In particular from the A81 there are views across the site towards the Campsie fells to the south and Lake of Menteith to the south west. In addition the changing views of Loch Rusky are considered locally important. Several neighbours have open views that look out over the site.

The landscape as a whole is one of mixed fields and both broadleaved and coniferous woodland. To the south are the designed landscapes of Rednock House and Blairhoyle.

Rhynaclach Land Management Plan 2015-2024



Figure 3.5 Overlooking Rhynaclach, towards Stirling, from Letter Forest.



Figure 3.6 Rhynaclach Starter Farm overlooking Forth Valley with Campsie fells in the background.

3.4.2 Neighbouring land use

Rhynaclach itself is a mix of improved and rough grazing, with the existing woodlands also open to pasture. There is potential for arable production at lower elevations. There are existing commercial plantations on the northern boundary and to the east (Figure 3.7), some of which are currently being restructured and restocked with a mix of broadleaved and coniferous species. Some ground is also being left open. A mixed pattern of agriculture and small woodlands is repeated to the west and east. Loch Rusky is a private fishery and there is a pony trekking business nearby.



Figure 3.7 Upland forestry to the north of Rhynaclach.

3.5 Social factors

3.5.1 Recreation

Although there are no formal facilities at present, the site offers some potential for future public access. It is partly within the Loch Lomond and The Trossachs National Park and close to the village of Port of Menteith and the town of Callander, from which there are footpath links to Loch Rusky and Letter Forest.

3.5.2 Community

There is no formal community involvement with the site.

3.5.3 Heritage

There have been settlements at Rhynaclach since at least the 17th century and several features are noted on early maps. Forest Enterprise Scotland commissioned a walkover archaeological survey which noted 17 sites of some archaeological or historical significance within the boundary of the property and an additional 4 sites adjacent to it. The former include an old inn by the A81 (Figure 3.8) and a second roofed structure on the south side of the road. There was a well near the inn but this is no longer visible. There are only scant remains of a farmhouse marked as Laurencefield on the 19th century OS maps. A sluice is marked on the early maps from which private water supplies, and the pond at Rednock Mill, were fed. Rednock Mill was latterly a hydro power facility. A site identified in a Historic Land Use Survey was not given anything more than local significance in the walkover survey. There is an old track leading off the A81 which goes to Rednock Mill.

Features are indicated on the heritage map and the full report from the walkover survey is to be found in Appendix VI).



Figure 3.8 Site of the inn marked on early OS maps, adjacent to the A81

3.5.4 Woodland Trust

Woodland Trust is co-ordinating the establishment and designation of a number of woodlands commemorating the First World War. Following discussions with the Trust, it has been agreed that Rhynaclach should be dedicated as a Memorial Woodland.

3.6 Statutory requirements and key external policies

The key policy documents influencing the LMP are the UK Woodland Assurance Standard, the UK Forestry Standard (3rd Edition), and the Scottish Forestry Strategy. Stirling Council refer to Proposed Supplementary Guidance SG28 Landscape Character Assessments, of their Local Development Plan. In particular guidelines for Forests and Water and Forests and Historic Environment will be adhered to.

4.0 Analysis and Concept

The analysis and concept map summarises the main constraints and aspirations for the LMP area.

4.1 Analysis

- Gross area approximately 170ha, about 100ha of which are available for planting.
- Approximately 70ha of better quality improved grassland retained as Starter Farm.
- Climate and soils suitable for a range of productive and non productive tree species.
- Set at boundary of fertile Forth Valley and rugged, less fertile Highlands; adjacent to the Forest Enterprise Scotland's Letter Land Management Plan Area and the designed landscapes/gardens of Rednock House and Blairhoyle.
- Important internal and external views, especially along A81 corridor at Loch Rusky; visible in distance from A873 between Wards Toll and Thornhill.
- Immediate neighbours have open outlook over site towards Stirling and the Fintry Hills.
- Limited diversity in the improved grasslands, but important open water and associated habitats around Lochs Rusky and Letter.
- Several existing woodlands/copses of variable quality.
- Several utility corridors.
- Several archaeological or historical features of local significance.
- Access from A81 and A873.

4.2 Concepts of the plan

- Establish native and non-native productive broadleaved species on a significant proportion of the available planting area, taking into account site conditions and potential climate change.
- Design woodlands to provide a network of open and woodland habitats, linking highlands and lowlands and integrating with existing land use and landscape.
- Provide visual diversity along A81 corridor retaining views of distant hills and near features such as Loch Rusky.
- Be sensitive to neighbours and maintain open vistas around their properties.
- Retain existing woodland and seek opportunities to enhance these.
- Conserve important archaeological features.
- Seek opportunities to plant hedgerows and shelterbelts on Starter Farm, in co-operation with existing tenant.
- Demonstrate best practice principles in integrated land use management.

5.0 Land Management Plan Proposals

5.1 Management

Outwith the Starter Farm initial management will be the establishment, over a five year period, of a broadleaved woodland as indicated in the Future Habitats map. Visualisations give an impression of how the woodlands might look from both close and distant viewpoints.

There will be a range of productive broadleaves and conifers planted at between 2700 stems per hectare and 5000 stems per hectare, depending on species. Cherry will be planted at densities of between 600 – 1100 stems per hectare, according to best Silvicultural practice. Areas designated as native woodland will be planted at variable density and patterns but averaging no more than 1100 stems per hectare and aiming to provide up to 70% woodland cover in total. Species will be determined by site conditions. Habitat networks will be a mix of open space and native tree species, the latter occupying up to 30% of the zone.

Part of the proposal is to plant individual trees in the south western fields of the starter farm, replicating the parkland landscape to the south. In addition approval is sought to re-establish and extend a small area of long established plantation in the Starter Farm area. This work, along with establishment and restoration of hedgerows and shelterbelts will only be carried out in strict co-operation with the Starter Farm tenant as a separate exercise to the main woodland establishment.

Cultivation techniques, drainage and weed control will be implemented as appropriate. However, there will be no deep forest ploughing.

Future management of stands will be assessed as the time of first thinning approaches.

There is no intention to clear existing woodland and future management will seek opportunities to enhance and expand these.

There are no formal plans for a recreation infrastructure; however planting will be carried out in such a way to allow for this in the future.

All forestry operations will be carried out in accordance with the UK Forestry Standard Guidelines, Forests and Water (5th edition).

Rhynaclach Land Management Plan 2015-2024

Main species	Woodland Type	Species	Mixture Information	Gross Area (ha)	Comments
Oak	Productive broadleaves	Oak, Hornbeam Red oak Birch spp, Hazel Mixed native broadleaves	5*5 groups of oak with buffer of hornbeam; infill of other species; or more extensive pure stands of oak	13.4	Infill should not out compete oak Hornbeam can be used for underplanting later in rotation Red oak in pure groups, if used Shrubby and flowering species can be used to break up edges and add to diversity
Sycamore	Productive broadleaves	Sycamore Norway maple Mixed native broadleaves	Groups Groups edges	16.9	Plant in pure groups Shrubby and flowering species can be used to break up edges and add diversity
Mixed broadleaves	Productive broadleaves	Aspen, Birch spp Alder spp, Hazel	Pure groups appropriate to site.	11.3	
Wild cherry	Productive broadleaves	Wild cherry	Pure	0.8	Wide spacing
Oak	Existing woodland	Mixed native broadleaves	Species appropriate to site	14.4	Option to plant small groups of native species to aid restoration of woodlands; management appropriate to stand condition
Oak	Native broadleaves	Mixed native broadleaves	Species appropriate to site	9.2	Variable density planting or natural regeneration of up to 70% of gross area
Open	Native broadleaves	Mixed native broadleaves	Species appropriate to site	13.7	Variable density planting or natural regeneration of up to 30% of gross area
	Grazing	Mixed native broadleaves	Individual specimens	87.8	Includes starter farm Individual trees to enhance parkland

Table 5.1 Species choice

5.2 Future habitats and species

The Future Habitat and Species map shows the distribution of habitat types that will be found at Rhynaclach, including open space. Table 5.1 provides a summary of preferred species, acceptable alternatives and percentage cover in the newly planted areas. Although there is unlikely to be much variation in the overall planting scheme, the alternative species are listed to provide flexibility and add biological and visual diversity.

5.3 Restructuring

The existing woodlands will be retained.

5.4 Future management

In the five years following first planting, productive species will be established at appropriate spacing. During that period beating up with the same or other suitable and appropriate species from the species table, will be allowed. Productive stands will be assessed towards time of first thinning (approximately 15 – 20 years, depending on species and yield class), and decisions taken on future management.

5.5 Species tables

Table 5.2 indicates expected species percentages following establishment. Other broadleaves includes the old established woodlands, much of which is oak.

Species	2021
Oak	4.8
Sycamore	6.1
Other broadleaves	28.5
Open ground	60.6
	100

Table 5.2 Expected species diversity in Rhynaclach (percentage of total area, including starter farm)

5.6 Age structure

The new planting will result in a two tiered age structure, of new and established woodland. The combination of species and their different management will provide the opportunity to create greater diversity in the future.

5.7 Management of open land

Grazing will be the main management technique for retaining open ground. Open space will also be maintained in agreed wayleaves and appropriate buffers established around historical features, as recommended in the archaeological survey report. Management will take account of sensitive bird, mammal and other species and avoid unnecessary disturbance.

There is considerable potential for habitat development around Loch Letter (Figure 5.1). Options include low density planting of native species, which will improve diversity. Similar planting next to Loch Rusky will also improve conditions for fly life, though here the majority of the lochside will be, maintained as, open space for landscape reasons. Invading non-native species will be kept within the limits set out in the tolerance table (Appendix II).



Figure 5.1 Beyond the gorse is open ground associated with Loch letter

5.8 Deer management

During the establishment period deer management will be the responsibility of the planting contractor. Both fencing and culling will be considered as options. A management plan will be developed following establishment.

5.9 Access

During the establishment phase existing access points off the A81 and A873 will be used. There are several possible options for access for future silvicultural management and timber haulage. These include through Rhynaclach farm, potential new access from Letter LMP area and improved access onto the old Callander road from the A81.

Appendix I: Land Management Plan Consultation Record

A record of those invited to comment on the proposals, and the issues raised is contained in the scoping meeting minutes in Appendix IV.

Appendix II: Tolerance Table

	Change to species (including boundaries)
FC Approval not normally required	Change within species group i.e. diverse conifers; broadleaves. Non native conifers in native woodland areas and designated open space up to 400 stems/ha.
Approval by exchange of letters and map	
Approval by formal plan amendment	Change from specified native species to non- native species. Change between species groups as defined above

Appendix III. Land Management Plan Brief

The Rhynaclach Land Management Plan (LMP) reflects the key themes of the Scottish Forestry Strategy (SFS) (2006), and Cowal & Trossachs Forest District's Strategic Plan. The overall objectives of the plan are to plant broadleaved species in order to meet Scottish Government targets on carbon sequestration and woodland expansion. In addition the bulk of the broadleaves are to be for productive purposes and the site should also demonstrate the best principles of integrated land use management.

The key objectives are given below:

1. Expand the area of broadleaved woodland on the National Forest Estate.
2. Contribute to targets for carbon sequestration.
3. Grow broadleaved timber for production.
4. Demonstrate best practice in integrated land use management.

Appendix IV. Scoping Meeting Minutes

Rhynaclach Land Management Plan

Record of scoping meeting held on Thursday 31st July 2014

Summary of main issues raised:

Water supplies:

Information will be gathered during development of the plan and existing supplies protected.

Heritage features

eg the site of an old inn immediately east of the entrance to Letter Cottage:

UKFS and FES guidelines will be followed.

Relevant authorities are included as statutory consultees following design plan submission.

Landscape:

Wider landscape setting/impact on tourist industry – this will be considered during development of the plan and visualisations of how the forest might look in the future will be produced to aid landscape assessment; FES will look for viewpoints along the Buchlyvie-Stirling road;

The site is suitable for a wide range of species and there is no intention of planting a mono-culture conifer forest;

Impact on views from A81 road corridor and avoidance of dark tunnel effect
-

Dense planting of conifers along roadsides will not take place; variety will be introduced to maintain views over Port of Menteith and distant hills;

Impact on views from neighbouring houses – FES will work closely with neighbours during development of the plan to take account of views;

Timber haulage/operations:

Access and haulage - there are no restrictions on any of the public roads adjacent to the site; FES will look at various options for extracting timber in the future, including new forest roads to link with those in Letter Forest and taking timber south through the farm

Drainage requirements and impact on water bodies - strict guidelines will be followed during operations and modern ground preparation helps minimise risk of flooding and siltation;

Rhynaclach Land Management Plan 2015-2024

Soils and species choice – soils (including peat) will be assessed and a range of productive and non - productive species will be planted, seeking to exceed UKFS requirements regarding productive broadleaves;

Conservation/environment:

Breeding birds of prey - need to minimise disturbance to an nest sites during operations. Design and operations will seek to avoid disturbance to breeding birds of prey;

Existing woodland – no intention to clear existing woodland and both options to enhance and extend these will be considered;

Loch Rusky (fishery)– planting broadleaves will be beneficial for fly life; control of all grazing animals will need careful consideration.

Loch Letter (habitat potential) - FES are aware of the potential for habitat development around Loch Letter and district conservation team will be closely involved in the planning process;

Integration with existing plantation – restock plans for existing Letter plantation will be taken into account during design and interconnected habitats created where feasible;

Impacts on agriculture:

Loss of agricultural land – it is recognised that this is a sensitive site as per WEAG guidance and the local RPID officer will be consulted regarding the impact of planting on agriculture;

Recreation: pointing out that FES have an active open access policy.

Possible links to existing trails and cycle routes - FES will not be creating any formal infrastructure but will allow for potential developments.

This summary includes issues raised by FCS and LLTNP per email, a fuller record of the meeting is provided below.

The first drafts of a concept map will now be produced in early 2015 following further site visits and information gathering.

STM, 1st December 2014

Rhynaclach Forest Design Plan

Record of scoping meeting held on Thursday 31st July 2014

Attendees: Tom Davies (FCS); John Fowler (Heriot's Angling Club); Alison Forrester (Letter Cottage); Simon Franks (LLTNP); Keith Graham (PoM CC); John Hair (FES); Sheena MakGill-Crichton (PoM CC); Stuart MacKenzie (Heriot's Angling Club); Stephen Murphy (FES); Steve Nunn (Callander's Countryside); Doug Shapley (RSPB).

Apologies: Callander CC; Cambusmore Estate; SEPA; SNH; Stirling Council.

Invited: Friends of Loch Lomond and the Trossachs; RPID; River Forth Fisheries Trust; Scottish Water; SSE.

The meeting convened at 13.00.

All present introduced themselves.

TD opened the meeting and explained its purpose, to identify and examine issues that should be considered in the development of the design plan for the site. There is no intention to discuss detailed planting proposals. A scoping report will be produced following the meeting which will inform the draft design. Stakeholders will be given the opportunity to comment on the draft report.

SM gave a short presentation setting the plan in the context of Scottish Government Policy and giving background information on the site. He summarised information already reviewed by FCS, including soils and climate data, conservation and heritage and existing constraints/burdens. SM concluded that the site was suitable for a wide range of tree species for productive and non-productive objectives.

Individuals were then given the opportunity to raise issues of concern.

SMC asked about water supplies: do FES have relevant information and will they be protected?

JH said that FES were aware of an existing water main running across the property and that information on other water supplies will be obtained during the ongoing data gathering exercise.

KG pointed out the site of an old inn immediately east of the entrance to Letter Cottage and also suggested some of the area may have been used as a military training ground at some time in the past.

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It was generally agreed that both Stirling Council and WOSAS should be asked to comment on the archaeological features of the site.

AF wondered whether the site's setting in the wider landscape would be taken into account or only localised and internal impacts.

SMC pointed out that there had already been massive change in the landscape over the decades – not always for the best, though recent windblow clearance opened views and created a sense of openness and light. Maintenance of the latter is important. SMC also wondered whether it was possible to see what proposals will look like in the future.

TD said that both the overall landscape setting and more localised effects were important considerations and, although he accepted that some previous work in the past has not been seen in a positive light there is now a different approach to forest planning. The production of visualisations of how the forest might look in the future is one tool which will guide design. He requested that FES take into account the landscape setting.

KG thought that the important tourist industry would not be helped by the planting of more sterile, mono-culture conifer forest. Also dark roadside corridors are not wanted.

JH said that it is not the intention to plant mono-culture conifer and a wide range of options will be considered. There is likely to be a range of species, variable density planting and targeted planting on the starter farm area. Dense planting of conifers along roadsides will not take place.

TD asked whether there were important viewpoints from which the site could be seen and its impact on landscape assessed.

It was agreed that most views were distant but that SM should assess those from the Buchlyvie to Stirling Road. The A81 corridor is considered important for the views it affords over Port of Menteith and towards the southern hills, as well as the variation in landscape features along the route itself.

SMK suggested planting of broadleaves around Loch Rusky would encourage fly life.

SF would like to see integration with existing woodland.

TD asked about issues regarding timber haulage.

SM said there were currently no restrictions on any of the public roads adjacent to the site.

JH said FES would look at various options for extracting timber in the future, including new forest roads to link with those in Letter Forest and taking timber south through the farm.

SN asked about the need for drainage and others raised concerns about possible impacts on Loch Rusky.

Rhynaclach Land Management Plan 2015-2024

JH and TD pointed out that there are strict guidelines in place and that modern ground preparation helps minimise risk of flooding and siltation.

TD asked what conservation issues there might be.

DS pointed out the need to minimise disturbance to a conservation site during operations. He also wondered about the maintenance and enhancement of existing woodland.

JH said there was certainly no intention to clear existing woodland and that planting and natural regeneration are options to help extend these.

SN wondered about fencing requirements.

JH responded that control of all grazing animals will need careful consideration.

KG asked about the habitat potential around Loch Letter and SN wondered if open water would be maintained.

SM said FES were aware of the potential of Loch Letter and would look carefully at habitat creation and maintenance. The district conservation team will survey the whole site and identify potential habitat networks and sites of particular conservation interest.

AF wondered whether there would be resources to carry out the necessary work.

JH said that FES have to put together realistic plans with works tailored to resources but that every effort will be made to meet a variety of objectives.

TD asked about impacts on agriculture.

KG expressed concern regarding the planting of trees on such good quality land as the fields immediately south of Letter Cottage and Auchrig and SMC asked why the whole area could not be retained as a Starter Farm, especially in light of the dwindling agricultural community.

JH pointed out that it was deliberate policy to keep the Starter Farm to a size that the tenant need only work it on a part time basis and it was agreed, generally, that the loss of agricultural land and communities was a complex issue in which afforestation was only one factor.

SM said that the local RPID officer would be consulted regarding the impact of planting on agriculture.

SN asked about wayleave management and the possibility of using these for production of biofuels on short rotation coppice.

JH said the power companies are responsible for keeping wayleaves clear but that coppice management could be considered as an option.

TD asked about recreation, pointing out that FES have an active open access policy.

Rhynaclach Land Management Plan 2015-2024

KG mentioned the possibility of cycle routes and AF asked about the possibility of linking in to existing trails, for example on Cambusmore estate.

JH said that FES would not be creating any formal infrastructure but will allow for potential developments. Organisations or groups wishing to develop appropriate and managed infrastructure would not be discouraged.

TD asked if there were any other issues. He asked SM to produce a report highlighting the issues raised and a map illustrating these.

SM said these would be available by mid September. A concept map should be ready by December and it was intended to submit the final plan by mid summer 2015. This would include visualisations of what the woodland would look like and stakeholders will be consulted further during the process.

TD thanked everybody for their attendance and the meeting concluded at 14.30.

STM 4th August 2014.

NB: All forests managed by FCS are certified under the UK Woodland Assurance Scheme (UKWAS), which requires forests to be managed sustainably. The UKWAS is part of the Forest Stewardship Council (FSC) scheme, which allows timber sourced from certified forests to carry the FSC label. The Rhynaclach plan will incorporate the various requirements of UKWAS within its proposals.

The following also provided comments or further information:

RPID: noted that more productive land was being retained for agriculture and that the split between forestry and agriculture was reasonable in terms of mixed usage. No significant concerns raised.

Callander Community Council: pointed out the presence of breeding birds of prey.

Scottish Water: indicated the presence of a water main and confirmed its approximate location, asking to be consulted at the operational stage.

Mrs Burnett (Rednock Mill): the approximate route of a water main to Rednock Mill was walked.

Woodland Trust: agreed that this would be a suitable site to designate as a WWI Memorial Woodland.

Rhynaclach Land Management Plan 2015-2024

West of Scotland Archaeological Service: provided confirmation of the presence of archaeology on or adjacent to the site and recommended a walkover survey by a qualified archaeologist.

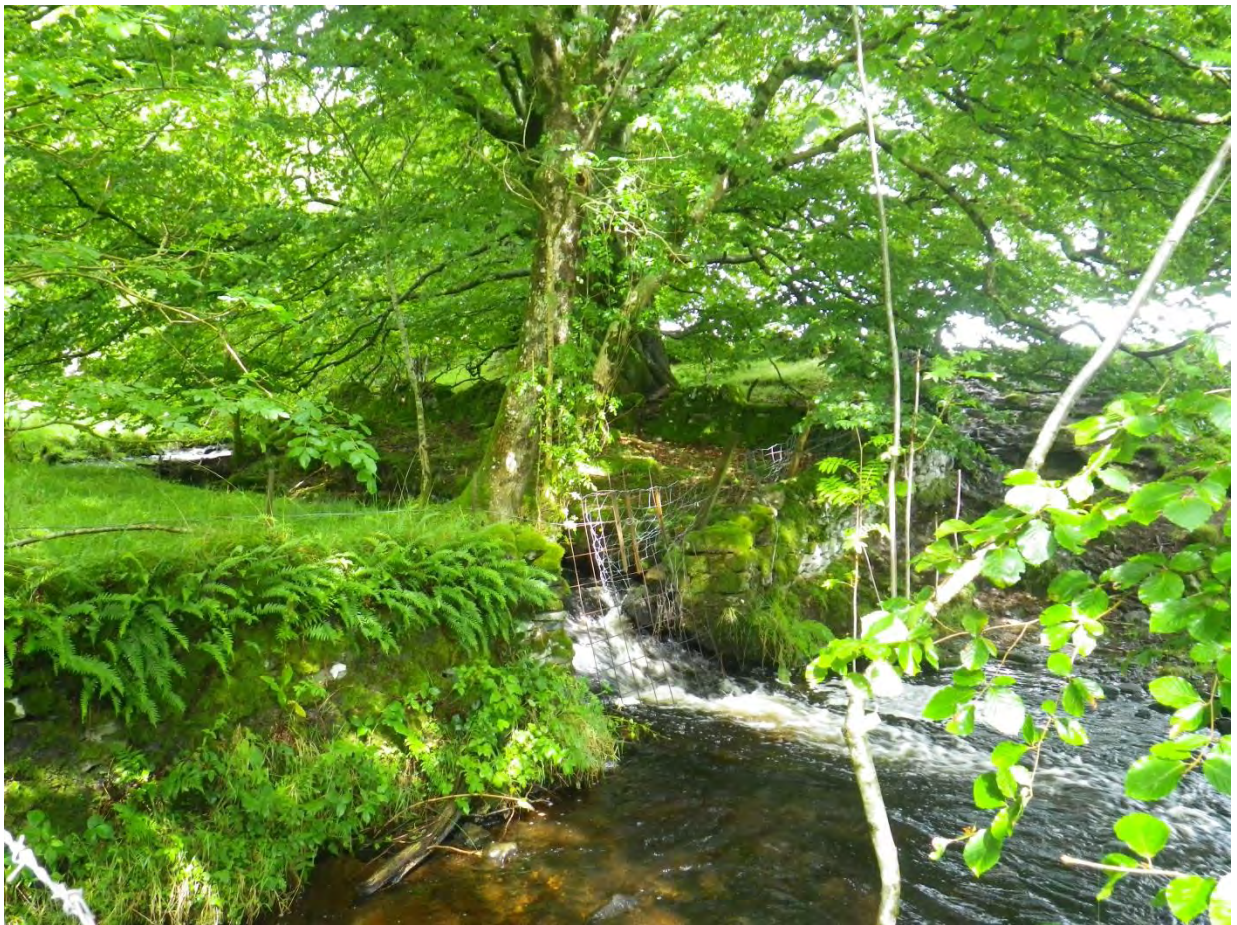
Archaeological survey: a report on a walkover survey is to be found in appendix VI.

Mark Donald and Harriet Smith (Starter Farm tenants): several discussions were held regarding potential planting of hedgerows, shelterbelts and management of existing woodland.

Appendix VI. Archaeological Report

RHYNACLACH ARCHAEOLOGICAL SURVEY

Client: Forestry Commission Scotland
Prepared by: Clare Ellis, Argyll Archaeology
August 2015



0. NON TECHNICAL SUMMARY

- 0.1 An archaeological survey, comprising a rapid desk-based assessment and predictive prospective walkover was conducted over a parcel of land at Rhynaclach, Stirlingshire. The programme of archaeological work was commissioned by Forestry Commission Scotland (FCS). Seventeen individual structures or features of archaeological or historical significance were recorded within the Design Plan boundary and a further four sites were recorded as they lay just outside the boundary. The recommendations of this report follow the Forestry Commission Scotland Archaeological Survey Guidelines (Ritchie 2012).
- 0.2 It is the recommendation of this report that all the sites within the area to be afforested should be preserved *in situ* and protected from damage by a 5m buffer zone of no physical disturbance.

1. INTRODUCTION

- 1.1 The site (Fig. 1) lies within Stirlingshire Administrative Area and the western portion of it falls within the Loch Lomond and Trossach National Park. The proposed scheme is roughly centred on NGR: NN61086 02541 and lies within the parish of Port of Menteith. The archaeological walkover survey was undertaken in the week beginning 10th July 2015.
- 1.2 There were no previously recorded sites within the Design Plan Boundary, although the settlements of letter and Auchrig had previously been recorded (Pastmap and West of Scotland Archaeology Service's Sites and Monuments Record).

2. OBJECTIVES

- 2.1 The archaeological objectives were to:
- a. determine the presence or absence of surface archaeological features within the confines of the proposed scheme;
 - b. propose further stages of archaeological work as required;
 - c. propose suitable mitigation.

3. METHOD

- 3.1 A rapid desk-based assessment was undertaken prior to the walkover survey. This comprised the online consultation of historical maps, aerial photographs, Pastmap, Canmore, The OS Name Book, Old and New Statistical Accounts and the Site and Monuments Record (SMR).
- 3.2 The brief issued by FCS required a predictive prospective walkover based upon the results of the desk-based assessment. Consequently only those sites identified during the desk-based assessment were visited and recorded, although any other archaeological features encountered during this process were recorded. In addition the wooded adjacent to Loch Rusky was walked through as was the woodland located to the west of Laurencefield (Site 4),

although the presence of standing water, bog and thick vegetation in both areas prevented a systematic survey. All site locations were recorded using a handheld gps and photographed.

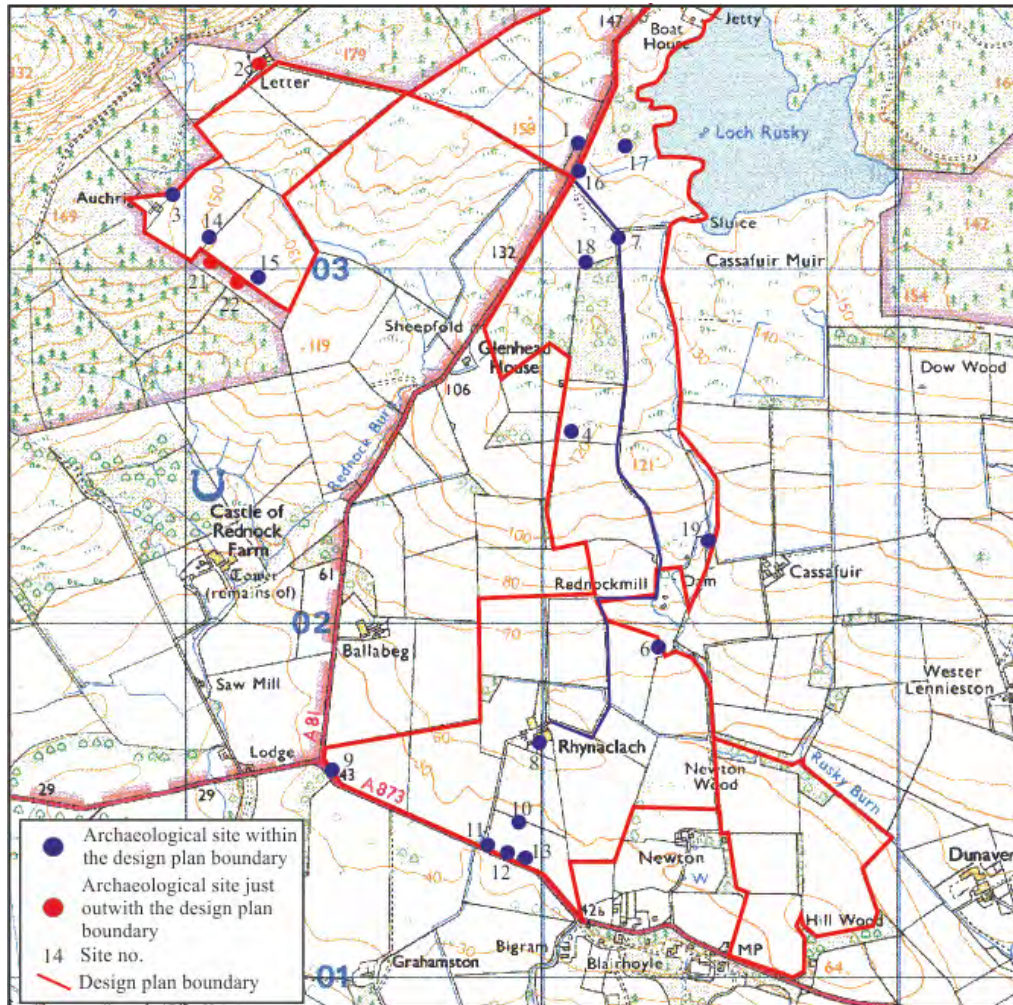


Fig. 1. Map of Rhynaclach with archaeological sites and associated site number as identified during the desk-based assessment and walkover, Stirlingshire.

3.2 The geology comprises glacial till underlain by sandstone and conglomerate. The weather was mixed with periods of torrential rain.

4. RESULTS AND DISCUSSION

4.1 POST-MEDIEVAL

4.3.1 The results of the desk-based assessment are summarised in Table 1 while the field observations of the sites are given in the Gazetteer, Appendix 2. No additional features were observed on the aerial photograph as available for view (1988 ap) on the NCAP web site, although it was noted that the fields on the west side of the native woodland bounded by Site 18 had been ploughed, possibly in advance of planned afforestation. All the sites, structures and features recorded date from the 18th, 19th or the 20th century and reflect the extensive and probably quite intensive mixed farming of this area during these periods.

Walkover survey, Rhynaclach, Stirlingshire- 339

Site No.	Place name	Roy 1747-52	James Stobie 1783	John Thomson 1832	1st Edition OS	2nd Edition OS	Name book 1859-1862	NMRS No.	National archives	Aerial photo 1988.
1	Muirhouse				1 roofed building, Public House, with possible garden ground, two enclosures and well to the south. On the opposite side of the road and slightly to the south is L shaped roofed building	Same outline for Muirhouse, but not Public House and one large enclosure. Building to south on other side of road now two separate structures, one rectangular and one square with adjoining enclosure wall.	A house, Occupied as a public house. The property of D. Graham Stirling Esqr. of Dochray			Enclosure wall just visible.
2	Letter	Letter, 5 structures set within hill ground	Letter farmstead, 3 structures	Letter	4 roofed structures, 2 unroofed structure and 4 enclosures and a well. Farmstead. Track runs from main road, past Muirhouse westwards to Letter.	3 roofed structures, one on north side of track not shown. Two of the smaller earlier structures now joined to form one large L-shaped structure, some alterations to location of enclosure walls too.	A farm house and offices the property of George Home Binning Home, of Argaty, Callander	NN60SW15		
3	Auchrig	Auchcraig, 5 structures with cultivated land to S, E and W and hill land on N site	Achrigg farmstead, 2 structures	Achrigg	3 roofed structures, two unroofed and 3 enclosures. Also to the northeast one unroofed structure at the end of the track next to a burn. Track.	No significant changes	A farm house and offices the property of George Home Binning Home Esqr.	NN50SE79		Track visible as a darker line.
4	Laurencefield		Goulstown ?, 1 structure or Rednock 1 structure ?		2 roofed buildings and 1 enclosure	2 roofed buildings and 3 enclosures (larger divided up).	A small farm house and offices The property of J.G. Stirling Esqr. of Rednock.		Tacks and leases by General Graham Stirling of Larensfield, the Graham's Arms and farm, the mill lands of Rednock, the farm of Inchie, and the farm of Hogwood. Larensfield 1830-1852	Not discernible
5	Rednock Mill		Mill town of Rednock, 2 structures on east side of Rusky burn and 1 on west side	Rednock Milltown	2 roofed buildings and 3 enclosures, ford and sluice on Rusky Burn	No significant changes	A small farm house and offices, one of the office houses till lately was occupied as a corn mill, see trace 4 of common plan. The property of J.G. Stirling Esqr. of Rednock		Plan of mill etc. RHP 40684 9th July 1765.	Lade visible
6	Oatlands		1 structure shown, not named		2 roofed buildings with access track leading off main road (7)	Not depicted	A small dwelling house and byre a short distance south of Rednock Mill			Not visible
7					Road leading northwards from A873 to Rinaclach (Rhynaclach), to Rednock Mill, to cross roads south of Muirfield.	No significant changes				Discernible from Muirhouse to Rednock mill
8	Rhynaclach	An unnamed settlement shown at this approximate location ??			Rinaclach, 3 roofed buildings, 3 enclosures and well. Pond to north.	Largest building extended to form 3 sided buildings with central courtyard. Well now adjacent to house.	A farm house and offices the property of J.G. Graham Esqr. of Rednock			Modern farm
9	Hammersmith				Broad C-shaped building within wooded enclosure, edges main road	Rectangular buildings, with small square building on east side and well adjacent to the road	1862 a row of houses on the farm of Ballabeg and situated on the roadside leading to Stirling. One of the houses was occupied until lately by a Smithy and hence the name			Not visible
10			Unnamed structure		Small rectangular structure in field with well on north side of boundary	Small unroofed rectangular structure and well on north side of boundary				Not visible
11	Arthurfield				Two roofed rectangular structures located on corner of A873 and road to Rhynaclach (7) and 1 enclosure	No significant changes	A small dwelling house and byre, with a small croft of land attached. The property of J. G. Stirling Esqr. Of Rednock			Not visible
12	New Grahamston	Graham'stown, 5 structures amongst cultivated land, probably same as Grahamston on 1st Edition and which lies to the south and outwith the design plan boundary.	New Grahamstown, 2 structures either side of main road	Grahamstown	One roofed rectangular structure, parallel to the A873, set within strip field	Not depicted, stripped field divided	A large two storey house occupied by the police officer and some agricultural labourer. The property of J.G. Stirling Esqr. Of Rednock			Dry patch of ground
13	Morrison's croft				Two roofed rectangular structures set perpendicular to each other, one located parallel to A873, two enclosures	No significant changes, addition enclosure on the east side and a well marked slightly further to the east	A dwelling house with byre and a small croft of land attached The property of J.G. Stirling Esqr.			Not visible

Table 1. Summary of the Desk-Based Assessment information; the Site No. corresponds to the Site No. shown in the gazetteer (Appendix 1).

- 4.3.2 Settlement is depicted at Leter (Site 2) and Auchrig (Site 3) on Roy's Military map 1747-55 and may indicate that these sites have a later medieval foundation (Plate 1). Although both sites, as now visible, are outwith the Design Plan Boundary it is feasible that later medieval structural remains may survive in the locality.



Plate 1. Roy's Military Map 1747-55, showing Leter, Auchraig an unnamed settlement just to the northeast of Grahamstown (possibly Rhynaclach?), Stirlingshire.

- 4.3.2 The mill building at Auchrig which is depicted on the 1st Edition Ordnance Survey map lies within a previously afforested area and although the structure is no longer discernible on the ground it may survive beneath the more modern rubble and rubbish (Plate 2). The boundary wall running from the mill to the farm survives as a low line of earth and rubble but there is no surface trace of the roads/track running westward to the farm and mill. A structure at Muirhouse is also shown on this map as a public house which presumably catered to the local populous and people travelling between Port of Mentieth and Callander. On the opposite side of the road was another structure, Site 16, both structures appear to have been deliberately demolished. Also at this time there was a made road (Site 7) running from Muirhouse (Site 1) down the Rednock Mill, Oatlands (Site 6) and Rhynaclach (Site 8). The 1st Edition Ordnance Survey map Sheet CXXIII 1866 shows a settlement called Laurencefield just to the west of this road; the settlement comprised two structures and an enclosure with a stone line wall on the western side (Plate 3).



Plate 2. Annotated extract of the 1st Edition Ordnance Survey map, Perthshire Sheet CXXIII, 1866.

- 4.3.3 Rednock Mill lies outwith the Design Plan Boundary and is now occupied by a modernised house. However, the mill lead (Site 19) falls within the boundary (Plate 3) and comprises a shallow water course which has been cut from the main Rusky Burn and was controlled by a sluice gate, the concrete piers of which survive. However, there was no surface trace of the road that is shown on 1st Edition OS map Sheet CXXIII 1866 which forded both the lade and burn just to the south of the sluice, although the boundary wall running to the west of the sluice and across the north side of the ford survives. Just to the south there is no surface trace of two structures, Oatlands and an associated track which are both depicted on the 1st Edition OS map Sheet CXXIII 1866.

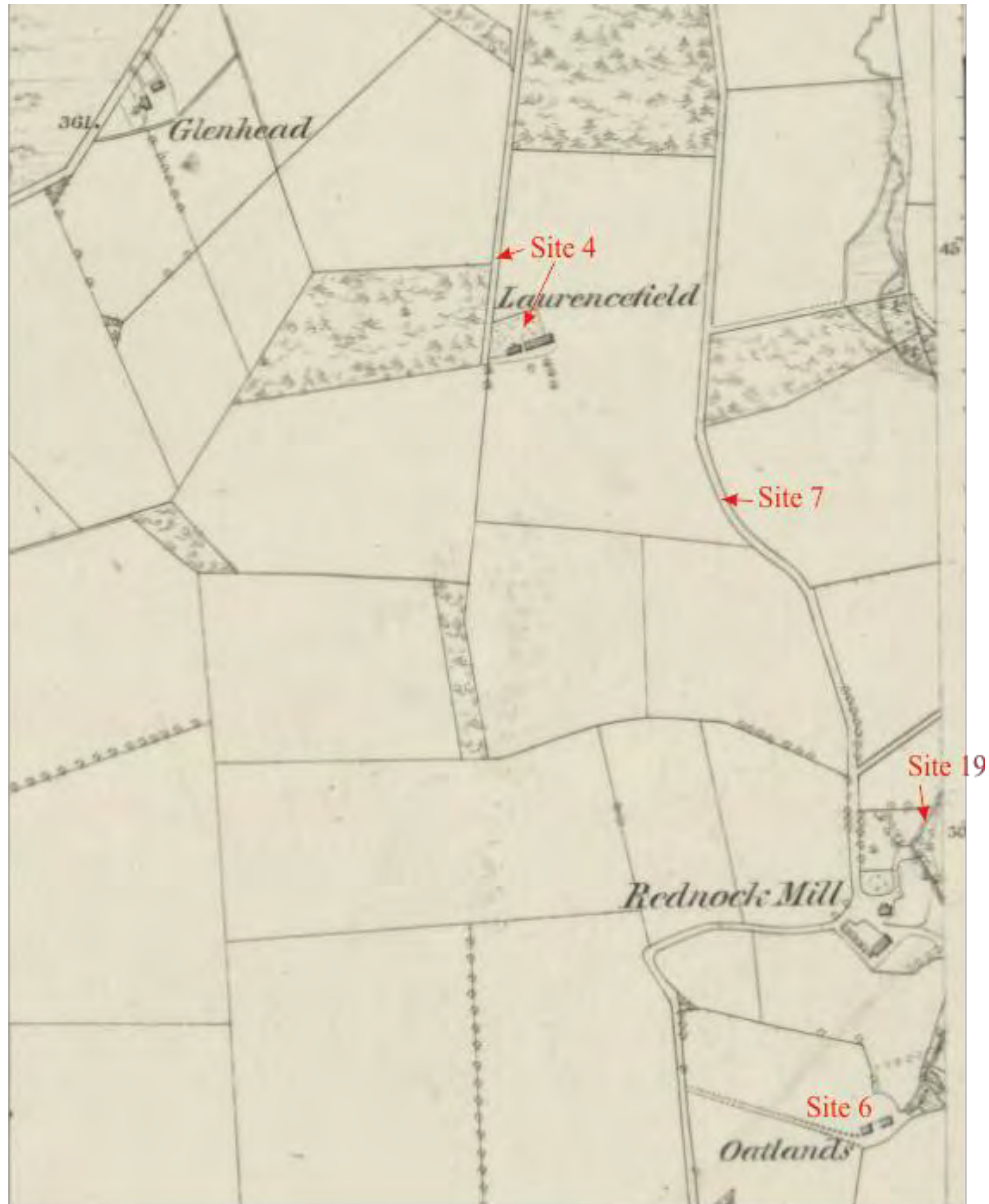


Plate 3. Annotated extract of the 1st Edition Ordnance Survey map, Perthshire Sheet CXXIII, 1866

- 4.3.4 Bounding the main road (A873) were four settlements, Hammersmith (Site 9) (Plate 4) and the site of a former smithy, Arthurfield (Site 11), New Grahamston (Site 10 & 12) and Morrison's Croft (Site 13) (Plate 5). At all five sites the structures appear to have been deliberately demolished and the rubble

cleared to allow for modern arable cultivation with very little surface evidence surviving.



Plate 4. Annotated extract of the 1st Edition Ordnance Survey map, Perthshire Sheet CXXIII, 1866

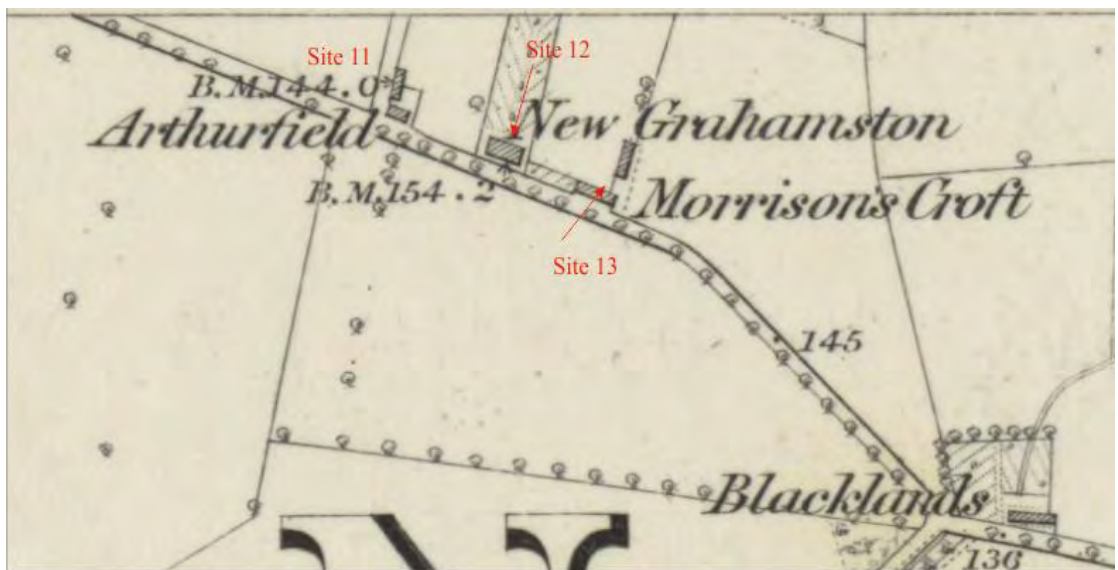


Plate 5. Annotated extract of the 1st Edition Ordnance Survey map, Perthshire Sheet CXXX, 1866

5.0 MITIGATION

- 5.1 In line with the guidance of the Forestry Commission Scotland Archaeological Survey Guidelines (Ritchie 2012) a 5m buffer zone of no physical disturbance should be left around those features identified and which occur in areas of proposed afforestation.

Appendix 1: Photographic register

Appendix 2: Gazetteer of archaeological and historical sites

The gazetteer has been compiled from a walkover survey. Each site No. is unique and corresponds to the numbered sites shown in Fig. 1.

FORMAT

The format of each site entry in the gazetteer is in the order given:

- Name
- Location - National grid reference (NGR)
- Site type
- Character
- Date
- State of preservation
- Significance
- Mitigation

Criteria used to quantify archaeological and historic sites

The description of *Character* and *Extent* of the sites is taken from documentary and cartographic records, where they exist, and/or from direct observation.

Determination of the *State of Preservation* of an archaeological site is often hard to ascertain without the aid of intrusive archaeological works. A site that has been previously attributed some regional or national significance is regarded as in a good state of preservation, unless there is documentary or visual evidence to the contrary. For a site of Local Importance/Significance the *State of Preservation* refers to the physical condition of the visual remains and the degree to which the original site appears to be intact and unaltered, Table 1. Where no assessment can be made as to the current condition then the *State of Preservation* is referred to as Unknown.

Table 1. The definition of the State of Preservation

<i>State of Preservation</i>	<i>Criteria</i>
Good	World Heritage Site; Scheduled Ancient Monument or Regionally Important site. Local site with good physical preservation.
Moderate	Local site with limited denudation/erosion etc
Poor	Local site with significant denudation/erosion etc
Unknown	No assessment can be made (cropmark etc)

Sites are assigned a level of *Significance* on a scale of ‘less than local’ to ‘international’ (Table 2). The level assigned is based upon statutory designation and/or assessed cultural heritage importance. Many sites of cultural heritage significance are not currently afforded any statutory protection through designation. For the purposes of this assessment, these undesignated sites were assigned a level of importance using professional judgment.

Table 2: Definition of the Significance of an archaeological site

<i>Significance</i>	<i>Criteria</i>
International	World Heritage Site
National	Scheduled Ancient Monument (SAM)
Regional	Some undesignated sites assessed as being of Regional Importance
Local	Some designated sites assessed as being of Local Importance
Less than local	Sites either already badly damaged destroyed or whose historic value is too slight for inclusion in a higher class.

Appendix 1: Photographic register

No.	Site	Description	Taken from
1	3	Bank/wall	NE
2	3	Mill?	SW
3	3	Mill?	SW
4	21	Quarry?	S
5	22	Track?	E
6	15	Clearance cairn	NE
7	1	Site of	SW
8	16	Site of	S
9	17	Wall and clearance cairn	NE
10	7	Track? Wall and clearance	N
11	18	cairn	SW
12	4	Laurencefield	S
13	4	Laurencefield	E
14	19	Lade	S
15	19	Lade	S
16	19	Ford/bank	W
17	19	Sluice	SW
18	13	Concrete pad	E
19	12	Site of	E
20	9	Site of	W

Selected images:





Appendix 2: Gazetteer

Site No.	Site name	x	y	Site Type	Character	Date	State of preservation	Significance	Mitigation
1	Muirhouse	261104	703358	Structure, enclosure	Rectangular structure 19m x 12m, drystone wall up to 0.80m high, sunken interior with outside ground level now flush with the top of the wall. Large blocks of masonry next tot the road, probable garden enclosure, the structure within was not discernible. Large stone wall, up to 90m long, leading up from track to the enclosure, 0.20m high and up to 1m wide due to demolition/collapse rubble.	18th or 19th century?	Poor	Local	5m buffer zone of no disturbance
3	Auchrig	259960	703212	Farm	Actual farmhouse etc. still in use. Location of mill next to burn and modern fence line. Mill partially obscured by modern rubbish and probably slighted by telegraph pole. Area of stone 25m x 10m. Old field boundary on top of low ridge of bedrock leads south-westwards from mill towards farmhouse. Also old track leads up from the SE to the mill and Auchrig farmhouse - no longer visible.	18th century?	Poor	Local	5m buffer zone of no disturbance
4	Laurencefield	261086	702541	Farm	Highly vegetated site. Part of stone enclosure wall visible on north and eastern side, west boundary still exists with road clearly visible on west side (outwith forestry edge). 3 conifer trees located along enclosure wall. Dwelling structures not visible.	18th or 19th century?	Poor	Local	5m buffer zone of no disturbance
6	Oatlands	261325	701929	Two structures	Nothing visible on the ground, although curvilinear field boundary on the south side still in use.	18th or 19th century?	Unknown	Less than local	5m buffer zone of no disturbance

Walkover survey, Rhynaclach, Stirlingshire- 339

Site No.	Site name	x	y	Site Type	Character	Date	State of preservation	Significance	Mitigation
7	Rhynaclach	261214	703085	Track	Old road, now defunct, shown on 1st Edition OS map running from Letter eastwards. 1m high bank on south side and west side, 5m wide road. Continues down to Laurencefield (Site 4). Some of this track, up to Rednock hill is still in use, but beyond the mill it is no longer visible until Laurencefield farm.	18th or 19th century?	Moderate	Less than local	5m buffer zone of no disturbance
8	Rhynaclach	260990	701662	Farm	As shown on 1st Edition although westernmost structure now demolished, many additional modern farm buildings.	18th or 19th century?	Moderate	Local	5m buffer zone of no disturbance
9	Hammersmith	260406	701582	Structure and enclosure	Rear drystone wall/enclosure partially survives, edged with modern fence. Nothing visible in the field/planation. Structures as shown on 1st Edition OS map probably destroyed when road widened.	18th or 19th century?	Poor	Less than local	5m buffer zone of no disturbance
10	New Grahamston	260934	701441	Structure and well	A structure and a well shown on the 1st Edition OS map, nothing visible on the ground.	18th or 19th century?	Unknown	Less than local	5m buffer zone of no disturbance
11	Arthurfield	260845	701372	Structures and enclosure	Two structures and an enclosure are shown on the 1st Edition OS map, but nothing visible on the ground.	18th or 19th century?	Unknown	Less than local	5m buffer zone of no disturbance
12	New Grahamston	260905	701352	Structure	Dark soil of mole hills with 19th century ceramics. Concentration of thistles and occasional block of stone, are 10m x 14m.	18th century?	Unknown	Local	5m buffer zone of no disturbance
13	Morrison's croft	260948	701336	Structures and enclosure	Sub-rectangular cut (28m x 10m and 2m deep), parallel and next to the main road and concrete base is that that is visible on the surface.	18th or 19th century?	Unknown	Less than local	5m buffer zone of no disturbance

Walkover survey, Rhynaclach, Stirlingshire- 339

Site No.	Site name	x	y	Site Type	Character	Date	State of preservation	Significance	Mitigation
14	Auchrig	260067	703084	Clearance Cairn	Clearance cairn on edge of field, part of a series of clearance cairns/spreads along the edge of the field	18th or 19th century?	Moderate	Less than local	5m buffer zone of no disturbance
15	Auchrig	260199	702977	Clearance Cairn	Large field clearance cairn, 5m x 9m, elongated mound.	18th or 19th century?	Moderate	Less than local	5m buffer zone of no disturbance
16	Muirhouse	261106	703282	Structure	Location of structure as shown on 1st edition OS map. Low irregular mound 13m x 13m with nettles on one side and slightly sunken centre, no trace of outline of building. Appears deliberately demolished.	18th or 19th century?	Poor	Local	5m buffer zone of no disturbance
17	Loch Rusky	261236	703348	Clearance Cairn and wall	2m x 2m low 0.20m mound of stone located at end of very low stone wall which is shown on 1st Edition OS map.	18th or 19th century?	Moderate	Less than local	5m buffer zone of no disturbance
18	Muirhouse	261126	703014	Wall	Defunct drystone wall., runs up to the track, 0.70m wide. Shown on 1st Edition as boundary between woodland and rough grazing.	18th or 19th century?	Poor	Less than local	5m buffer zone of no disturbance
19	Rednock Mill	261466	702300	Lade	Lade to the mill, shallow, runs from main burn as separate channel, with concrete pillars at junction and grooves of original sluice gate still visible.	18th or 19th century?	Moderate	Local	5m buffer zone of no disturbance
2	Letter	260215	703586	Farm	Outwith area				
5	Rednock Mill	261349	702050	Mill	Outwith area				
20	Auchrig	260069	703021	Quarry	Circular feature, broad banks some 4m wide around a lower central area which is sunken and now has water standing in it. Feature 19m E/W and 17m N/S. Possible old quarry? Adjacent to low bedrock outcrop.				

Walkover survey, Rhynaclach, Stirlingshire- 339

Site No.	Site name	x	y	Site Type	Character	Date	State of preservation	Significance	Mitigation
21	Auchrig	260143	702961	Track (possible), structure (possible)	Possible track and associated bank, curvilinear, with possible sub-rectangular feature located at eastern end - 10m x 7m - all heavily vegetated - possible could be earth works associated with forestry planation immediately to the south.				

Appendix 3: DES Entry

LOCAL AUTHORITY:	Loch Lomond and Trossachs National Park and Stirling Council																
PROJECT TITLE/SITE NAME:	Rhynaclach																
PROJECT CODE:	339																
PARISH:	Port of Mentieth																
NAME OF CONTRIBUTOR:	Clare Ellis																
NAME OF ORGANISATION:	Argyll Archaeology																
TYPE(S) OF PROJECT:	Archaeological survey																
NMRS NO(S):																	
SITE/MONUMENT TYPE(S):	Farmstead, structures, walls, clearance cairns																
SIGNIFICANT FINDS:	None																
NGR (2 letters, 8 or 10 figures)	NN61086 02541																
START DATE (this season)	August 2015																
END DATE (this season)	August 2015																
PREVIOUS WORK (incl. DES ref.)	None																
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>An archaeological survey, comprising a rapid desk-based assessment and predictive prospective walkover was conducted over a parcel of land at Rhynaclach, Stirlingshire. The programme of archaeological work was commissioned by Forestry Commission Scotland (FCS). Seventeen individual structures or features of archaeological or historical significance were recorded within the Design Plan boundary and a further four sites were recorded as they lay just outside the boundary.</p> <table border="1"> <thead> <tr> <th>Site No.</th> <th>Site name</th> <th>x</th> <th>y</th> <th>Site Type</th> <th>Character</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Muirhouse</td> <td>261104</td> <td>703358</td> <td>Structure, enclosure</td> <td>Rectangular structure 19m x 12m, drystone wall up to 0.80m high, sunken interior with outside ground level now flush with the top of the wall. Large blocks of masonry next to the road, probable garden enclosure, the structure within was not discernible. Large stone wall, up to 90m long, leading up from track to the enclosure, 0.20m high and up to 1m wide due to demolition/collapse rubble.</td> </tr> </tbody> </table>					Site No.	Site name	x	y	Site Type	Character	1	Muirhouse	261104	703358	Structure, enclosure	Rectangular structure 19m x 12m, drystone wall up to 0.80m high, sunken interior with outside ground level now flush with the top of the wall. Large blocks of masonry next to the road, probable garden enclosure, the structure within was not discernible. Large stone wall, up to 90m long, leading up from track to the enclosure, 0.20m high and up to 1m wide due to demolition/collapse rubble.
Site No.	Site name	x	y	Site Type	Character												
1	Muirhouse	261104	703358	Structure, enclosure	Rectangular structure 19m x 12m, drystone wall up to 0.80m high, sunken interior with outside ground level now flush with the top of the wall. Large blocks of masonry next to the road, probable garden enclosure, the structure within was not discernible. Large stone wall, up to 90m long, leading up from track to the enclosure, 0.20m high and up to 1m wide due to demolition/collapse rubble.												

	3	Auchrig	259960	703212	Farm	Actual farmhouse etc. still in use. Location of mill next to burn and modern fence line. Mill partially obscured by modern rubbish and probably slighted by telegraph pole. Area of stone 25m x 10m. Old field boundary on top of low ridge of bedrock leads south-westwards from mill towards farmhouse. Also old track leads up from the SE to the mill and Auchrig farmhouse - no longer visible.
	4	Laurencefield	261086	702541	Farm	Highly vegetated site. Part of stone enclosure wall visible on north and eastern side, west boundary still exists with road clearly visible on west side (outwith forestry edge). 3 conifer trees located along enclosure wall. Dwelling structures not visible.
	6	Oatlands	261325	701929	Two structures	Nothing visible on the ground, although curvilinear field boundary on the south side still in use.
	7	Rhynaclach	261214	703085	Track	Old road, now defunct, shown on 1st Edition OS map running from Letter eastwards. 1m high bank on south side and west side, 5m wide road. Continues down to Laurencefield (Site 4). Some of this track, up to Rednock hill is still in use, but beyond the mill it is no longer visible until Laurencefield farm.
	8	Rhynaclach	260990	701662	Farm	As shown on 1st Edition although westernmost structure now demolished, many additional modern farm buildings.

	9	Hammersmith	260406	701582	Structure and enclosure	Rear drystone wall/enclosure partially survives, edged with modern fence. Nothing visible in the field/planation. Structures as shown on 1st Edition OS map probably destroyed when road widened.
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Walkover survey, Rhynaclach, Stirlingshire- 339

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	5	Rednock Mill	261349	702050	Mill	Outwith area
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PROPOSED FUTURE WORK:	None					
CAPTION(S) FOR ILLUSTRS:						
SPONSOR OR FUNDING BODY:	Forestry Commission Scotland					
ADDRESS OF MAIN CONTRIBUTOR:	Davaar Cottage, Campbeltown, Argyll. PA28 6RE					
EMAIL ADDRESS:	ellisclare@argyll-archaeology.co.uk					
ARCHIVE LOCATION (intended/deposited)	NA					

Appendix 4: References

OS Name Book Vol 69. Perthshire.

Ritchie, M 2012 *Archaeological Survey Guidelines for work to advance the Heritage module*
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Aerial photographs

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