



RSFS
Forest Trust Company

Cashel

“The Forest for a Thousand Years”

Scotland's New Native Forest Management Information and Ten Years of Progress

The RSFS Forest Trust Co.
is grateful for the financial support of these
Organisations in the production of this booklet



CASHEL

THE FOREST FOR A THOUSAND YEARS

An Overview

Welcome to Cashel – the Forest for a Thousand Years – where the RSFS Trust Company has established a large new native species woodland on a former hill farm. In 1996, the 1200ha (3000 acre) farm was purchased with the aid of a major grant from the Millennium Forest for Scotland Trust. The land holding extends over 5km north-east from the public road on the east side of Loch Lomond, with elevation varying from 10m near the loch to a high point of 586m behind Beinn Bhreac.

Between 1997 and 2001, more than 400 ha were planted with native tree species – mainly oak (both sessile and pedunculate) and birch on the lower slopes, and Scots pine and birch at higher elevations, but also including many other species such as ash, rowan, hazel, gean, willow and juniper. The objective is to recreate the different types of woodland communities which would probably have existed on the various soil types and at different elevations before extensive livestock farming began some 200 years ago. On the lower ground, there are some sizeable remnants of old semi-natural oak woodland which will be allowed to develop as naturally as possible. Much of the highest ground (above 450 m) will remain unwooded as it is too exposed and infertile to support even stunted tree growth; and at lower levels some land has been left unplanted for conservation reasons (e.g. because of its value as wetland).

The former farm steading area is being redeveloped to provide both day-visitor facilities and a residential centre. for use by school parties and other groups wishing to study the ecology and wildlife of the Cashel woodlands. Phase 1 of the redevelopment, completed in 2005, includes a visitor centre, exhibition area and meeting room. Completion of the more costly Phase 2, the residential accommodation, depends on the continued success of ongoing fund-raising efforts.

To help visitors explore Cashel, a network of woodland walks has been constructed, linked to the forest road which provides the main management access within the property. The routes available range from an easy short circuit at low level to more strenuous circular walks providing superb views over Loch Lomond and the surrounding area. At key locations along the walks, information is provided on important aspects of Cashel ecology and wildlife.

Cashel

“A Forest for a Thousand Years”



Scotland's New Native Forest

Management Information and Ten Years of Progress

**The Millennium Commission
Scottish Natural Heritage
Scottish Forestry Trust
Bank of Scotland
Forth Valley Enterprise
Forestry Commission
Millennium Forest for Scotland**

The Trust is grateful for the support of the above organisations and for the many contributions, both financial and in time and kind, that have made this transformation possible.

The Aims

- 1) This booklet sets out to record the progress made over the first ten years of our Native Forest project by displaying photographs taken over the years as the work progressed, along with the current management plan and achievements to date.
- 2) As we go into the second decade of activity, we confirm our vision for the project by publishing a shortened version of the Management Plan that will guide the management team for the next ten years.

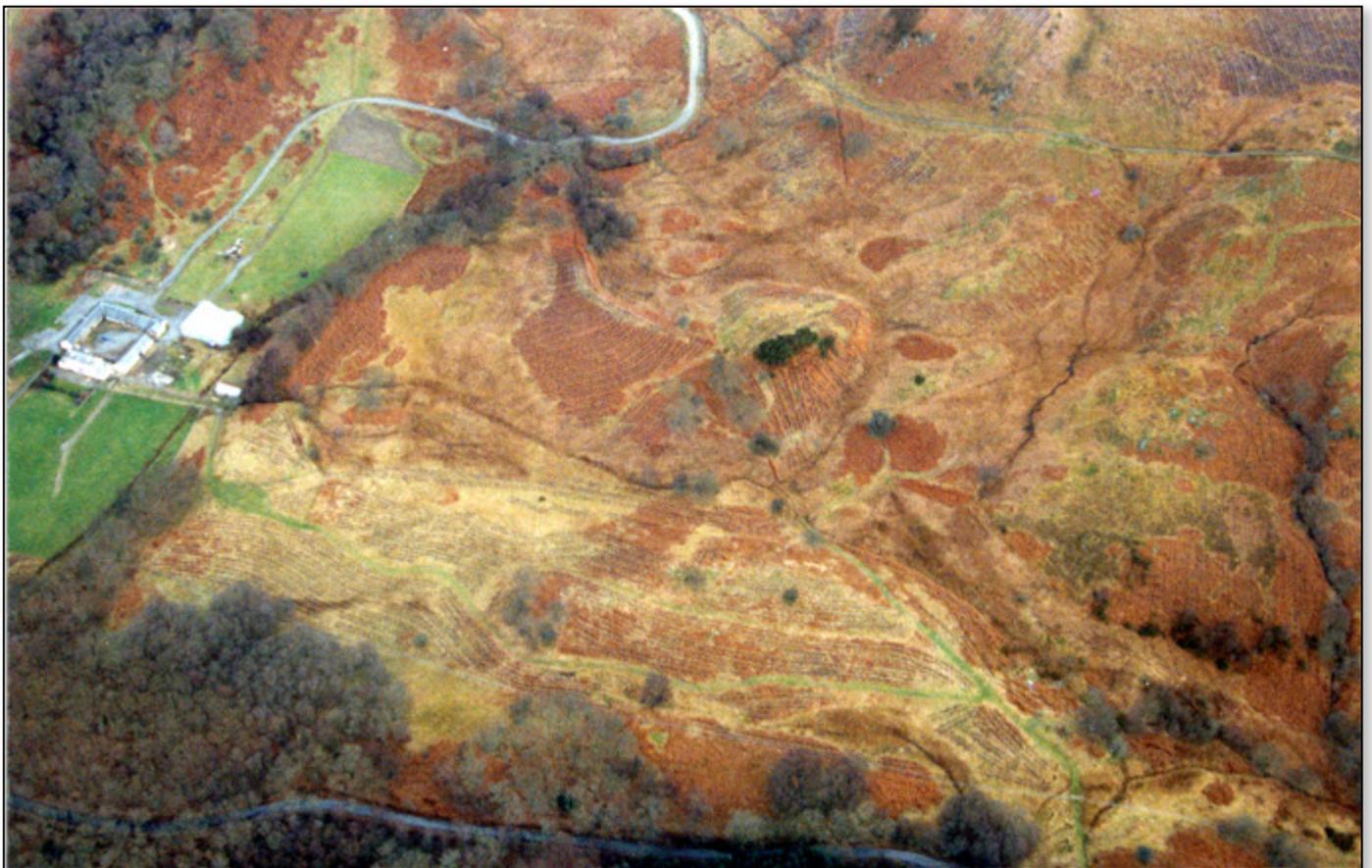
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The Cashel logo crafted in wood and rope



Scots pine seedling planted on a mechanically-produced mound



An aerial photo from the south showing Cashel farm steading and the lower slopes at the time of cultivation prior to starting the planting.

1 Introduction

Cashel - The Forest for a Thousand Years - on the east shore of Loch Lomond close to Glasgow, is now a thriving endeavour. An enormous amount has been achieved since its foundation in 1996. The inspiration behind the forest had its origins in 1993/94 when there was considerable discussion about the establishment of Demonstration Forests which could show best practice, especially in private woodland where costs were restrictive. David Goss, President of the Royal Scottish Forestry Society from 1992-94, attended a meeting in Inverness on native Scots pine woodlands and was told about the formation of the Millennium Trust, founded to further the creation of native woods throughout Scotland. With the support of the succeeding President, the Duke of Buccleuch, and the Council of the Royal Scottish Forestry Society (RSFS), and with the opportunity to work with the Millennium Trust it was decided that RSFS should look for a relatively wild, but accessible, property with as great a range of site types as possible.

In 1995, the then owner of Cashel Mr John Maxwell had contacted David Goss with a view to selling his hill farm for commercial forestry purposes, and it was realised that Cashel met RSFS requirements. Negotiations, surveys and forest planning began. By this time the soon-to-be-next President of the RSFS, Graham Jeffrey, was burning the midnight oil learning the art and science of applying for funding, as well as the setting up of a charitable company.

On the 19 September 1995 the RSFS Forest Trust Company was founded. The first members/directors were Peter Fothergill and Alan Bloomfield, who were both subsequently to bear the office of President of the RSFS. In due course a full Board was formed, under chairmanship of Sir David Landale, and on 15 May 1996 the Millennium Forest for Scotland Trust offered the company a grant of up to £870,000. Planting began in November 1996.

Many thanks are due, not least to those Directors and others who used their own funds to see the project through its early days, and to the many hundreds who have supported *The Forest for a Thousand Years* with gifts of money, time and effort. Mention should also be made of Border Consultants, project managers from 1997 to 2007, whose sustained efforts contributed greatly to the success of the project.

What follows is based on the current version of the Management Plan which guides the long-term management of the property by the RSFS Trust Company. The plan was originally brought into effect in January 2001, and the present version covers the five year period from 1 January 2006 to 31 December 2010.

2 Long-term aim and objectives

The primary aim of the Trust Company's activities at Cashel is **to demonstrate the restoration and regeneration of Scotland's native woods through sound forestry practice, for the benefit of the public.**

To achieve the Company's aim, the following strategic objectives were identified:

- ☼ Develop and maintain the native woodlands at Cashel on a sustainable basis.
- ☼ Encourage nature conservation, amenity and rural recreation.
- ☼ Use the woodland as a demonstration of good forestry practice.
- ☼ Create appropriate access, particularly for walkers.
- ☼ Make the woodland available for education and research.
- ☼ Involve the local community.
- ☼ Enhance the landscape.

- ☼ Re-create a ‘near-natural’ sequence of forest types, ranging from predominantly oakwood at the loch side through pine/birch wood to open sub-montane scrub on the highest ground.
- ☼ Provide a woodland ‘wildlife corridor’ linking the Loch Lomond and Loch Ard catchments.

3 Location and buildings

Cashel is situated on the east side of Loch Lomond, 4 km north of Balmaha (11 km from Drymen) and extends to 1,238 ha. It is reached by a minor public road (B 837) which ends at Rowardennan 7 km north of Cashel. Glasgow is about 36 km to the south. OS Grid Reference of Cashel Farmhouse is NS 400 940. OS Map coverage includes: 1:50,000 scale map number 36; 1:10,000 scale NS 39 NE; NS 39 SE; NS 49 NW and NS 49 SW. First OS map 1860 at 6 inches to 1 mile scale. Aerial photographic coverage exists from a Scotland-wide survey in 1988/89 and a site-specific survey in 1997.

The property is owned freehold by the RSFS Forest Trust Company Ltd and cost just over £800,000 when purchased in 1996 from Mr John Maxwell. The purchase did not include the mineral rights, which had been retained by the Forestry Commission (FC) when the farm was originally sold to Mr Maxwell. Subsequently the Forest Trust Company purchased these rights from the FC.

Cashel lies within the Loch Lomond and Trossachs National Park; the Loch Lomond National Scenic Area and the Loch Lomond Environmentally Sensitive Area. There are no Sites of Special Scientific Interest (SSSI) but the property is close to Blair Wood and Salloch Wood which are both designated as SSSI for their natural woodland interest. Both semi-natural woodlands and ancient woodland sites have been identified at Cashel.

Cashel was previously part of a larger property which was purchased by the National Land Fund after the Second World War and then transferred to the Forestry Commission which subsequently sold off two areas as separate farms (Cashel and Blairvockie). Blairvockie farm (which included much of Ben Lomond) was later purchased by the National Trust for Scotland. In 1997, the NTS land holding and the land retained by the FC were designated as the Ben Lomond National Memorial Park, to be managed for its high conservation interest and informal public recreation. It has been agreed in principle that in due course Cashel should be included within the Memorial Park.

Lying centrally within the property (in Cashel glen) is a 76 ha area of conifer plantations in separate private ownership and managed by Fountain Forestry. Also within the Cashel boundary is Blair Cottage, privately owned and occupied.

All buildings are grouped in the vicinity of the former Cashel farmhouse and are:

- ☼ A stone-built farmhouse with three storeys facing towards the public road. This is thought to date from the early 19th Century but has been extended at various more recent dates. Its basic structural condition remains mediocre despite recent remedial work.
- ☼ A modern (2005) single-storey slate-roofed building which contains a visitor centre and exhibition/meeting room, and replaces the north-west leg of the former steading. (This building forms Phase 1 of the planned Loch Lomond Forest Centre which in due course will replace the entire steading range.)
- ☼ Semi-derelict single-storey buildings (stone with slate roofs) forming the north-east and south-east legs of the former steading range which together with the farmhouse formed a square of buildings around a courtyard. Included is a small bothy providing limited low-quality accommodation.
- ☼ A large steel agricultural Dutch barn located just to the east of the farm steading. This provides valuable shelter for group activities in bad weather.



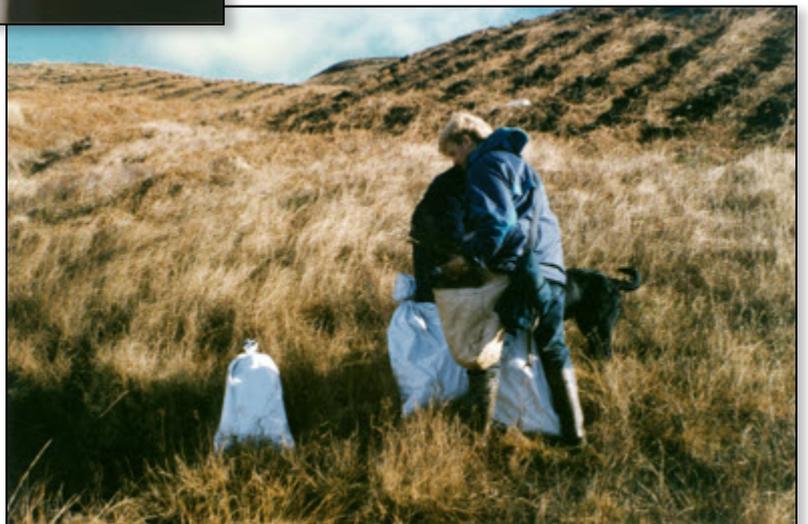
The erection of coloured netting to help prevent grouse deaths caused by collision with fences.

Ground preparation prior to planting. A tractor-mounted moulder preparing individual planting positions for the young trees



Recently delivered cell grown trees being stored in the old steading prior to planting.

Young trees being taken to a planting site. The special protective plastic bags kept trees fresh until planted.



- ☼ A separate small stone barn a short distance to the south of the steading. This has been converted into a basic workshop facility.

The farmhouse, visitor centre, steading and stone barn have mains electricity. Both farmhouse and visitor facilities have been connected to the public water supply. Drainage from the farmhouse and the other buildings is to a septic tank.

There are internal fences enclosing the better fields near the farm and a substantial stone dyke separating off the lower ground. (This dyke was improved under an ESA scheme prior to acquisition.)

The farmhouse is reached from the public road by a private gravel road. An all-weather forest road continues up the hillside for nearly 4 km in a series of zigzags as far as the highest point of the privately owned plantation. The West Highland Way passes across Cashel land immediately adjacent to the public road (B837).

4 Environmental Information

Climate. Being close to the west coast of Scotland, Cashel experiences a maritime climate with a predominately south-westerly air stream. In general terms this leads to high rainfall throughout the year and relatively cool temperatures. Wind speeds are generally above average, increasingly markedly with altitude. Annual precipitation is between 1,600 and 2,000 mm and snow may lie above 350m between September and May. Exposure varies from sheltered to severe, with the south-east side of the farm being the most sheltered.

Topography. Cashel has a varied topography with elevation rising from 10m above sea level where the Blair Burn crosses the public road to 586m on the summit of Binnean nan Gobhar in the northern part of the property. There are several distinct topographic features. The Beinn Bhreac ridge, a broken craggy massif with a complex and varied relief, dominates the area. To the north of Beinn Bhreac, beyond the boundary of Cashel, Beinn Uird forms the skyline as a more rounded feature, with Ben Lomond beyond it. A prominent shoulder extending from Beinn Uird onto Cashel ground includes the rocky outcrops of Creag Thulaichean and Tom Soilleir. The upper part of the Cashel hill lies in a basin, an example of river capture. The middle slopes are dominated by the rocky outcrops of Tom an Eagail and Creag Liath which give way to the lower slopes and relatively level south-westerly edge of the farm. The whole area is dissected by stream valleys draining towards Loch Lomond, with the most prominent and deepest being those of the Cashel Burn and Blair Burn. To the north east of Beinn Bhreac, several mountain burns flow towards Loch Ard Forest in a north-easterly direction.

Hydrology and drainage. Loch Lomond is the largest area of freshwater in Britain (7,108 ha) and is drained into the Clyde estuary by the River Leven. Within Cashel, water courses to the south of Beinn Bhreac flow into Loch Lomond (i.e. into the Clyde catchment), whereas those to the north flow into the Forth catchment. Cashel lies in an area where the critical loads of acidity for freshwater are exceeded (0-0.5 keq H⁺/ha/yr). The area has a high level of precipitation and is relatively close to the Glasgow conurbation where annual sulphur dioxide and nitrogen oxide emissions are each up to 10,000 tonnes per 10 km Grid Square. (1989 estimates) Within Cashel the most significant watercourses are the Blair Burn, which follows the approximate line of the southeast boundary, and the Cashel Burn, which in its lower reaches bisects the property. Numerous feeder streams on the higher ground feed both burns. The only permanent standing water of any size is in two small lochans on the north east side of Beinn Bhreac.

Geology. Little published information is available specifically for Cashel. The underlying geology is mainly Dalradian grits and slates and there are several faults through the bedrock. A quartz dolerite dyke is evident in Cashel Glen. The drift material covering the solid rock consist mainly of glacial till deposited some 28,000 to 13,000 years ago. Typically the till ranges from clayey consolidated deposits with few pebbles to crudely bedded sands and gravels. There have been numerous glacial events, and the last re-advance of ice (the Loch Lomond re-advance), which was responsible for reworking these

deposits, created Loch Lomond as we see it today. The end of the Loch Lomond re-advance some 10-11 thousand years ago is evident in the morainic sands and gravel mounds in the lower Cashel and Blair Burn areas. The upper reaches of the Cashel and Blair Burns show excellent examples of river capture. As glacial erosion deepened the Loch Lomond valley the streams cut down and decapitated the headwaters of the Burn of Mar, which originally flowed to the south east and probably into the Forth. The major geological feature of the Highland Boundary Fault passes only a short distance to the east of Cashel.

Soils. The better soils are generally found below 200 m. The lower ground contains a mosaic of soil types, including moderately base-rich and mesotrophic surface water gleys, flushed brown earths and ground water gleys. Peaty podsoles, which are more freely draining, are common on the mid slopes, often interspersed with surface water gleys associated with topographic depressions. On the upper parts of Cashel, blanket peat with low nutrient levels covers much of the more gently sloping areas, and the other soils are a complex mixture of deep peats, peaty podsoles, podsollic gleys, peaty podsollic gleys and podsollic brown earths. Flushed and unflushed acid peats and peaty surface water gleys occur on the more steeply sloping higher ground around the summits. Soils on higher ground frequently suffer to a greater or lesser extent from waterlogging, although some are relatively free-draining.

Habitats. The table on page 11 indicates the main habitats present at Cashel in 1996 before any planting took place. This is based on a phase I NVC [National Vegetation Classification] survey carried out by SNH in 1995 and updated in 1998 by the late Brian Brookes.

The site was grazed by sheep and subject to periodic muirburn for many years, with plough drainage carried out in some areas. This modified the bog/mire habitats (particularly on higher ground) and caused locally severe degradation with bare peat and eroded gullies up to 2 metres deep. Bracken was extensive in places on the lower slopes though some chemical control had been attempted prior to 1996. The existing woodland was exposed to grazing by livestock and deer for many years. As a result, there was little natural regeneration so that there are few young trees. Ardyle Wood is the largest area of semi-natural woodland, consisting largely of oak, with some alder, downy birch and occasional ash, hazel and sycamore. Elsewhere there are smaller areas of birch near the public road and along the burns with occasional alder, rowan, oak and willow. At least one yew is recorded and a few holly trees.

Flora. Most plants and plant communities on the site are relatively common and do not have special significance. However two rare plants have been identified: Bog orchid, *Hammarbya paludosa* and Tall bog sedge, *Carex magellanica*. A substantial grant from the Bank of Scotland supported detailed baseline ecological monitoring and publication of a report (*Cashel Native Woodland Index*) for the three years 1998 to 2000.

Deer. Red, roe and fallow deer are present in the general area and all three species have been seen on Cashel. Red deer frequent the higher ground and are thought to move through the site between the FC forests to the north and east and Montrose Estates land (Buchanan Castle) to the southeast. The most recent open-ground count by the Deer Commission of the Balquidder/Trossachs count area was in 1988 when seven red deer were found on Cashel and 439 on Buchanan Castle land a short distance to the south. Since red deer were not counted in the adjoining plantation forests these counts are of limited value. Casual observations suggest that red deer numbers within the Cashel boundary are relatively low during the summer but can be much higher in the winter. Roe deer are common all year round in the adjoining FC plantations and in the privately owned plantation along the Cashel Burn. As the new native woodland develops it is inevitable that numbers of resident deer will increase.

Other mammals. The previous owner reported finding badger setts in several places as well as seeing otters in the Blair Burn, and there have been more recent sightings of both mammals as well as pine marten in the area. Foxes, brown hares, rabbits, moles, field voles, grey squirrels and mink have all been observed or reported as present on the site. Bats are frequently seen in the vicinity of the farm buildings and the suspicion that they were roosting in part of the roof space necessitated a bat survey prior to demolition of the north-west side of the steading for re-development. The survey report identified four

Cashel Over Time

Fixed point photographs of the central slopes

This March 1997 picture was taken soon after completion of the mounding for the first year's planting.

There was some concern about the visual effect of the cultivation.



By February 2000 the mounds were no longer visible.

Note the new path in the fore-ground.

By May 2007 the scene had changed dramatically with the new native woodland well established



<u>Habitat</u>	<u>Description</u>	<u>NVC code</u>	<u>Location</u>
Dry Heath	Calluna/ Vaccinium	H12	Found in patches on the steeper ground and elsewhere
Dry Heath	Vaccinium/ Deschampsia	H18	At summit of Binnein nan Gobhar
Wet Heath	Deer grass - Cross leaved heath	M15	Zones at the edge of M17
Bog / Mire	Deer grass – Bog Cotton	M17	Isolated areas on the upper half of the site
Bog/Mire	Calluna – Bog Cotton	M18	Isolated areas on the lower east slopes of the site
Bog/Mire	Blanket bog	M19	Extends over much of the site, particularly on higher ground
Bog/Mire	Molinia dominated mire	M25	On the lower slopes
Grassland	Improved grassland	MG6	Lower slopes excluding fields
Grassland	Improved grassland	P1	Fields
Grassland	Festuca/Agrostis/Galium saxatile	U4	On summits in west of the site
Grassland	Nardus/Galium	U5	On summits in north of site
Grassland	Bracken	U20	On the better drained slopes
Woodland	Alder – Ash with yellow pimpernel	W7	In Ardyle Wood and along burns
Woodland	Sessile Oak –Birch with bluebell	W11	In Ardyle Wood and in woodland patches near the road
Woodland	Sessile Oak – Birch with bilberry	W17	In woodland near the road
Scrub	Gorse	W23	Lower slopes

locations of bat activity, two of them roost sites, in the steading and farmhouse roofs, and led to the incorporation of bat friendly features into the replacement buildings.

Birds. The breeding bird community is not known in detail but monitoring work to date indicates it is typical of what would be expected for the habitats represented at Cashel. Breeding species, confirmed or probable, include kestrel, buzzard, red grouse, black grouse, cuckoo, tawny owl, skylark, meadow pipit, tree pipit, grasshopper warbler, whitethroat, willow warbler, whinchat, stonechat, robin, blackbird, blue tit, wren, chaffinch, and carrion crow. Other species recorded on the ground include hen harrier, peregrine, snipe, reed bunting, and raven. The oakwoods along the east side of Loch Lomond are known to have important breeding populations of pied flycatcher, wood warbler and redstart, and these may breed occasionally at Cashel. Capercaillie are resident on the wooded islands in Loch Lomond and may occasionally visit Cashel. Black grouse is probably the bird species of greatest interest at Cashel – up to six females and seven males have been observed. These and capercaillie are very vulnerable to bird strike on deer fences and this must be taken into account in the management of the site.

Invertebrates. Eleven species of butterfly have been observed during monitoring work to date. Of these the pearl-bordered fritillary is the one of most conservation interest. Dragonflies and damselflies occur on moorland pools.

Fish. A reasonable population of Atlantic salmon, brown trout and eels has been recorded for the Cashel Burn by David Brown of Edinburgh University, and the other larger burns are likely to be similar.

5 Cultural Information.

Historical Management of the Loch Lomond Woods. The first known written reference concerning the Loch Lomond woods is the Lennox Charter dating from 1405 in which distinct woods were named - for example 'Errachymore' and 'Inchcallach' refer to the modern Arrochymore and Inchcailloch (Anderson 1967). This suggests that by this time there was no longer continuous woodland cover but distinct and separately named woods in an otherwise open landscape.

Timber for Royal ships and for military requirements was obtained in the later 15th and early 16th centuries from woods in the Loch Lomond area. At this time methods of smelting iron to cast cannon had been developed in England and this process used up so much timber that in the mid 16th Century laws were passed prohibiting the use of timber in certain regions for this purpose. As a result the English iron smelters sought new sources of charcoal in Scotland, and loch-side woods throughout the Western Highlands became the sites of iron-smelting furnaces (the iron ore was transported by boat). The remains of many such bloomeries dating from the 17th or early 18th Century are still visible in the Loch Lomond oak woods. The scale of these operations and the wide spread occurrence of bloomeries suggest that these would have contributed to the loss of woodland, but it is likely that felling would have been followed by at least some natural regeneration.

During 17th Century there was also a rise in the demand for oak bark which was used for tanning leather and for timber to produce charcoal for gunpowder and other needs. At Loch Lomond this resulted in the development of woodland management systems to provide bark, charcoal and other timber products for Glasgow's markets and local needs. The system mainly used was "coppice with standards" and this is thought to have succeeded the fellings for iron smelting.

During the late 17th and early 18th Century the woods were cut at irregular intervals but from 1735 the felling was put on a regular basis with woods divided into units by dykes or fences and cut on a 24-year rotation. After the mature coppice stems had been harvested the area was then protected from grazing for at least six years to allow regrowth. The standards were selected trees allowed to grow on for between two and four rotation periods in order to provide larger timber and seed sources for regeneration. The aim was to have a continuous age range from newly felled areas to mature coppice ready for felling, so that some part of the woods was always in production. Because oak bark and timber was so valuable other tree and shrub species ('barren timber') were usually removed. Such species included birch, hazel, aspen, alder, crab apple, blackthorn and willow. As a result, the woods tended to become almost pure oak. When coppice stools became worn out (perhaps after four or more cycles) they were replaced by planting acorns or young oak trees often imported from England. These imports were mainly *Quercus robur* rather than the locally indigenous *Q. petraea* so that today both species and their hybrids are present.

Management as coppice with standards continued throughout the 19th Century despite a drop in value of oak bark and timber. There is no written evidence that this continued into the 20th Century, but local residents remember felling continuing until after the 1st World War. By the early 1920's the woods had certainly been abandoned as productive coppice. Enclosures were allowed to fall into disrepair thus allowing the intrusion of domestic stock and consequent retardation of tree regeneration. Feral goats and deer may also have contributed to the pressure on tree seedlings. The woods ceased to be part of



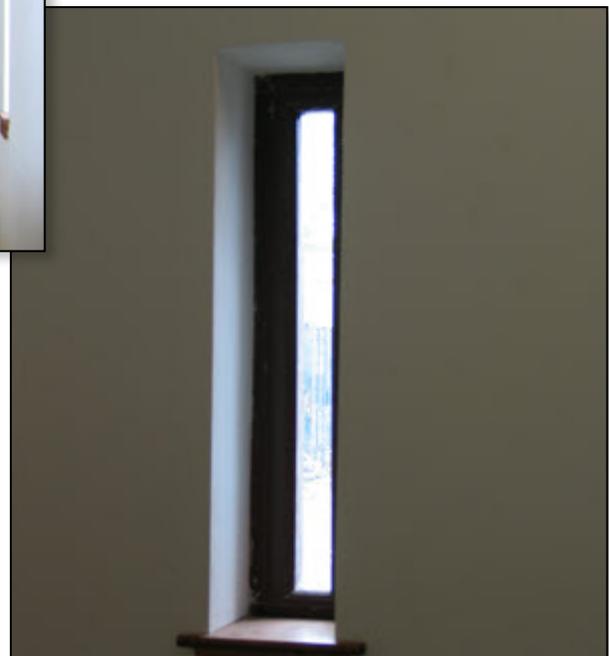
The Visitor Centre as it neared completion in April 2005 viewed from the access road.

The Centre viewed from the road to the forest April 2005.



An internal view of the Visitor Centre April 2005.

The slit window design of the former barn has been retained.



one large estate and became the property of a variety of owners, who used them for stock grazing and game cover. During the 2nd World War any remaining large oak trees were harvested.

In 1951 the National Land Fund purchased the Rowardennan Estate (about 5300 ha), including Ben Lomond and the east shore of the loch from 3 km south of Inversnaid down to and including Cashel, with the aim of establishing some kind of National Park. When this failed to materialise the land was transferred to the Forestry Commission who subsequently sold off the Blairvockie and Cashel areas as sheep farms. The FC retained the loch-side woodlands and planted extensive areas of conifers among and above the oakwoods.

Cashel is today situated at the south end of the continuous belt of semi-natural woodland which extends up the east side of the loch as far as its northern end. The fragments of oak and birch wood remaining at Cashel suggest that at one time the lower ground would have had more woodland which would presumably have been managed as indicated above. Comparison of woodland shown on the first Ordnance Survey map of 1860 with what is currently present indicates little change in woodland cover at Cashel since that date. Maps before 1860 going back to Roy (surveyed 1747-1755) are at a smaller scale and less accurate but suggest there was only partial or scattered woodland at Cashel over this period. This is to be expected since Cashel farm is thought to have been managed primarily for sheep and cattle rearing for at least 200 years.

Archaeological Interest at Cashel. There are no Scheduled Ancient Monuments on the property but there are various features of interest, including evidence of past woodland management. On the nearby loch shore at Strathcashell point there is a crannog with oak timbering dating from around 500 BC and a Fort of unknown age, while several bloomeries are recorded in the vicinity. Features of interest on Cashel include:

- ☼ Structures resembling charcoal hearths
- ☼ Circles of stones of unknown date or function
- ☼ A ruined farmstead on the lower slopes, near the Blair Burn
- ☼ A shieling site on the higher slopes of Beinn Bhreac

Tree stumps, probably birch and pine, have been seen in deep peat, although these are likely to be ancient and in the region of 6,000 year old.

None of the existing buildings are thought to be of any historic or architectural value.

Landscape Interest. Cashel lies mostly within the Loch Lomond National Scenic Area, the eastern boundary of which runs along the Beinn Bhreac ridge. This has been designated for the great variety of scenery along the loch, including the striking contrast between the lowland appearance of its southern end, south of the Highland Boundary Fault, and the fjord-like character of the northern end where the loch is surrounded by spectacular mountains. The extent of semi-natural woodlands on the islands and along the loch sides is particularly mentioned.

Quite apart from the NSA designation, Loch Lomond is world famous for its landscape qualities, which are well known partly because it is so accessible to large numbers of people. Cashel does not include any spectacular landscape features but makes an important contribution as an area of mainly open hill ground to the landscape of the east side of the loch. This is most apparent from the main A82 road on the west side of the loch. Only the lower part of Cashel is visible from the public road on the east side.

The main adverse landscape features at present at Cashel are the hard edges formed by the plantations in Cashel Glen and on FC land along the north-west march. However, the FC plantations are in process of being redesigned and converted into native species woodland. The forest road within the property is also relatively conspicuous but growth of the new woodland is gradually screening it. Spectacular views of the loch and the surrounding area can be enjoyed from various vantage points on Cashel once sufficient height has been reached.

Recreational Use. Loch Lomond is a popular area for people living in the central belt of Scotland and for visitors from elsewhere. Estimates put the numbers of present day visitors to the Loch Lomond area at around 2 million per year, mainly during the summer months. The National Park Authority estimates that 250,000 people visit the east side of the loch each year, including 50,000 walkers on the West Highland Way which passes close to Cashel House. Peak numbers of visitors occur on fine weekends in the summer or on Bank Holidays and at these times the public road can become choked with cars. The approved visitor strategy for the area includes a policy that vehicles should be encouraged to park at Balmaha and not go further north.

Prior to acquisition by the RSFS Forest Trust Company it is thought that comparatively few people would have visited the farm or walked across the hills above it. However since 1996 numbers have increased substantially because of publicity given to the Cashel woodland project and the development of walks and other facilities. The number of visitors to Cashel in 2005 was estimated as at least 13,000.

Land Use. Cashel was managed as a livestock farm for many years, probably going back to at least the early 1800s. Immediately prior to the time of sale in 1996 the farm was stocked with 930 blackface-breeding ewes and 37 suckler cows. The farm then included land between the public road and the loch which was not sold to the RSFS Forest Trust Co Ltd and which contained 25 ha of improved pastureland. There are now only 10 ha of better land within the property, forming the enclosed fields close to the farm buildings. In the past these would have been used to grow grass and grain for feeding livestock, though in recent years all feeding stuffs were bought in and the improved fields were used only for grazing.

Land to the north-west and north-east is owned by the FC and was planted with conifers in the 1960s. The conifer plantations to the north-west are now in the process of being converted to native species woodland, with substantial recent felling and replanting. The tenanted sheep farm of Blairvockie, owned by the NTS, marches with Cashel on the north. Land to the southeast forms part of Montrose Estates and is managed as sheep grazing.

Now that Cashel is no longer a farm its possible commercial uses are very limited. The economic value of the existing woodland is very low and it would not be in accordance with the original aims of the project to exploit this. Possible sources of modest income are:

- ⊗ Sporting lets for deer stalking.
- ⊗ Grazing lets of the improved fields.
- ⊗ Sponsored commemorative planting, benches and paths, and donations.
- ⊗ The planned redevelopment of the steading (and associated use of the farmhouse) as the Loch Lomond Forest Centre, which will include residential and educational accommodation.

6 Summary of Management Achievements to Date

During the period from purchase in 1996 until the end of 2005 the main operational achievements have been as follows:

- ⊗ Erection of 16.5 km of deer fencing enclosing nearly 90% (1,120 ha) of the property. (The southern boundary fence incorporates chestnut paling to improve visibility and so help prevent bird strike.)
- ⊗ Planting of 350 ha of native species woodland after ground preparation involving machine mounding and some bracken spraying.
- ⊗ Completion of approximately 10 ha hand screef planting on the northern new planting area.
- ⊗ Construction and maintenance of 3.6 km of new paths, which in conjunction with the main hill track provide 4.5 km and 6.5 km circular walking routes and a very short low level circular path for school parties and the less able.



Oak seedling in Ardyle Wood, part of the existing native oak woodland

David Goss (right) leading the discussion on the management of the old oak woods when RSFS members visited the native Woodland during their Spring excursion in 2006.



The former cattle shed that make a grand covered event arena much used by visiting groups

The 2007 Open day. The start of the hill race along the forest roads and footpaths in the forest. It is hoped that this will become an annual fixture!



- ☼ Construction of a new stone walled entrance off the public road.
- ☼ Construction of car parking.
- ☼ Construction of a footbridge across the Cashel burn near the steading.
- ☼ Construction of a replica shieling for demonstration purposes.
- ☼ Re-grading and drainage of the main hill road.
- ☼ Renovation of the stone barn to house a craft workshop.
- ☼ Re-cladding of the Dutch barn walls.
- ☼ Surveying of existing woodlands and new planting.
- ☼ Provision of project information near the farmhouse and at various events.
- ☼ Organisation of numerous educational visits to Cashel for local schools and other groups.
- ☼ Setting up and running a sponsored planting scheme which provides valuable income.
- ☼ Completion of feasibility studies regarding possible future use of the former farm buildings.
- ☼ Ecological monitoring.
- ☼ Beating up and fertilising new planting.
- ☼ Preparation of a Management Plan.
- ☼ Development of architectural plans for reconstruction of the steading range as the Loch Lomond Forest Centre, providing residential accommodation for school and other groups, together with an interpretive centre for day visitors.
- ☼ Obtaining planning approval for the Forest Centre.
- ☼ Raising sufficient funds to allow partial reconstruction of the former steading to provide day visitor facilities (Phase 1 of the Forest Centre).
- ☼ Completion of Phase 1 rebuilding, with formal opening of the visitor centre facilities in June 2005.
- ☼ Preparation of a Project Plan for development of visitor centre interpretation, and creation of interim exhibits and facilities.
- ☼ Preparation of a Recreation Plan covering the updating and improvement of outdoor facilities including car parking footpaths and interpretation.
- ☼ Employment of resident part-time managers.

The woodland planting has been aimed at creating woodland NVC types appropriate to the soils and altitude as follows:

W4 – Downy birch with purple moor grass

Species planted: Downy birch, rowan, alder, hawthorn and goat willow

W7 – Alder/ash with yellow pimpernel

Species planted: Ash, sessile oak, pedunculate oak, downy birch, silver birch, rowan, alder, goat willow, hazel, bird cherry, blackthorn, hawthorn and holly

W11 – Upland Oak/birch with bluebell

Species planted: Sessile oak, pedunculate oak, downy birch, silver birch, rowan, hazel, aspen, juniper, hawthorn and holly



Institute of Foresters members visiting Cashel as part of their annual Study Tour.

A member of the Friends of Cashel monthly work party carries out early pruning.



Primary school children use the Cashel Centre for outdoor studies.

Cashel host a Viking re-enactment Group



W17 – Upland Oak/birch with bilberry

Species planted: Sessile oak, pedunculate oak, downy birch, silver birch, rowan, Hazel, hawthorn and holly

W18 – Scots pine with heather

Species planted: Scots pine, downy birch, rowan and juniper (Scots pine originating from Coire Coille Chuile near Tyndrum, the nearest native pinewood to Cashel from which seed could be obtained in sufficient quantity)

7 Recent research, monitoring and survey work

Various surveys were carried out in connection with preparation of the 1996 Environmental Statement, including an NVC survey of most of the farm.

A monitoring programme has been set up, with initial financial assistance from the Bank of Scotland. This includes a range of methods to monitor vegetation changes and rare plant species. Also being monitored are breeding birds, deer, butterflies, dragonflies and damselflies.

Achieved to date:

- ☼ A full NVC map was prepared in 1997.
- ☼ Two transects for long-term monitoring of the existing woodlands have been set up -- one in Ardyle Wood and one in the roadside woodland. Each is 300m x 20m, designed according to the methodology described by Peterken & Backmeroff. They will enable the changing structure of these different woodland types to be studied over time.
- ☼ Three transects to monitor natural regeneration in the new woodland areas extend across the whole width of the site--one on the lower ground between the farm and the Cashel Glen plantation (1.5 km), one on the 'plateau' following the line of the upper bird transect (3 km), and one on the back side of the main ridge (3.5 km). Each is divided into 8 equal sections and at the end of each is a 7m x 7m quadrat to be used for future monitoring according to Forestry Authority guidelines.
- ☼ Three 50m x 50m plots have been demarcated for monitoring changes to existing unplanted vegetation communities--one each in NVC-types M17 (*Scirpus –Eriophorum* blanket mire), M19 (*Calluna–Eriophorum* blanket mire) and U4 (*Festuca–Agrostis–Galium* grassland). Plant presence or absence has been recorded within 50 random 1m x 1m quadrats in each plot.
- ☼ Populations of the most notable rare plant species, *Carex magellanica*, have been mapped and enumerated.
- ☼ The whole site has been photographed from fixed points in order to record major physiognomic changes in vegetation.
- ☼ Two bird monitoring transects have been established--one in the eastern part of the property which contains the forest walks (3.8 km long), and one on the 'plateau' area (1.8 km long). Birds are recorded in two width bands (<25m and <100m) twice each spring, according to the standard methodology of the national Breeding Bird Survey.
- ☼ Black grouse have been counted and mapped in the spring.
- ☼ The deer fences were surveyed for black grouse collisions and the sections found to be the most sensitive (the lower eastern boundary and the Cashel Glen plantation) were then checked monthly for approximately 3 years. Various materials for marking the fence have been tried, including strips of black plastic Netlon netting which were trialed as part of an experiment run by the Tayside Black Grouse Project (GCT, RSPB and SNH). This had to be abandoned as the sail effect of the netting destabilized the fence. Currently aluminium tags are being used and one length of black plastic is still in place.

- ⊗ A butterfly transect was set up, using the visitor paths in the SE part of the site. This was walked weekly from May to September inclusive. Three years' data have been combined to give a base-line index for detecting future changes.
- ⊗ The University of Glasgow Ornithology Group has used the woodlands around the farm, along the roadside and in Ardyle Wood as part of a wider nest-box study.

8 Evaluation

When the Trust Company began work at Cashel, it was necessary to consider the relative importance of the existing features of interest in relation to the intended creation of a large new woodland. This evaluation continues to provide important background information relevant to current management activity.

Habitats. None of the existing habitats at Cashel were regarded as of great importance in conservation terms but it is desirable to ensure that the existing semi-natural woodland is conserved and that damage is minimised to existing areas of peatland and other wet areas. The existing woodland on Cashel and in the vicinity provides clues to the sort of native woodland which would have been more extensive in the past and which is appropriate to the different soils on the site. The one native species where there is not a clear case is Scots pine. The nearest significant remnant of native Scots pine is at Glen Falloch near Crianlarich some 24 km to the north and Cashel could be regarded as being just out with the recognised distribution of native Scots pine. However, there are old Scots pine to be found in the vicinity which may be natural in origin, and in terms of soils and climate there is no good reason not to include Scots pine as an attractive and economically valuable tree in the woodland to be established at Cashel.

Wildlife. The existing wildlife on the property was not of great significance for an area of this size but two rare plant species are present, and black grouse is an important and declining bird species which merits special consideration. It is essential that future management does not adversely affect these interests. A major expansion of native woodland should bring considerable benefits to black grouse (and other wildlife) and should be possible without affecting the rare plant interest.

Landscape. Since a major change of land use was intended in a very important National Scenic Area it was necessary to ensure that the new woodland proposed would add to or complement the existing landscape qualities. This issue was addressed in the Environmental Statement as part of the WGS application process, and there was general agreement that well-designed native woodland at Cashel would be a positive development in landscape terms. However, in establishing this woodland it is important to ensure that potentially adverse landscape impacts from operations such as fencing, ground preparation and path creation are minimised by careful routing and design.

Historical and Archaeological Interests. Known sites on Cashel are not thought to be of great importance though further information may come to light or other sites may be located in due course. Care should be taken to avoid known sites when establishing woodland or paths and they should be kept free of natural regeneration in future. Where there is scope to interpret sites or explain the historical background to Cashel and the area, information panels should be considered. Further archaeological survey of the property should be encouraged.

Recreational Use. Large numbers of visitors pass along the loch-side road or walk the West Highland Way and it should be possible to attract sizeable numbers of these into Cashel. What they would then do will depend upon the facilities available at the time but normally they would be able to see something of the woodland restoration, walk the paths and enjoy the views. Provision of appropriate interpretation would enhance their enjoyment and help to inform and educate. (The new Visitor Centre in Phase 1 of the steading redevelopment is designed to do this.)



Autumn at Cashel



Winter snows high on the hill

Value to the Local Community. In the past Cashel, managed as a sheep farm, provided some local employment and other economic benefits to the local community of Balmaha and Drymen. It is important that the new regime at Cashel should be seen to bring at least equal, albeit different, benefits to the community. It will be important to consult with the community and take their views into account in the management of the property where this is feasible and compatible with RSFS Forest Trust Company's overall objectives. Local involvement and employment generation will be desirable where that can be achieved and there is the possibility of attracting voluntary help both locally and from further afield.

Research and Monitoring. What is being attempted at Cashel is a long-term, large-scale pioneering restoration project, which will be of interest to many other organisations, and the lessons learnt may have widespread value and applicability. It is therefore important to ensure that the whole project is well monitored and publicised, and that any opportunities for relevant research should be taken.

In conclusion, the value and significance of existing features at Cashel in no way preclude the restoration of extensive new native woodlands provided suitable care is taken in their design, establishment and subsequent management. Indeed such new woodland will add to and complement the existing remnants of semi-natural woodland on the east side of the loch and add to the already high landscape interest. It will also fit in well with the planned removal of the adjacent FC conifer plantations and their long-term restoration to native woodland. Further north near Inversnaid, the Jensen Foundation (Comer Estate) and the RSPB on their nature reserve are also in the process of restoring and expanding native woodland. There is the prospect of a very large native woodland area extending up most of the east side of the loch, and eventually linking with other large areas of existing or planned native woodland around Loch Katrine (FC) and in Glen Finglas (Woodland Trust).

9 Short-term Management Objectives

To help achieve the Strategic Objectives listed at the beginning of this booklet, the following short-term objectives were agreed for the 5-year plan period 2006 to 2010 inclusive:

Woodland Establishment

- ☼ Efforts will continue to establish the uppermost planting, concentrating on areas of better soil, in order to create a wooded link from Cashel to Loch Ard Forest. Necessary work will be completed to ensure receipt of WGS 2nd installment for upper hill planting.
- ☼ Strict herbivore control will continue.

Management of Existing Woodland

- ☼ Most existing woodland will be allowed to develop as far as possible naturally, with intervention only as necessary to fulfil the overall objectives. Selective felling and coppicing of a small proportion will be permitted to supply timber for activities such as woodturning, charcoal burning and small-scale sawmilling and a small area will be managed for Christmas Tree production.
- ☼ Natural regeneration of non-native trees or shrubs that may occur will be removed.

Open Ground Management Within the Fenced Area

- ☼ Red deer will be eliminated and roe deer controlled by shooting to a level which has a minimal impact on trees. Rabbits will be controlled by shooting and gassing as necessary, to minimise their impact on trees. Any stray sheep will be removed.
- ☼ Small areas will be kept open in the lower part of the property by removal of regenerating trees in order to facilitate access, deer control and maintain viewpoints.
- ☼ Apart from the above, all areas not planted will be allowed to develop naturally, although consideration will be given to intervention to reduce excessive invasion of unwanted species.

Outwith the Deer Fence (the north corner of Cashel)

- ☼ Red deer will be controlled by shooting to a population level which minimises their impact on the moorland vegetation. This will be done in consultation with the Deer Commission for Scotland and adjoining landowner.
- ☼ Apart from the above, this part of the property will be allowed to develop naturally.

Landscape Management

- ☼ Viewpoints from paths will be maintained by cutting back or removing trees as necessary.
- ☼ Care will be taken to ensure that the appearance of the area as viewed from outside is not adversely affected by artifacts such as roads, drains and footpaths, but the natural spread of tree cover will normally be accepted.

Species Management

- ☼ Ecologically sensitive sites must not be disturbed by insensitive use of machinery or excessive access.
- ☼ Efforts will be made to find a new sponsor to support further ecological monitoring.

Access Provision

- ☼ Access by the public will be encouraged in collaboration with Loch Lomond and Trossachs National Park Authority staff, and in accordance with the Scottish Outdoor Access Code.
- ☼ The footpath system will be maintained for informal visitor use, this will include any necessary erosion repair, drain clearance, swiping of vegetation and replacement of way-markers.
- ☼ New routes will be identified and constructed in accordance with the Recreation Plan. No formal paths will be created on higher ground but consideration will be given to way-marking a route to the top of Beinn Bhreac.
- ☼ New car parking for visitors (including provision for the less able) will be constructed adjacent to the Forest Centre.

Interpretation

- ☼ An Interpretive Strategy will be developed to provide a clear focus for interpretation and its purpose. Interpretation could take on many forms from touch & see demonstrations to changing exhibition space. All areas will be explored to find what best fits Cashel to draw more visitors, and appropriate experts will be consulted. Local organisations will be consulted to avoid duplication in text and style of other interpretation in the area.
- ☼ Both in the visitor Centre and within the woodland, interpretation proposals should seek in a new and interesting way to:
 - ☼ Stimulate and maintain the interest of the visiting public.
 - ☼ Project the image of Cashel and the RSFS.
 - ☼ Explain the objectives of woodland restoration.
 - ☼ Explain the ecology of native woodlands.
 - ☼ Ensure safe and easy access for visitors.
 - ☼ Demonstrate good forestry practise.

Educational Use

- ☼ Information will be provided on ecology, forestry and related topics both at Cashel and in a wider Loch Lomond context by:
 - ☼ Encouraging educational use of Cashel by schools, youth groups and community education groups.
 - ☼ Encouraging visits to Cashel by foresters, landowners, land managers, conservationists and other specialists groups.

Completion of Loch Lomond Forest Centre

- ⊗ There will be a re-appraisal of how best to re-develop the remainder of the steading and of the demand for on-site accommodation.
- ⊗ Efforts will continue to obtain funding sufficient to allow construction of Phase 2 of the Forest Centre (i.e. the planned residential accommodation wings).
- ⊗ Depending on successful fund-raising, construction of Phase 2 will be put out to tender and completed.

Use of buildings

- ⊗ A policy framework will be developed for utilisation (including letting) of facilities available at the Forest Centre.
- ⊗ Maintenance and repairs will be carried out as necessary, including anything required to ensure safe conditions in old farm buildings which are temporarily retained.

Economic Activities

- ⊗ Where practical, craftsmen in wood-based activities will be encouraged to work at Cashel as a means of demonstrating sustainable native woodland management.
- ⊗ The low-ground improved fields will continue to be let for seasonal grazing, taking care to ensure that no agricultural tenancies are established.
- ⊗ Deer stalking will continue to be let as long as this is compatible with the deer management objectives.
- ⊗ Promotion and management of the sponsored planting scheme will continue, subject to review and updating of the scheme details.
- ⊗ Part-time site managers, resident in the farmhouse, will continue to be employed on an annual basis.

Research, Survey and Monitoring Work

- ⊗ Research by individuals and organisations which is appropriate to the location and helpful to its management will be actively encouraged.
- ⊗ The trial plots established by FC Northern Research staff will be protected.
- ⊗ Changes in the vegetation and key species will continue to be monitored.
- ⊗ Visitor numbers will be monitored by means of a people counter.
- ⊗ Good records will be kept of all management and monitoring carried out, and this information will be safely stored.

Public Relations

- ⊗ The Trust Company will work closely with the Loch Lomond and Trossachs National Park Authority, particularly as regards visitor management, interpretation and educational use, and will continue to hold regular management meetings with local Park Authority staff
- ⊗ Regular contact will be maintained with the Ben Lomond Memorial Park management committee and the Trust Company Board will keep under review the desirability of formal inclusion of Cashel within the Park.
- ⊗ The part-time managers will be encouraged to play an active role in promoting Cashel.
- ⊗ The Cashel web-site will be kept up to date.
- ⊗ The local community will be kept informed and consulted on the implementation of the revised management plan, with prompt response to local comment and concerns.
- ⊗ There will be active encouragement of the use of Cashel facilities by local groups and individuals, in part by organising open days and other events.
- ⊗ There will be regular liaison with adjoining landowners on matters of mutual interest

- ⊗ There will be regular consultations with the FC, SNH and other relevant statutory and voluntary bodies on the implementation of the management plan.
- ⊗ Trust Company representatives will play an active and positive role in the local Deer Management Group.
- ⊗ The use of volunteer work parties will be encouraged.

Administration

- ⊗ Regular meetings of the RSFS Forest Trust Company board will be held.
- ⊗ A new Business Plan will be prepared.
- ⊗ The Trust Company will organise necessary project management and staff needed to deliver the objectives.
- ⊗ Necessary financial records will be maintained for the purposes of the RSFS Forest Trust Company and MFST.
- ⊗ The Management Plan will be reviewed and updated in 2010.



Forestry Manager, Felix Karthaus, demonstrates Scots Pine root development in high elevation plantings in 2004.



Ramblers enjoying the views from Cashel's high level paths.

Photo Credits

Andy Little *Front cover -View of the new Forest Centre from the forest road*
 Pages 14 and 17

David Goss *Page 19, 22 and 26 bottom*
 Dr Alan Low *Page 11*

Felix Karthaus,
 Border Consultants *Pages 2, 8 and 26 top*

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Registered Company No : SC 160412

ALBA TREES AT CASHEL

Alba Trees have been very proud to have been associated with Cashel since the inception of the Forest for a Thousand Years. I clearly remember the first discussion I had with Mike Osborne in the little timber hut from which he represented the RSFS at the Royal Highland Show in 1996. He gave me a list of the desired species totalling some 650,000 trees.

In July we sent a quotation to David Goss and in August he placed the order for the first season. Fortunately we had trees from appropriate seed origins already growing on the nursery available for delivery over the next 6 months. I have beside me my letter to David offering:

Scots Pine	Coille Coire Chuilc (Tyndrum)
Downy Birch	Morvern (which he did not choose!)
Sessile Oak	Erracht (Glen Loy)
Pedunculate Oak	Loch Lomond
Alder	Loch Lomond
Ash	Loch Lomond
Aspen	Newtonmore

We were fortunate because we had been brave enough to make wide-ranging seed collections over the previous few years, confident in current levels of new planting prevailing at the time, even before we had heard of Cashel. In 1995-96, eight years after the fateful Lawson budget, Scotland still managed to plant 10,500 hectares of new woods. In 2008-09 we managed just 2,500 hectares.

We also had a dependable traceability system to give confidence to our customers. With 135 species and many different provenances this is essential, just to keep track of what we have. But it will always depend on reliable people to operate it. We coined the phrase “Trust the team – Trust the label”.

Planting at Cashel built up over the next two years and in total we supplied 380,000 trees, including 184,000 Caledonian Pine, 101,000 Downy Birch and 28,000 Oak, all from local collections.

It didn't always go smoothly (nearly always!); contracts like this seldom do. Growing native trees depends on the right seed being available at the right time to allow for stratification and timely sowing. Then, of course, planting does not always happen exactly when originally planned and flexibility is needed. Small trees do not understand delays and sometimes get a little taller than we would recommend as the picture shows. However I took the adjacent picture at the same spot seven years later and all has turned out well.



The result of so many endeavours by so many people at Cashel is a stunning success and must surely exceed the most optimistic vision of the founders. We at Alba Trees enjoy bringing visitors to Cashel and look forward to seeing this magnificent young forest growing on towards maturity.

James P Hepburne Scott



Alba Trees Plc, Lower Winton, Gladsmuir, East Lothian, EH33 2AL



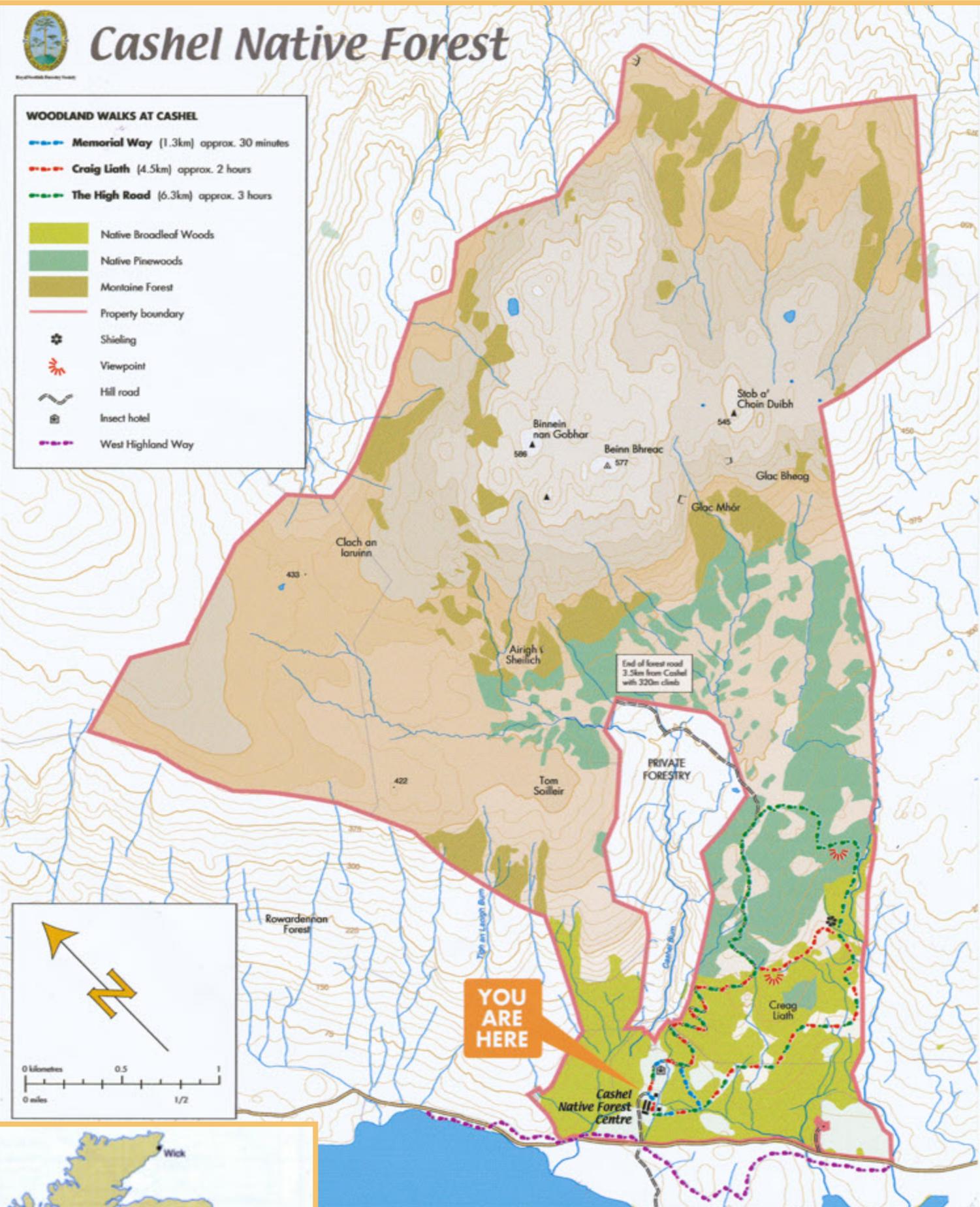


Cashel Native Forest

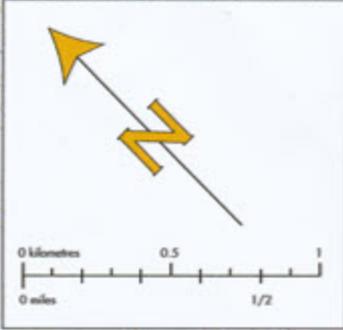
WOODLAND WALKS AT CASHEL

- Memorial Way** (1.3km) approx. 30 minutes
- Craig Liath** (4.5km) approx. 2 hours
- The High Road** (6.3km) approx. 3 hours

- Native Broadleaf Woods
- Native Pinewoods
- Montaine Forest
- Property boundary
- Shieling
- Viewpoint
- Hill road
- Insect hotel
- West Highland Way



YOU ARE HERE



Cashel Native Forest Centre
 RSFS Forest Trust Co.
 Balmaha Drymen
 G63 0AW

www.cashel.org.uk