



# Balmacaan

## Management Plan 2018-2023

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## THE WOODLAND TRUST

### INTRODUCTION

The Trust's corporate aims and management approach guide the management of all the Trust's properties, and are described on Page 4. These determine basic management policies and methods, which apply to all sites unless specifically stated otherwise. Such policies include free public access; keeping local people informed of major proposed work; the retention of old trees and dead wood; and a desire for management to be as unobtrusive as possible. The Trust also has available Policy Statements covering a variety of woodland management issues.

The Trust's management plans are based on the identification of Key Features for the site and setting objectives for their management. A monitoring programme (not included in this plan) ensures that these objectives are met and any necessary management works are carried out.

Any legally confidential or sensitive species information about this site is not included in this version of the plan.

### PLAN REVIEW AND UPDATING

The information presented in this Management plan is held in a database which is continuously being amended and updated on our website. Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations. Please either consult The Woodland Trust website [www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk) or contact the Woodland Trust ([wopsmail@woodlandtrust.org.uk](mailto:wopsmail@woodlandtrust.org.uk)) to confirm details of the current management programme.

There is a formal review of this plan every 5 years and a summary of monitoring results can be obtained on request.

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## WOODLAND MANAGEMENT APPROACH

The management of our woods is based on our charitable purposes, and is therefore focused on improving woodland biodiversity and increasing peoples' understanding and enjoyment of woodland. Our strategic aims are to:

- Protect native woods, trees and their wildlife for the future
- Work with others to create more native woodlands and places rich in trees
- Inspire everyone to enjoy and value woods and trees

All our sites have a management plan which is freely accessible via our website [www.woodlandtrust.org.uk](http://www.woodlandtrust.org.uk). Our woods are managed to the UK Woodland Assurance Standard (UKWAS) and are certified with the Forest Stewardship Council® (FSC®) under licence FSC-C009406 and through independent audit.

In addition to the guidelines below we have specific guidance and policies on issues of woodland management which we review and update from time to time.

We recognise that all woods are different and that the management of our sites should also reflect their local landscape and where appropriate support local projects and initiatives. Guidelines like these provide a necessary overarching framework to guide the management of our sites but such management also requires decisions based on local circumstances and our Site Manager's intimate knowledge of each site.

The following guidelines help to direct our woodland management:

1. Our woods are managed to maintain their intrinsic key features of value and to reflect those of the surrounding landscape. We intervene when there is evidence that it is necessary to maintain or improve biodiversity and to further the development of more resilient woods and landscapes.
2. We establish new native woodland using both natural regeneration and tree planting, but largely the latter, particularly when there are opportunities for involving people.
3. We provide free public access to woods for quiet, informal recreation and our woods are managed to make them accessible, welcoming and safe.
4. The long term vision for our non-native plantations on ancient woodland sites is to restore them to predominantly native species composition and semi-natural structure, a vision that equally applies to our secondary woods.
5. Existing semi-natural open-ground and freshwater habitats are restored and maintained wherever their management can be sustained and new open ground habitats created where appropriate.
6. The heritage and cultural value of sites is taken into account in our management and, in particular, our ancient trees are retained for as long as possible.
7. Woods can offer the potential to generate income both from the sustainable harvesting of wood products and the delivery of other services. We will therefore consider the potential to generate income from our estate to help support our aims.
8. We work with neighbours, local people, organisations and other stakeholders in developing the management of our woods. We recognise the benefits of local community woodland ownership and management. Where appropriate we allow our woods to be used to support local woodland, conservation, education and access initiatives.
9. We use and offer the estate where appropriate, for the purpose of demonstration, evidence gathering and research associated with the conservation, recreational and sustainable management of woodlands. In particular we will develop and maintain a network of long-term monitoring sites across the estate.
10. Any activities we undertake will conform to sustainable forest management principles, be appropriate for the site and will be balanced with our primary objectives of enhancing the biodiversity and recreational value of our woods and the wider landscapes.

## SUMMARY

This public management plan briefly describes the site, specifically mentions information on public access, sets out the long term policy and lists the Key Features which drive management actions. The Key Features are specific to this site - their significance is outlined together with their long (50 year+) and short (5 year) term objectives. The short term objectives are complemented by a detailed Work Programme for the period of this management plan. Detailed compartment descriptions are listed in the appendices which include any major management constraints and designations. A short glossary of technical terms is at the end. The Key Features and general woodland condition of this site are subject to a formal monitoring programme which is maintained in a central database. A summary of monitoring results is available on request.

## 1.0 SITE DETAILS

<b>Site name:</b>	Balmacaan
<b>Location:</b>	Lewiston, Drumnadrochit
<b>Grid reference:</b>	NH499289, OS 1:50,000 Sheet No. 26
<b>Area:</b>	33.51 hectares (82.81 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, Ancient Woodland Site, Scheduled Ancient Monument, Tree Preservation Order

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

Balmacaan is part of a major concentration of ancient woodlands along Loch Ness. It boasts some of the largest specimens of Wellingtonia, Lawson's cypress and Douglas fir in Britain and in 1984 was the first wood in Scotland acquired by the Woodland Trust.

### 2.2 Extended Description

Balmacaan Wood makes a picturesque backdrop to the village of Drumnadrochit on the western shore of Loch Ness. It was the first wood acquired by the Woodland Trust in Scotland (1984).

The wood once formed the grounds of the Earl of Seafield's Balmacaan House, and, like the nearby Loch, it can boast some monstrous credentials. Amongst its collection of North American conifers, there are several giants - a grand fir *Abies grandis* of 7.6m girth and estimated 50-60m height, a Western red cedar *Thuja plicata* of 7m girth and 26m height and several Giant Sequoias *Sequoiadendron giganteum* over 50m in height, thought to have been planted as early as 1852.

A prominent feature of Balmacaan Wood is Craigmonie, a rocky outcrop capped with gnarled Scots pines, which offers a spectacular view of Loch Ness.

Most of the woodland is recorded as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory, although there is also a core area of 3.5 ha Ancient Semi Natural Woodland (ASNW). The woodland flora is exceptionally diverse, with a significant number of 'Ancient Woodland Indicator' species - plants which are usually found only where there has been continuity of woodland cover over many hundreds of years.

The wood is part of a major concentration of ancient woodlands along Loch Ness (including, the Woodland Trust's Urquhart Bay and Abriachan woods nearby), and in Glen Urquhart to the North West. It is contiguous with the Forestry Commission's Craigmonie Wood, which is managed by the Craigmonie Woodland Association. Craigmonie Wood is a Planted Ancient Woodland Site (PAWS) which has retained rich remnant ancient woodland flora and a number of veteran trees. With restoration over time, this area has the potential to form an important habitat link between the Trust's Balmacaan Wood, the Coiltie's riparian woodlands, and the ancient semi-natural woodlands of Glenurquhart.

The greater part of Balmacaan wood is composed of a diverse mix of native broadleaves, dominated by large, mature oaks and birch at all stages, alongside a range of other species including hazel, rowan, holly, aspen, wych elm and ash. Alder is locally dominant in wet areas throughout the central portion of the wood. Bird cherry is frequent, with some exceptionally large specimens along the western boundary, perhaps those commented on in the 'New' Statistical Account of 1834-45: 'Throughout the district the beautiful white flowering bird cherry or hackberry, as it is called, is abundantly distributed and attains an uncommonly large size'

Further diversity is derived from a wide range of trees planted to enhance the landscape in the 18th and 19th centuries. These include beech, lime, yew, and a notable collection of north American conifers, concentrated in an 'arboretum' area in compartment 6.

Large open glades in the northern part of the wood have been progressively planted with native trees since the site was acquired by the Woodland Trust, including aspen, ash, hazel and oak (planting years: 1984, 1990, 2001 and 2005 - 21st Anniversary planting). Much of this is well established and is beginning to develop semi-natural characteristics.

Overall there is a diverse age structure to the wood, with birch, rowan, hazel, ash, oak and alder regenerating freely in scattered patches throughout. The compartments at the southern end of the site are more even aged than the rest of the wood, but good levels of advance regeneration, especially oak, suggest that young trees will establish in canopy gaps as older specimens are lost.

The population of ash in the wood may be under significant threat from the ash disease *Chalara fraxinea* over the life of this plan. According to the DEFRA map of infected 10km squares, the infection is present immediately to the North of the wood, discovered in 2016, with an additional location north of Inverness discovered in 2017.

There are red, roe, and sika deer present within the wood, and utilise the connectivity between Balmacaan and the surrounding Forestry Commission woodland. Currently, the deer population does not pose a significant threat to the natural regeneration of the wood and provide an ecological service through selective browsing, retaining a level of open ground and creating diversity.

Invasive *Rhododendron ponticum* has been a problem on the site, although it has been greatly reduced by an ongoing programme of control. Currently a few established bushes remain in compartment 6a, but elsewhere it is limited to scattered regrowth from previously controlled stumps and some young seedling plants. The potential for re-invasion from stands on neighbouring property remains an issue. Bracken is locally dominant in the wood, but it is reducing as trees in formerly open glades begin to close canopy.

The geology of the area is comprised of 'Arkaig' glacial drifts. These are a complex mix of mainly acidic rocks derived from schists and gneisses- from the Moine series. Occasional sandstone conglomerates, and base-rich intrusions add diversity to the bedrock and soils. The soils range from brown rankers and peat with rocky outcrops on the ridge summits, to podzols and stony brown earths on the slopes and deeper loam soils and peaty gleys in the valleys and lower ground.

A small, permanent stream crosses the woodland, and other temporary streams drain due west from its centre. A small pond which originated as a glacial kettle hole is found at the southern end of the wood. It was formerly known as Loch na Lacmunin, and is still called the Duck Pond.

## History

Note: The Woodland Trust would like to acknowledge the valuable contribution made to the preparation of this section by Duncan MacDonald.

With a strategic position overlooking Loch Ness and surrounded by fertile farmlands at the foot of two glens, it is likely that the site of Balmacaan Woods was occupied by humans since the earliest times. Craigmonie is a natural lookout point and it is thought that it was surmounted by a prehistoric fort. Little can now be discerned on the ground, but the area is protected as a Scheduled Ancient Monument.

The Norse King, Monie, was besieged on the craig in the 11th century, hence its name. He and his men were then defeated on Blar na Geilt - the Plain or Field of Terror - below the cliffs. An account from 1893 describes the events:

'Monie, son of the King of Scandinavia, landed in Argyle with a large force, accompanied by his sister. His retreat to his ships having been cut off by the natives, he was pursued northward through the Caledonian valley, until he reached Urquhart, where he made a stand on the high rock of Craigmonie, which is still crowned with the remains of ancient fortifications. There he and his companions bravely held their own for a time, his sister taking shelter in a crevice still known as Leabaidh- Nighean- an- Righ, the Bed of the King's Daughter. Driven at last to the plain below, the Norsemen were forced to give battle, and were defeated with great slaughter. Monie escaped with his sister, but at Corrimony he was overtaken and slain. The people of the Glen took kindly to the hapless princess, and she lived among them for many a day.'

Craigmonie maintained its notoriety, serving as the place of execution for Glenurquhart for many years. In 1892 a local historian noted that 'The descendants of the last man hanged on Craigmonie are still known in Urquhart.'

Another notable, but presumably more peaceable, individual associated with the early history of

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Balmacaan is St Drostan, the patron saint of Glenurquhart. Tradition tells that he preached the gospel in Urquhart, and supported himself by cultivating Croit Mo Chrostaín - St Drostan's Croft - on the top of a pretty hillock in Balmacaan Wood immediately to the west of the former Balmacaan House.

In 1509 King James IV granted the lands of Glen Urquhart, which included Balmacaan, to the Earl of Grant. The laird's seat was established in the SE corner of the wood, and successive generations made additions and improvements to the mansion. The last large-scale changes were made in 1854, and the house was finally demolished in the 1970's. The site is now occupied by a modern home (private)

Historical records show that from early times a great deal of effort was given to managing the woods - as early as 1573, James VI issued letters protecting them from cutters and peelers of timber. During the 18th century, with thriving markets for timber products, forestry became an important economic driver for the estate. In the mid 1700's the laird received £1000 for oak, and two foresters, Dougal MacDougal and John Macmillan, were employed, each on a salary of £13 per year.

Despite the best efforts of the foresters, depredations by wood barkers, tree stealers and distillers took a constant toll on the woods. In 1761 the future Sir James Grant was given charge of Urquhart and immediately after a survey, appointed James Grant as Forester. 'As I find that great trespasses are committed in my woods of Urquhart, and that both wood and bark are sold and otherwise carried off without my order, and as I am determined to bring the trespasses of all ranks to condign punishment for their past crimes, I appoint you hereby my Forester.'

In 1763, Sir James, 'Putting my confidence in your integrity, diligence and ability', promoted James Grant to be Chief Forester. The detailed instructions issued to the Forester that year, included items such as, 'Regulation No. 11; If you or your under foresters detect any person or persons in the woods having in their hands or using an Axe, you are to take it from the person and the Chamberlain to prosecute.'

The Statistical Account of the 1790's, under the heading, 'Woods', notes that 'There are considerable natural woods, both on Sir James Grant's estate in Urquhart, and in Glenmoriston. They consist of Scots fir, birch, and also a variety of hard wood, as oak, ash, elm etc., besides alder, rowan, poplar and several other kinds, which have, from time to time, fetched the proprietors considerable sums of money.'

The woods yielded a wide range of products. Hazel produced nuts and young woods for barrel hoops. Locally the pliant, young shoots were used in conjunction with straw and clay to form exterior and interior walls of houses.

Birch was an important source of charcoal for the manufacture of iron in the sixteenth and seventeenth centuries. With the erection of a new water powered mill in 1820, and the opening of the Caledonian Canal, there was much employment in the business of felling birch, floating it down the Coilltie and Enrick and carting it to the mill where it was sawn into barrel staves. The birch bark, used for tanning leather, was also exported.

Later in the century, large sums of money were generated by the export of birch for making bobbins to supply the cotton mills of Paisley. Subsequently, there was a local bobbin mill which was in



production until the mid-20th century.

Alder for making clogs was always in great demand and exported in large quantities. About one thousand five hundred Alder for this purpose were felled in 1886.

Oak was probably the greatest source of income to the estate. In 1800, large quantities of oak were felled for timber, and in the following year Sir James was consulting various people about the most efficient way to harvest bark for supply to the leather tanners of Inverness. When was the best time to pollard and harvest the coppice? Did smoothing the stool with an axe improve the growth of new shoots? Could the seven year cycle of harvesting be reduced to five? The peeled wood was also exported, for making spokes for cart wheels, and the waste was turned into charcoal.

Sir James also placed great emphasis on the appearance of the woods, envisaging Balmacaan as a park surrounding his home, with Craigmonie as its centerpiece. In 1768 Craigmonie was planted with 'fir' (Scots pine), and the following year after paying one shilling for the labour of replacing failed plants, a dyke with two entrance gates was built to protect the trees and keep people out.

Extensive planting of policy woodland around Balmacaan house in the first years of the 19th century was added to and embellished throughout the Victorian era. A planting list for 1810 includes 12 spindle trees, 20 walnut, 10 chestnut, 60 English elm, 200 laburnum, 400 limes, 6 purple beech, 6 copper beech, 6 tulip tree, 12 upright dogwood, 12 guelder rose, 100 holly, 100 Norway maple, 100 English maple and 1200 'planes' (sycamores). From 1857 onwards large quantities of Rhododendron were planted - 2000 in 1877 at a cost of £35 - a fraction of the expenditure eliminating these rampant invaders!

In the latter half of the 19th century, it became the height of fashion to possess specimens of the new plants being introduced by plant hunters from expeditions to the Americas. The handsome Giant Sequoias, also known as Wellingtonias, date from this period - local tradition has it that the huge Sequoia by the parking lay-by was already of a size that required four men with a hand cart to transport it when it was planted in the 1850's. An arboretum featuring a wide range of conifers, many of which have now reached vast proportions, was established to the rear of Balmacaan house, alongside a hot house, an earlier ice house, tennis courts and ornamental gardens. Piped water from the burn made a fountain at the top of the wood, and a jet from a boulder in the gardens.

The Estate achieved its heyday during the Victorian and Edwardian eras but went into a decline after the First World War. Most of the best timber was felled during the Second World War and the Estate was then broken up and sold in small lots. Balmacaan wood was eventually acquired by the Woodland Trust in 1984.

Since 1984 the wood has been managed to maintain and develop a diverse age structure and native species composition, and to promote public access to and enjoyment of the woodland.

Rhododendron ponticum has been controlled, and all large specimens and stands have been eliminated. Seedling regeneration of Rhododendron has required low -input ongoing control due to the presence of seed sources on neighbouring land. New plantings of mixed native broadleaves were established in open ground formerly dominated by Rhododendron in the years leading up to and including 2000. These have now closed canopy and are developing a typical woodland herb layer.

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In 2000 a joint access initiative was developed with Craigmonie Woodland Association and Forestry Commission Scotland to provide waymarked routes and interpretation for both Balmacaan Wood and the neighbouring Craigmonie Wood. The access network was further developed in 2002 with the construction of a new footpath link along the western boundary of the wood. Interpretation panels and waymarking were renewed in 2012.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

By bus:

Regular bus and coach services are available from Inverness to Drumnadrochit. The village is also on the main coach routes from Inverness to Portree on Skye and to Fort William. All services stop close to the Tourist Information Centre in the middle of Drumnadrochit, approximately 1km from the wood. For further information visit [travelinescotland.com](http://travelinescotland.com) or phone 0871 200 22 33.

By train:

The nearest train station to Balmacaan is in Inverness, 30.3km (18.8 miles) away. For up-to-date information on public transport, visit [travelinescotland.com](http://travelinescotland.com) or phone 0871 200 22 33.

By car:

The woodland is situated on the western outskirts of the village of Drumnadrochit, by Loch Ness on the A82. The wood is approximately 1km along a waymarked route from the Tourist Information Centre (TIC) in the middle of the village. From the TIC, head south on the A82 for approximately 250 metres then turn right onto a minor road. After approximately 100 metres, bear left along a track which leads to the main entrance.

A small Woodland Trust parking area for up to three cars is available at the main entrance. The centre of the track is higher than the wheel tracks, so drivers of lower vehicles are advised not to use this. Additional public parking is available at the Visitor Information Centre in the village centre, approximately 1km from the wood.

### 3.2 Access / Walks

The main entrance is at OS Grid Reference NH 502294. Other entrances are off Balmacaan Road at NH 501287, and from open countryside and woodlands to the west and north of the site.

Wooden posts with 'Craigmonie Wood' carved in white lettering direct visitors to the entrance along 350 metres of flat pavement and tarred roads, with a short, moderately sloping section towards the end of the tar. From there, 150 metres of gently sloping, firm, wide gravel track takes the visitor to the main entrance and notice board. Craigmonie Wood, which lies adjacent to Balmacaan, is owned by Forestry Commission and is managed in association with Craigmonie Woodland Association. Much of the signage across both woods is joint-branded, with waymarked routes using the same colour scheme.

From the main entrance there are three looped paths that lead the visitor through the diverse and beautiful woods of Balmacaan and Craigmonie:

Blue route (2.5km):

Purely within Balmacaan, this clockwise route starts off as an 850-metre-long, wide, flat-surfaced track with muddy sections, followed by a short, fairly steep, smooth, grassy slope. From here it leads onto a gently undulating, firmly surfaced path that is narrow in places. This latter part has short, moderately steep inclines and declines and muddy sections. A moderate to fairly steep 300-metre decline joins the route back to the track.

White route (1km):

This route starts off as a wide, flat, gravel track and continues up a short, fairly steep, smooth grassy slope. From there it becomes a wide, gently sloping, 600-metre track with an earthy surface that is generally firm with occasional uneven sections.

Red route (1.6km):

If following the route clockwise, it travels 50 metres along a flat, wide, muddy, gravel track before turning right to a long, narrow, moderate-to-fairly-steep slope that is grassy, earthy, and uneven underfoot. This takes you to Drumnadrochit and Loch Ness, with stunning views and wonderful woodland. From there, a long, gently sloping decline on a firm, earthy path takes you out of Balmacaan and into Craigmonie. Here, there is a choice of either a long, wide, firm path, waymarked green, which takes you back to the start; or the chance to continue on the red route along a rough, narrow path with short, steep gradients.

A leaflet describing the woods and a series of graded walks that link with the adjacent Craigmonie Woodland is available locally and from the Woodland Trust. The walks are signposted from the Visitor Information Centre in Drumnadrochit. There are information boards at the main entrances and viewpoints. <https://scotland.forestry.gov.uk/visit/craigmonie>

The Great Glen Way long distance walking route passes through Drumnadrochit, not far from Balmacaan Woods. See [www.greatglenway.com](http://www.greatglenway.com) for further information.

## 4.0 LONG TERM POLICY

The long term vision for Balmacaan woods is for a highly diverse semi natural woodland, which forms part of the larger woodland habitat mosaic along the northern shore of Loch Ness and adjacent glens. Balmacaan will continue to support a self-sustaining range of native tree species, and a rich ground flora with ancient woodland plants being well represented throughout. Areas of long established plantation will gradually move towards the appearance of a woodland of natural character through natural succession and regeneration of native species.

Apart from the specimen non-native trees, which will be retained for their aesthetic, cultural and historic values until the end of their natural lives, the rest of woodland will be encouraged to develop into a native woodland through the eradication of all non-native tree and shrub species, with the exception of sycamore as a surrogate for ash, should Chalara cause the loss of ash in the wood. Grazing will be monitored and, if necessary, managed to allow regeneration to flourish. Throughout the woodland, there are historic features built as part of Balmacaan House. These will be maintained in a safe and secure state, managing any threats to their integrity.

The site will provide an extensive area of quiet informal recreation to a wide range of users both from the local community and from further afield. There will be a network of paths providing a range of linear and loop routes suitable for walkers, horse riders and cyclists, and linking to the surrounding path network.

Interpretation will be renewed in partnership with Forestry Commission Scotland, and Craigmonie Woodland Association, with the package reflecting the Welcome Sites status of Balmacaan Wood. As part of this, opportunities will be explored to further improve the visitor experience of the site through additions to trails, interpretation, and online materials.

## 5.0 KEY FEATURES

The Key Features of the site are identified and described below. They encapsulate what is important about the site. The short and long-term objectives are stated and any management necessary to maintain and improve the Key Feature.

### 5.1 Ancient Woodland Site

#### Description

Approximately 8% of the site is recorded as Ancient Semi Natural Woodland (ASNW) in compartments 3a, 4c, and 4d, and the majority of the remainder as Long Established Woodland of Plantation Origin (LEPO). The abundance and diversity of ancient woodland features throughout the site tends to blur the distinction between stands of plantation and stands of semi-natural origin. The woodland has a diverse age structure with a range of trees at all stages. In the northern part of the site, Scot's pine dominates the outcrop of Craigmonie Rock. Below this and moving south through the site, hazel, birch, ash, rowan, and bird cherry provide a very attractive diverse woodland that is interspersed with the occasional aspen stand. The ground vegetation ranges from a very short moss layer, to heather, blueberry to bluebells and wild garlic. Hawthorn and blackthorn provide good shrub cover. In the wetter grass dominated hollows, alder and willow thrive. Towards the southern end of the site, mature sessile oak dominate with an understorey of bluebell dominated field layer. There is the ever present rhododendron bush spotted throughout the site, and sycamore is a well established tree in the canopy.

#### Significance

Balmacaan Wood is part of a major concentration of ancient woodlands along Loch Ness (including Urquhart Bay and Abriachan woods nearby also owned by the Woodland Trust) and in Glen Urquhart to the north west. Natural regeneration and planting of a diverse range of native tree and shrub species by the Woodland Trust, combined with the systematic removal of *Rhododendron ponticum* has significantly improved the conservation value of the native woodland over the past 25 years.

#### Opportunities & Constraints

There is an opportunity for a range of species to expand out from the core of the Ancient Woodland into the surrounding semi-natural woodland. Where *Rhododendron* is present, woodland specialist plants will not be able to establish. While *Rhododendron* has been previously controlled, some regrowth remains, and there are significant seed sources on adjacent land. There is an opportunity to eradicate *Rhododendron* within Balmacaan in the life of this plan.

The disease of ash, *Chalara fraxinea*, may present a significant threat to the woodlands integrity and biodiversity through loss of the species composition. Annual monitoring will take place for the presence of the disease. Sycamore will be retained within the wood to host ash-dependant species in the future absence of ash.

Gaps within the fences have permitted a certain level of grazing of the field layer and young trees by sheep and cows in recent years. Maintenance and replacement of sections of fencing in partnership with the neighbouring farmer will reduce grazing and browsing damage through the wood.

### Factors Causing Change

Regeneration of *Rhododendron ponticum* and non-native tree species will impact upon the diversity of parts of the site if not controlled.

Should Chalara be found in the site, the disease could have a significant impact on the species diversity in the wood.

As all elm has died, the gradual loss of these dead trees through natural means, or through tree safety management, will lose a component of the woodland diversity and character.

Significant thinning by Forestry Commission to the North of the site in 2019/20 could increase windblow locally.

### Long term Objective (50 years+)

To develop a highly diverse semi-natural woodland, which forms part of the larger woodland habitat mosaic along the northern shore of Loch Ness and adjacent glens. Balmacaan will continue to support a self-sustaining range of native tree species, and a rich ground flora with ancient woodland plants being well represented throughout. Areas of long established plantation will gradually move towards the appearance of a woodland of natural character through natural succession and regeneration of native species.

Apart from the specimen non-native trees, which will be retained for their aesthetic, cultural and historic values until the end of their natural lives, the rest of woodland will be encouraged to develop into a native woodland through the eradication of all non-native tree and shrub species, with the exception of sycamore as a surrogate for ash, should Chalara cause the loss of ash in the wood. Grazing will be monitored and, if necessary, managed to allow regeneration to flourish.

Throughout the woodland, there are historic features built as part of Balmacaan House. These will be maintained in a safe and secure state, managing any threats to their integrity.

### Short term management Objectives for the plan period (5 years)

#### Removal of non-natives

- All rhododendron will be eradicated from the site by 2023, working progressively from North to South each year as part of the Estate Maintenance Contract, starting in 2018 and aiming to comb through six hectares per year. Some areas are denser than others so it will be expected that some years will progress better than others. Bushes under one metre in height will be sprayed with glyphosate and checked the following year. Bushes over one metre will be cut, and the stumps treated. It will also be an aspiration to work with neighbouring landowners to manage the rhododendron over the boundary to decrease the likelihood of further incursions in the future.
- All beech, Sitka spruce, Douglas fir, cypress, grand fir, redwood regeneration to be felled at ground level between 2019 and 2023. This work will prioritise the ASNW area (parts of 3a, 4c, 4d) then work progressively through the site from North to South. All laurel to be felled and, where very dense, burned on site. Within the TPO, all non native regeneration under eight metres in height can be felled without consent.

#### Ensuring Diversity

- Grazing by domestic stock is halted through working with the neighbouring farmer to keep the wood stock proof. In 2018, replacement of 100m of fencing, broken gate, post and rail, and broken posts, all along the Western side of the wood done by Woodland Trust, while work is done by the farmer on the Eastern side to prevent incursions from that side. In 2019, to complete any remaining patches or broken wood work.
- Monitoring of Chalara is carried out annually and a survey completed to quantify the percentage cover and locations of ash and sycamore in 2022, to inform planting plans for the 2023 to 2028 Management Plan.

## 5.2 Connecting People with woods & trees

### Description

Balmacaan is a place to inspire people about woodlands. The views offered across Drumnadrochit over Urquhart Bay, towards Abriachan, and Loch Ness itself, gives a sense of an intact landscape that is managed sympathetically. The woodland itself is equally beautiful. With a huge diversity of trees, shrubs, ground flora, lower plants, insect life, and even the occasional roe deer and red squirrel, it is a place to take the time to enjoy. This place gives the backdrop to the village of Drumnadrochit on the North Shore of Loch Ness. Drumnadrochit is well served for café's, restaurants, and tourist shops, and is only 14 miles south of Inverness and can be reached by car or a direct bus link.

The main entrance is at OS Grid Reference NH 502294. Other entrances are off Balmacaan Road at NH 501287, and from open countryside and woodlands to the west and north of the site. The two entrances that are grid referenced above have signage and an orientation board. Wooden posts with 'Craigmonie Wood' carved in white lettering direct visitors to the entrance along 350m of flat pavement and tarred roads with a short moderately sloping section towards the end of the tar. From there, 150m of gently sloping firm wide gravel track takes the visitor to the main entrance and notice board. Craigmonie Wood, which lies adjacent to Balmacaan, is owned by Forestry Commission Scotland, and managed in association with Craigmonie Woodland Association. Much of the signage across both woods is joint branded, with way-marked routes using the same colour scheme.

From the main entrance, there are three looped paths that lead the visitor through the diverse and beautiful woods of Balmacaan and Craigmonie.

**Blue route (2.5km):** Purely within Balmacaan, and (clockwise) takes a wide flat surfaced track with muddy sections for 850m to a short fairly steep smooth grassy slope and onto a gently undulating firmly surfaced path that is narrow in places, with short moderately steep inclines and declines and muddy sections. A moderate to fairly steep 300 metre decline joins the route back to the track.

**White route (1km):** Starting along a wide flat gravel track, up a short fairly steep smooth grassy slope and onto a wide gently sloping 600m route that is an earthy surface that is generally firm with occasional uneven sections.

**Red route (1.6km):** Doing the route clockwise, travel 50m along a flat wide muddy gravel track, turn right to a long narrow moderate to fairly steep slope that is grassy, earthy, and uneven underfoot that takes you to a panorama of Drumnadrochit and Loch Ness, stunning views and wonderful woodland. From there a long gently sloping decline on a firm earthy path takes you out of Balmacaan and into Craigmonie. From there, a choice of a long wide firm path, way-marked green, take you back to the start, or continue on the red for a rough narrow path with short steep gradients. This part of the red route will be subject to change and closures in the life of this Management Plan as felling and path re-routing will be taking place.

A small Woodland Trust parking area for up to three cars is available at the main entrance. The centre of the track is higher than the wheel tracks, so lower vehicles would not be advised to use this. Additional public parking is available at the Visitor Information Centre in the village centre, with approximately 30 spaces 1km from the wood.

The site is well used by local people out for a quiet walk, and the wide track along the bottom is used as a through road to Balmacaan road by a range of non-motorised users. On the Forestry Commission side of Craigmonie, a series of informal mountain bikes trails have been built and are



well used by young people enjoying the woodland. The area receives over 200,000 overseas visitors per year. Drumnadrochit statistics for domestic visitors from Visit Scotland recorded 19,000 day trip and 76,000 overnight stays. Urquhart Castle, just 2 miles south of Drumnadrochit, received up by 380,152 visitors in 2017, up 13% from the previous year. The 2016 census shows the population of Drumnadrochit to be 1,160.

There are currently no people engagement events planned for Balmacaan, although the site is used for events and activities by third parties. These include Glen Urquhart High School sponsored walk and education programme with Forestry Commission Scotland, and the walk/ run/ bike event as part of the Glen Urquhart Highland Games. The Highland Games would be a great opportunity to engage with a large number of local people and tourists. The site has potential for themed walks on bats, plants, etc. and these could be considered within the life of this Management Plan in partnership with Forestry Commission Scotland and Craigmonie Woodland Association. The site has two Volunteer Wardens who live on the edge of the wood. There are opportunities on the site for other volunteers to assist with maintenance tasks, and biological recording. The Craigmonie Woodland Association is a proactive group of volunteers from the community of Drumnadrochit, who carry out management tasks on the Forestry Commission Scotland land to the North of Balmacaan Wood.

#### Other Information

The site is featured in two current leaflets. One 'Craigmonie and Balmacaan Wood' is produced in association with Forestry Commission Scotland and the Craigmonie Woodland Association. During 2019, this leaflet will be phased out and replaced with a leaflet that covers the three Woodland Trust managed sites in the Loch Ness area; Balmacaan Wood, Urquhart Bay, and Abriachan Wood. The other leaflet is a Forestry Commission Scotland leaflet titled 'The Forests of the Great Glen' that covers several sites in the area. Both leaflets are available at the Visitor Information Centre.

The Great Glen Way long distance walking route passes through Drumnadrochit, not far from Balmacaan Woods. See [www.greatglenway.com](http://www.greatglenway.com) for further information.

### Significance

Balmacaan is just a few short minutes' walk away from the centre of a village that attracts tourists by the thousand. A short walk within the wood offers an unparalleled view over Drumnadrochit to Loch Ness and beyond. It is a truly iconic landscape.

The history of the site is extraordinary, and the evidence of the wood in its hay-day can still be seen in the shape of the enormous specimen trees. Built evidence is easy to spot with water tanks at the path side. Off the paths, there are other treasures to be found in the shape of derelict ice houses, and fountains, which could be promoted in the right way, in time.

Loch Ness is one of the most popular tourist destinations in Scotland, and Balmacaan provides an opportunity to climb up and see it within the landscape and away from the hustle and bustle of loch side attractions.

It is situated within a 20 miles radius of a population of over 50,000, including the city of Inverness.

### Opportunities & Constraints

There is an opportunity to further develop access within the site to incorporate the 'arboretum' area as a monster-tree-trail, and develop the historical information on Balmacaan House and the built structures. While there is the opportunity there, the volume of other work within the life of this plan would mean that, while the idea could be developed, the implementation of such an idea would be held until at least 2023.

The path network requires investment to make it fit for purpose for the increasing numbers of tourists and local people using the wood. On the bottom vehicle track, ditch and culvert management would reduce the mud but it is not proposed to improve the surface significantly, to minimise the quantity of unauthorised vehicular traffic passing through the site.

The issue of water running down the track from the top fields between compartments 5b and 5c is causing damage to the tracks at the south end of the wood, and concern for neighbouring home owners. Woodland Trust Scotland will continue to be open to any proposals from Highland Council, to address the situation of water and ice on the public road and do what is reasonable to repair damage to the tracks to make access possible to the houses and fields.

In 2018/19, Forestry Commission Scotland will be amending their path route offer, potentially removing the red route. This would mean amending the interpretation information at the entrances. This will give an opportunity to review the welcome onto Woodland Trust land. Waiting for these changes does mean stalling the production of the three-sites leaflet. Work on the majority of this will be done in 2018, ready for production in 2019.

The Visitor Information Centre sits within the car park where visitors could leave their cars to walk up to the wood. Information on the wood, and a stock of leaflets held here would allow the staff to promote the site. As the car park itself is small, and the track unsuitable for some vehicles, it is a constraint on some visitors enjoying the site that they have to walk from the car park in Drumnadrochit. A larger car park would be undesirable and would detract from the wildness of the site.

Both the Primary and High schools are within 300m of the site, and the wood could provide a resource, in partnership with Forestry Commission Scotland, for the Curriculum for Excellence, and other educational opportunities as they arise.

The paths in Balmacaan are linked physically, and through interpretation, with Forestry Commission Scotland to the North. This presents a unique partnership opportunity, sharing information on management of the wood, and of the path network and people who use the woods.

The blue route could be a significant undertaking for the less able. An additional bench part way round would allow visitors to rest, and enjoy the woodland.

With partners such as Craigmonie Woodland Association, RSPB, and Abriachan Forest Trust all within a few miles of the site, there is the potential to engage volunteers from a range of interests in the site. This could be practical work or biological recording.

With the increase in popularity in mountain biking, and with informal routes being developed and well used just a few metres over the boundary, there could be an increase in the use of the site by mountain bikes, potentially resulting in loss of vegetation and damage to trees. This will be

monitored informally through liaison with the mountain biking community, sharing information with Forestry Commission Scotland, and observation on the ground.

### **Factors Causing Change**

Anticipating an increase in rainfall, and coming in more extreme bouts, water on the paths together with an anticipated increase in the number of people using the site would require a higher specification path network that is more expensive and labour intensive to manage.

### **Long term Objective (50 years+)**

Balmacaan will provide an extensive area of quiet informal recreation to a wide range of users both from the local community and from further afield. The use of the site by tourists will be promoted through a positive relationship with the neighbouring tourist sites, with good signage and interpretation.

Entrances and signage will have a welcoming appearance, and there will be a network of well-maintained paths providing a range of routes with rest stops and viewpoints towards Loch Ness suitable for walkers, cyclists, and horse riders linking with path provision in Craigmonie Wood. Interpretation and way-marking that is fully integrated with, or complements (where appropriate), that of the Forestry Commission Scotland in Craigmonie Wood, will provide visitors with information on routes and points of interest.

The historical and natural heritage of the site will be celebrated through high quality interpretation highlighting historical structures and the arboretum area.

The use of the site for education will have increased through working closely with Forestry Commission Scotland, and the local schools using initiatives such as John Muir Award, Rural Skills, and Developing Young Workforce.

With time and a growing interest and awareness of the woodland in Drumnadrochit, the Craigmonie Woodland Association would increase in capacity, taking on some of the management tasks of the site, as part of the Estate Maintenance Contract.

### **Short term management Objectives for the plan period (5 years)**

Access provision will be in keeping with WT access guidelines. Achieved by ensuring that:

- a) Entrances and signage are welcoming to visitors, relevant, and well cared for (annually).
- b) All managed paths are kept well-drained and free from encroaching vegetation, and that access features (e.g. bridges, steps, entrances, boundary features, etc. are kept in good order (annually).
- b) All viewpoints are maintained free of encroaching vegetation (ongoing).
- c) The site is kept safe and welcoming by: repair of vandalism (when needed); clearing of fallen trees where access is obstructed (as needed); and regular site safety surveys (as per risk assessment).

The visitor welcome and experience will be further enhanced by the following:

- Upgrading of 425m of path, along the western edge of 4b in 2018, including topside ditch and culverts.
- Clearing drains and culverts along the bottom track (western boundary of compartment 4d) in 2018, and maintaining these clear annually.
- Improvements to up to 600m of path in compartments 1a, 1b, and 1c in 2019, ensuring there is linkages with the green trail in Craigmonie Wood.
- Developing the WTS Loch Ness sites leaflet in 2018, ready for production in 2019.
- Renewing the orientation panels at the entrances with Forestry Commission Scotland in by the end of 2020, in line with their new routes and the Woodland Trusts signage standards.
- In 2021/ 2022, to begin to investigate the Monster tree trail route, interpretation, and partnerships in readiness for review of Management Plan over the winter of 2022/ 2023.
- Installation of a bench in compartment 5a on the knoll near the mature oak. This will be made available as a dedication opportunity, and will be installed once a dedication has been arranged.
- Contact local primary school and outline learning resources Woodland Trust offer (Outdoor Learning Pack, Green Tree School Award and Nature Detectives) 2019 and 2022.

In addition to the above, to protect the built heritage of the site by reviewing its status in 2018, and arranging for any repairs or vegetation clearance in 2019.

#### Engaging volunteers

- To ensure the existing volunteers are supported and are part of the management of the site.
- To seek ways to encourage additional volunteering opportunities on the site such as Observatree volunteers to assist in looking for presence of *Chalara fraxinea*.
- To work with Forestry Commission Scotland to provide the relevant information to ensure the work on WTS and FCS ground with Glen Urquhart High School is productive and informative.

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## 6.0 WORK PROGRAMME

Year	Type of Work	Description	Due By
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## APPENDIX 1: COMPARTMENT DESCRIPTIONS

Cpt No.	Area (ha)	Main Species	Year	Management Regime	Major Management Constraints	Key Features Present	Designations
1a	1.06	Scots pine	1960	Min-intervention	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
<p>Moderately steep northwest facing slope below Craigmonie rock outcrop, supporting plantation of tall Scots pine with vigorous thicket and pole stage birch and rowan in canopy gaps. Frequent seedling regeneration of rowan and birch, occasional hazel and pine. The stand was thinned in 1997 and there was a small amount of windblow at the south-western edge. Blaeberry and moss dominates the ground flora. Occasional Ancient Woodland Indicator (AWI) spp. including wood anemone and dog's mercury. This area is shown as 'plantation' on an 1806 map, and subsequently as coniferous woodland on the Ordnance Survey 1st Edition map of 1870. It is recorded as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory.</p>							
1b	2.78	Scots pine	1840	Min-intervention	Archaeological features, No/poor vehicular access within the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site, Scheduled Ancient Monument
<p>'Craigmonie' - a prominent rocky outcrop at the highest point of the site and a well known local landmark. It supports an open Scots pine woodland with a number of large, mature specimens of 'granny' pine. Small groups of pole stage and semi-mature birch and rowan are established in canopy gaps. Occasional, locally frequent, seedling regeneration of pine, birch, oak, hazel and rowan. Rare beech regen. Chickweed wintergreen (AWI) is frequent on summit area. Around the south eastern fringes on the lower slopes some small groups of mature exotic conifers are present together with occasional semi-mature individual beech and sycamore. Sitka spruce regeneration is frequent on the summit of the rock, other exotic tree regen is occasional to rare. A few scattered small <i>Rhododendron ponticum</i> are present. The summit of the rock is a Scheduled Ancient Monument (SAM) although there is little evidence of the presumed Iron Age Fort. Craigmonie was the place of execution for Glenurquhart (MacDonald) and commands a fine view over Drumadrochit and Loch Ness. A network of formal and informal paths provides access to the viewpoint. Some of these are long established and associated with the former Balmacaan House policies. This area is shown as 'plantation' on an 1806 map, then under coniferous woodland on the Ordnance Survey 1st Edition map of 1870. It is recorded as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory. There is a commemorative bench and a grove dedication on the summit of the rock.</p>							

1c	0.54	Birch (downy/silver)	1950	Min-intervention	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
<p>Gentle to moderate southwest facing slope between the rocky outcrop of Craigmonie above and open grazing land below, supporting an area of well spaced, almost pure, semi-mature and mature birch woodland with occasional sapling and pole stage rowan and birch. This area is shown as 'plantation' on an 1806 map, then under coniferous woodland on the Ordnance Survey 1st Edition map of 1870. It is recorded as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory. There is a commemorative gate on the property boundary at the W side of the sub-cmpt.</p>							
2a	2.01	Birch (downy/silver)	1975	Min-intervention	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
<p>Moderate south east facing slope below the rocky outcrop of Craigmonie supporting a semi-mature, even aged, evenly spaced, silver birch woodland of tall straight specimens, along with occasional elder, hazel, rowan and alder and occasional seedling oak and hazel regeneration. Occasional AWI flora including sweet woodruff and dogs mercury, more frequent towards the E edge. Occasional Rhododendron re-growth from previously controlled bushes throughout. This area is shown as 'plantation' on an 1806 map, then under coniferous woodland on the Ordnance Survey 1st Edition map of 1870. It is recorded as Long Established of Plantation Origin (LEPO) on the Ancient Woodland Inventory.</p>							
3a	3.73	Mixed native broadleaves	1840	Min-intervention		Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland

Gentle to moderate southeast facing slope supporting open canopy woodland with mature oak and birch. Alder is locally frequent and there is a significant aspen grove of approx 60 trees at Grid ref NH500293. Scattered mature ash and veteran hazel are present, along with rowan, holly and grey willow. There is a large Wellingtonia (planted 1850's) in the north-eastern corner (TPO) and specimens of the red berried elder, *Sambucus racemosa*. Mixed broadleaves including ash, oak and hazel have been planted over the past two decades in previously open glades, and are now well established. Frequent natural regeneration including oak, aspen, hazel, bird cherry and ash. Some open areas remain, including a large bracken dominated glade in the NW part of the sub-cmpt. Rich ground flora under tree canopy and along paths including AWI species wood anemone, alternate leaved golden saxifrage, bluebell, yellow pimpernel, dog's mercury, primrose, common figwort and greater stitchwort. Common polypody and more rarely *Lobaria pulmonaria* (lungwort) are present on older oak. Occasional to frequent *Rhododendron ponticum* re-growing from previously controlled plants present throughout. On the OS 1st Edition 1870 this area is shown as wooded with a large open area in the W of the subcmpt. Approx two thirds of this sub-cmpt is recorded as LEPO on the Ancient Woodland Inventory. The remaining portion in the SE of the subcmpt is recorded as Ancient Semi Natural Woodland (ASNW) and it is here that the large, mature oak are concentrated.

4a	1.25	Bird cherry	1920	Min-intervention	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
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Flat to gentle southeast facing slope along northwestern boundary adjacent to grazing land with large, senescing specimens of bird cherry interspersed with mature silver birch, oak and hazel with blackthorn bushes throughout. Frequent natural regeneration including bird cherry, hazel and oak. There is a diverse ground flora, particularly towards the southern end of the sub-cmpt including AWI species moschatel (town hall clock), wild garlic, wild strawberry, sweet woodruff, bluebell, yellow pimpernel, dog's mercury, common figwort & greater stitchwort. This area is shown on an 1806 map as fields and woods. The OS 1st Edition map of 1870 shows it entirely wooded. It is recorded as LEPO on the Ancient Woodland Inventory.

4b	2.24	Mixed native broadleaves	1998	Min-intervention	No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
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Gentle southeast facing slope supporting very open mature and senescent silver birch woodland with large glades that have been partly replanted with mixed broadleaves including oak, ash and hazel over the past 20 years. These are now well established and, supplemented by abundant natural regeneration, reaching closed canopy in many areas. Some small groups of alder are present near streamside at southern end. The ground flora is dominated by dense bracken in open areas with a more diverse woodland flora under the tree canopy. This area is shown on an 1806 map as fields and woods. The OS 1st Edition map of 1870 shows it entirely wooded. It is recorded as LEPO on the Ancient Woodland Inventory.



4c	6.42	Mixed native broadleaves	1930	Min-intervention		Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland
<p>Large cmpt on gentle SE facing slope with occasional wet flushes. Diverse &amp; varied woodland structure and composition, with occasional large mature oak (more frequent to the E and S) abundant birch and hazel, frequent alder and willow, and occasional ash, holly and sycamore. Rare beech. Abundant regeneration at all stages. Diverse ground flora throughout, AWI species more frequent in the NE portion including wild strawberry, sweet woodruff, bluebell, yellow pimpernel, dog's mercury, greater stitchwort. Fern spp. locally dominant under deep shade. Common polypody frequent on older oaks. Open glades in the northern area are dominated by bracken. Occasional Rhododendron seedlings/ re-growth, more frequent to the SE. This is the site of Blar na Geilt - the Plain or Field of Terror where Monie, a Scandinavian prince was defeated. It is shown on an 1806 map as fields and woods. By 1870 it was well wooded, as shown on the OS 1st Edition map. Approx 25% of this sub-cmpt is recorded as ASNW on the Ancient Woodland Inventory (NE section) The remainder is described as LEPO.</p>							
4d	1.92	Mixed broadleaves	1840	Min-intervention		Ancient Woodland Site, Connecting People with woods & trees	Ancient Semi Natural Woodland, Tree Preservation Order
<p>A long narrow sub-cmpt between the main access track and neighbouring grazing land supporting a wide range of species at all stages. Specimens include two large Wellingtonia (both TPO) large beech, oak and ash, a row of very large senescent wych elm along the field boundary. There is a small stand of aspen. Supplementary planting of mixed broadleaves has been established in previously open areas over the past 20 years. Sapling and pole stage sycamore is frequent. Diverse groundflora, locally sparse under beech This area is shown on an 1806 map as fields and woods. The OS 1st Edition map of 1870 shows it entirely wooded. Approx 30% is recorded as ASNW on the on the Ancient Woodland Inventory, the remainder as LEPO or unclassified.</p>							
4e	0.67	Mixed broadleaves	1840	Min-intervention		Ancient Woodland Site, Connecting People with woods & trees	
<p>A small sub-cmpt on a moderate to steep northeast facing slope between main access track and neighbouring grazing land, supporting a wide variety of fairly open mixed broadleaves at various stages. Species include wych elm, ash, sycamore and beech. Supplementary planting of mixed broadleaves has been established in previously open areas over the past 20 years. Rhododendron occasional throughout. This area is not classified in the Ancient Woodland Inventory</p>							

4f	0.22	Open ground		Min-intervention	Housing/infrastructure, structures & water features on or adjacent to site	Ancient Woodland Site, Connecting People with woods & trees	
<p>Small 'L' shaped sub-cmpt containing the entrance driveway to the main woodland access point. Various mature and semi-mature exotic and native trees in a single row to northeast of driveway. Mown grass maintained by adjacent homeowners. Dead elms removed in 2016 at the North East corner.</p>							
5a	2.24	Oak (sessile)	1840	Min-intervention	Gullies/Deep Valleys/Uneven/Rocky ground, No/poor vehicular access within the site	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
<p>Undulating terrain with moderate slopes supporting even aged and well spaced mature sessile oak woodland. Occasional groups of mixed broadleaves at various stages including hazel, holly, rowan, elder, goat willow and grey willow. A large lime at NH497288 is probably a survivor from an 1858 planting (McDonald). Occasional seedling oak regeneration, locally abundant. Ground flora is dominated by grasses under the oak canopy, and bracken in open areas. Bluebells (AWI) are widespread. Rhododendron is present in the SW corner of the sub-cmpt. This area is recorded as LEPO on the Ancient Woodland Inventory. There are two covered reservoirs at NH497288, where the stream crosses the western boundary, the older probably dates to the late 1890's. There was a fountain here in the 19th century (McDonald). There is an ice house at NH500287, secured with a metal grill. A stile at NH497288 has a commemorative dedication.</p>							
5b	2.15	Oak (sessile)	1840	Min-intervention	Gullies/Deep Valleys/Uneven/Rocky ground	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
<p>An area of even aged (approx 170 years) sessile oak high forest on a small plateau with moderate to steep surrounding slopes. Occasional to frequent seedling regeneration of oak throughout, with patches of sapling rowan and oak in canopy gaps, mainly on the slopes. The ground flora is dominated by soft grasses with bluebell and vetch. There is some Rhododendron re-growth from previously controlled large bushes. This area is recorded as LEPO on the Ancient Woodland Inventory. The plateau is known as Croit Mo Chrostaín - St. Drostan's croft. (MacDonald). Part of this subcmpt has a grove dedication.</p>							
5c	3.42	Oak (sessile)	1840	Min-intervention	Gullies/Deep Valleys/Uneven/Rocky ground	Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site

Series of undulating ridges with various aspects surrounding a deep, moderately steep sided glacial 'kettle hole' containing a small partly silted up pond, formerly known as Loch na Lacmunin, and still called the Duck Pond, at the bottom. Mature even-aged (approx 170 years), well spaced sessile oak with scattered individuals and groups of large pole stage and semi-mature silver birch and occasional 'granny' birch throughout. Occasional semi-mature ash on the western boundary and occasional sapling rowan, more frequent on the eastern rim of the kettle hole. Occasional seedling regeneration of oak throughout. The ground flora is made up of soft grasses and woodland flora including AWI species wood anemone, bluebell, primrose, and greater stitchwort. The ground flora is particularly rich on the S facing slopes at the property boundary. This area is recorded as LEPO on the Ancient Woodland Inventory. There are three ornamental sculpted stone seats at NH498285.

5d	1.70	Oak (sessile)	1840	Min-intervention		Ancient Woodland Site, Connecting People with woods & trees	Ancient Woodland Site
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A moderately steep south facing slope at the southwestern tip of the woodland supporting very widely spaced, even-aged sessile oak woodland. The canopy becomes increasingly open towards the southwestern end where the slope becomes steeper and the open areas are planted with mixed broadleaves in tubes. On the northwestern boundary are uneven rows of semi-mature silver birch. There is also a large ash, a beech and a goat willow present. There are patches of bracken in the northeastern end of the compartment that gradually becomes very dense towards the southwestern end.

6a	1.31	Mixed conifers	1840	Min-intervention	Archaeological features	Ancient Woodland Site, Connecting People with woods & trees	Tree Preservation Order
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An arboretum associated with the former Balmacaan House. Fine specimens of a wide variety of trees, mainly exotic conifers, interspersed with patches of naturally regenerated birch. Occasional to frequent regeneration of exotic spp. Notable - perhaps even champion - specimens include a grand fir *Abies grandis* of 7.6m girth and estimated 50-60m height, a *Thuja plicata* of 7m girth and est. 26m height, and several Giant Sequoias (*Sequoiadendron giganteum*) over 50m in height (Whyte 2001).

Laurel and rhododendron has been previously controlled, but there is frequent regrowth. The E side of the cmpt adjoins land in other ownership which is dominated by Rhododendron. Ground vegetation is dominated by grasses, with some areas of bluebells and patches of dense bracken. The N side of the subcmpt. has several large, senescent Wych Elm, some of which support the AWI lichen *Lobaria pulmonaria*. The grounds around Balmacaan House were planted extensively over a long period, although most of the trees surviving today are likely to have been established in the mid 19th century. This area is not classified in the Ancient Woodland Inventory. The whole area is subject to a Tree preservation Order (TPO). There is a well-preserved ice house dating to the 1770's at NH499288. The entrance is secured by a metal grill.

## GLOSSARY

### **Ancient Woodland**

Ancient woods are defined as those where there has been continuous woodland cover since at least 1600 AD. In Scotland ancient woods are defined strictly as sites shown as semi-natural woodland on the 'Roy' maps (a military survey carried out in 1750 AD, which is the best source of historical map evidence) and as woodland all subsequent maps. However, they have been combined with long-established woods of semi-natural origin (originating from between 1750 and 1860) into a single category of Ancient Semi-Natural Woodland to take account of uncertainties in their identification. Ancient woods include Ancient Semi-Natural Woodland and plantations on Ancient Woodland Sites (see below). May support many species that are only found in ancient woodland.

### **Ancient Semi - Natural Woodland**

Stands in ancient woods defined as those consisting predominantly of native trees and shrubs that have not obviously been planted, which have arisen from natural regeneration or coppice regrowth.

### **Ancient Woodland Site**

Stands in ancient woods that have been converted to plantations, of coniferous, broadleaved or mixed species, usually for timber production, including plantations of native species planted so closely together that any semi-natural elements of the understorey have been suppressed.

### **Beating Up**

Replacing any newly planted trees that have died in the first few years after planting.

### **Broadleaf**

A tree having broad leaves (such as oak) rather than needles found on conifers (such as Scots pine).

### **Canopy**

The uppermost layer of vegetation in a woodland, or the upper foliage and branches of an individual tree.

### **Clearfell**

Felling of all trees within a defined area.

### **Compartment**

Permanent management division of a woodland, usually defined on site by permanent features such as roads. See Sub-compartments.

### **Conifer**

A tree having needles, rather than broadleaves, and typically bearing cones.

### **Continuous Cover forestry**

A term used for managing woods to ensure that there are groups or individual trees of different ages scattered over the whole wood and that some mature tree cover is always maintained. Management is by repeated thinning and no large areas are ever completely felled all at once.

### **Coppice**

Trees which are cut back to ground levels at regular intervals (3-25 years).

### **Exotic (non-native) Species**

Species originating from other countries (or other parts of the UK) that have been introduced by humans, deliberately or accidentally.

### **Field Layer**

Layer of small, non-woody herbaceous plants such as bluebells.

### **Group Fell**

The felling of a small group of trees, often to promote natural regeneration or allow planting.

### **Long Term Retention**

Discrete groups of trees (or in some cases single trees) that are retained significantly past their economic felling age. Operations may still be carried out within them and thinning is often necessary to maintain stability.

### **Minimum Intervention**

Areas where no operations (such as thinning) will take place other than to protect public safety or possibly to control invasive exotic species.

### **Mixed Woodland**

Woodland made up of broadleaved and coniferous trees.

### **National vegetation classification (NVC)**

A classification scheme that allows an area of vegetation to be assigned to the standardised type that best matches the combination of plant species that it contains. All woodlands in the UK can be described as being one of 18 main woodland types (W1 - W18), which principally reflect soil and climatic conditions. For example, Upland Oakwoods are type W11, and normally occur on well drained infertile soils in the cooler and wetter north and west of Britain. Each main type can be subdivided into numerous subtypes. Most real woods contain more than one type or sub-type and inevitably some woods are intermediate in character and can't be properly described by any sub type.

### **Native Species**

Species that arrived in Britain without human assistance.

### **Natural Regeneration**

Naturally grown trees from seeds falling from mature trees. Also regeneration from coppicing and suckering.

## **Origin & Provenance**

The provenance of a tree or seed is the place where seed was collected to grow the tree or plant. The origin is the geographical location within the natural range of a species from where seeds/tree originally derives. Thus an acorn collected from a Turkey oak in Edinburgh would have an Edinburgh provenance and a southern European origin.

## **Re-Stocking**

Re-planting an area of woodland, after it has been felled.

## **Shrub Layer**

Formed by woody plants 1-10m tall.

## **Silviculture**

The growing and care of trees in woodlands.

## **Stand**

Trees of one type or species, grouped together within a woodland.

## **Sub-Compartment**

Temporary management division of a compartment, which may change between management plan periods.

## **Thinning**

The felling of a proportion of individual trees within a given area. The remaining trees grow to fill in the space created.

## **Tubex or Grow or Tuley Tubes**

Tubes placed over newly planted trees or natural regeneration that promote growth and provide protection from animals such as rabbits and deer.

## **Weeding**

The control of vegetation immediately around newly planted trees or natural regeneration to promote tree growth until they become established. Either by hand cutting or with carefully selected weed killers such as glyphosate.

## **Windblow/Windthrow**

Trees or groups of trees blown over (usually uprooted) by strong winds and gales.