



# Carnmoney Hill

## Management Plan 2016-2021

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## MANAGEMENT PLAN - CONTENTS PAGE

<b>ITEM</b>	<b>Page No.</b>
Introduction	
Plan review and updating	
Woodland Management Approach	
Summary	
1.0 Site details	
2.0 Site description	
2.1 Summary Description	
2.2 Extended Description	
3.0 Public access information	
3.1 Getting there	
3.2 Access / Walks	
4.0 Long term policy	
5.0 Key Features	
5.1 Ancient Semi Natural Woodland	
5.2 Semi Natural Open Ground Habitat	
5.3 Informal Public Access	
5.4 Archaeological Feature	
6.0 Work Programme	
Appendix 1: Compartment descriptions	
Glossary	
<b>MAPS</b>	
Access	
Conservation Features	
Management	

## 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 Consequently this printed version may quickly become out of date, particularly in relation to the planned work programme and on-going monitoring observations.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>	Carnmoney Hill
<b>Location:</b>	Newtownabbey Borough Council
<b>Grid reference:</b>	J330824, OS 1:50,000 Sheet No. 15
<b>Area:</b>	70.41 hectares (173.99 acres)
<b>Designations:</b>	Ancient Semi Natural Woodland, Ancient Woodland Site, Local Nature Reserve, Woods on your Doorstep

## 2.0 SITE DESCRIPTION

### 2.1 Summary Description

This mix of semi-natural ancient woodland, wetland and floral grassland offers breathtaking views of the city, Belfast Lough and the coast. It's steeped in history and folklore, is home to an abundance of wildlife, including Irish hares and long-eared owls, and has a range of walks to suit all abilities.

### 2.2 Extended Description

Carnmoney Hill is a northern outlier of the Belfast Hills chain and rises 232m (761 ft) above Newtownabbey, and can be seen from North Down, Belfast Lough, the M2/M5 and Belfast City. The aspect is to the south of the city and to the East of the lough, the eastern side is mainly semi-natural ancient wood with semi-natural grasslands and other habitats interspersed e.g. scrub and bracken. The hill top has a volcanic cap of basalt yet the slopes are mainly of limestone & flint, joining mudstones at the coastal belt below, which gives rise to a rich flora typical of base rich (alkali) woodlands and meadows. There are wonderful internal views from all aspects of the hill.

The Woodland Trust & Antrim and Newtownabbey Borough Council (WT & ANBC) own most of the eastern side, a third of the hill, although the crest and western two thirds of the hill lie in private hands, which include most of the cultivated, grazing and heath land.

There are a variety of habitats - semi-improved grassland, marshy grassland, shrub land, plantation woodland, standing water, mature hedgerows, copses, mixed ash woods, semi natural woodland and transitional habitats in-between. The grazed lands tend not to have many wildlife species however they add to the hills landscape patchwork when seen from afar.

The hills four semi natural priority habitats within the Biodiversity Strategy (NI.BS 2001 currently under review) - are the Mixed Ashwoods, Lowland Meadows, Ponds and Hedgerows. There are areas of semi-improved grassland & mixed estate woodlands, which hold protected mammals, birds and locally significant archaeology features like the souterrains (stone chambers). The woodlands of 30ha have a good floral assemblage of early purple orchids, swathes of wood anemone & wood sorrel, with bluebells & primrose in the old hedges and dog violets in the bracken fields above the wood. The woodland belt continues along the escarpment for 2km north and south and has been affected by cattle grazing & field improvements. Being mudstone over limestone on the slopes it tends to slip and several small landslides are evident below the slope, these form tiered grasslands, which are colonised slowly.

In the past the Community woodland group, of the Forest of Belfast & Rathfern CDA worked on the conservation of the wood for over 20 years, and they have planted many trees throughout Rathfern Wood and have fenced off the field in the northern wood, now being grazed by stock from Fernlea Farm. Most of the lands were grazed until 2002 under council agreements. Today the Native Woodland group under NIEA continue to meet and along with the Rathfern CDA and local volunteers the site remains protected.

The site fulfils the WT & NBC core objectives of improving biodiversity and peoples enjoyment of woods and open spaces, especially in relation to the semi natural woodland (indicated to be ancient), semi natural habitats and the involvement of the community development associations. The project was approved by NBC and the trustees of the WT in summer 03, when the lease was signed and work started in the autumn of 03.

#### Project Details;

Area: Total area is 80 Ha / 200 Acres (including Rathfern Wood) Woodland (W): woodlands of 29 ha are found on the hill; from mixed ash and hazel to old estate woods, & these include 4 ha of laurels that have invaded Rathfern woods on the scarp slopes.

New Planting Creation (NP): the planted area is 25ha or 30% of the land , with the main aim to link the two scarp slope woods. The planted trees were of Irish provenance.

Meadows / grassland (LM & UG): there are 16 ha of semi-improved grasslands with mature hedgerows - these are to be retained as open areas with the possibility of improving biodiversity through sympathetic grazing. A pond and scrapes were created to increase the biodiversity of the area in the Autumn of 2003.

Natural regeneration (NR): this 10 ha of the Rathfern wood is old estate land and a patchwork of thorn scrub, herbs, copses and hedges that are now regenerating with shrubs & trees. This is the community woodland (WoyD), which has continued support from the Rathfern CDA and local residents.

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ANBC land is within the Belfast Metropolitan Area Plan (BMAP 2015) & in the Belfast Hills Partnership Initiative area. In 2006 the site was designated as a Local Nature Reserve (LNR) by the ANBC and as a SLNCI by the Planning Service under the BMAP review 2014. An advancement to an ASSI may now be a possibility in the future.

## 3.0 PUBLIC ACCESS INFORMATION

### 3.1 Getting there

By bus: The 64A bus operates from Belfast City to O'Neill Road and the 2D/E/F Metro Bus runs from Shore Road in Belfast to Dough Road. Call Translink on 028 9066 6630 or visit [translink.co.uk](http://translink.co.uk) for details.

By train: The nearest train stations are Belfast (9 miles) and Whiteabbey (2.7 miles).

For up-to-date information on public transport, visit [traveline.org.uk](http://traveline.org.uk) (0871 200 22 33).

By car:

(February 2017)

### 3.2 Access / Walks

There are six access points. The main entrance is on the eastern slope of the hill, on Knockenagh Avenue off Rathfern estate, with another entrance to the south of this. There are two entrances to the south of the site, off O'Neill Rd, and two in the north, off Fernlea Lane.

The site has three coloured walking routes:

Red - a gentle 15-minute around the foot of the hill. This 800-metres pathway takes you through a recently transformed area just off Knockenagh Avenue, with a pond and landscaped grassland.

Blue - a two-hour hilltop walk with panoramic views of the city, Belfast Lough and North Down. This walk has very steep inclines and stout footwear is needed.

Yellow - a lower woodland walk. This 45-minute walk takes you through ancient woodland to a viewpoint overlooking Belfast Lough. This walk has some steep inclines and stout footwear is needed.

We also have an orienteering trail with a yellow introductory course and an orange route for those with experience.

Visit our website for further information on walks and orienteering courses.

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## 4.0 LONG TERM POLICY

Long Term Intentions and Vision: the Objectives and Milestones over the next 25 years are:

That ANBC and WT intend to adhere to the management plan and agree to manage it as a landscape mosaic for the:

- Biodiversity conservation through appropriate habitat management.
- Awareness, recreation & interpretation- to develop awareness of the site through interpretation and PR activity.
- Access routes to the hill.
- Establish the planting of native woods linking and buffering long-established / ancient woods through the 25 ha planting linkage and where possible the restoration and management of hedgerows as wildlife corridors on site and off site through the Belfast Hills Landscape Partnership (BHLP)
- To continue to look for opportunities to link existing woodland, semi-improved grassland, wetland and access through working in partnership with ANBC, BHP and our stakeholders.
- The key features are public access, semi-natural ancient woodland, non-woodland semi natural habitat and historic features.

The long-term objective is to manage the site primarily for conservation of the ancient woodland and non-woodland semi natural habitat by sensitive routing of the access, removal of non-native species e.g. laurel, beech, larch and where possible to control non-native and native invasive species such as pheasant berry and bracken.

Over 5 years the semi-improved areas of grassland, lowland meadows and marshy grassland and standing water will continue to be improved for biodiversity. To carry out a full and comprehensive habitat survey for the site.

After 10 years the new planting areas, now established woodland on the lower slopes buffering existing semi-natural ancient woodland, stabilising steep slopes and linking the older woodlands together will continue to develop further. Through careful management the woodland will be structurally diverse, contain a wide variety of species, associated wildlife and a rich ground flora beginning to emerge. To have in place, where necessary permanent monitoring of the semi-improved grasslands, semi-natural ancient woodland and new planting.

Over 25 years and long term the aim is for a diverse mosaic of structurally diverse rich native woodland, species rich meadows, wetland, open rides, mature hedgerows, interspersed with the public access paths and fresh water streams.

### Semi-Natural Ancient Woodland

Ancient, semi natural woodlands are the most valued part of woodland for nature conservation. They are hugely important in terms of biodiversity and this is one of the few ancient woods left within the Belfast Hills. The 29 ha will be managed through a minimum intervention regime. New planting will buffer the existing ancient woodland. In addition two open areas will be left to naturally regenerate - these are located adjacent to the Victorian Well feature in compartment 1 and the other located at the most northerly access to the site within compartment 3b.

### Semi natural open ground habitat



Ponds, marshy grassland, semi-improved grassland, scrub and transition habitats make up 25 ha within the site. This was considered an important factor in the woodland creation design. The ideal management of the grassland areas will be through grazing cattle which create diversity in the sward height allowing for a variety of wildflower species to compete and smaller areas of scrub to encroach, adding to the biodiversity value of these areas. Through grazing the biodiversity potential of these areas will be maximised, however too low an intensity of grazing would result in an excessive increase in the level of scrub habitats at the expense of the grassland and would be detrimental. Total scrub cover should not exceed 10-15% of the total meadow areas. It is envisaged that the grasslands will be a transient mixture of grasses, sedges, a variety of native wildflowers and various stages of scrub.

### Public access

Provisions on site for public access will ultimately depend on the level of use on the site and factors such as the frequency of anti-social behaviour. As a flagship site in Northern Ireland, it is likely that use will be high. A path through the site was created in 2003, and this will be maintained for both public and management access. Surfaced paths will be left to grass over. Paths that are not surfaced are intended to be informal and blend in to the surroundings. Where these encounter steep gradients, steps and/or hand rails are provided and maintained to aid access throughout the site for as many different user groups as possible. On site information will be maintained as appropriate, as will features such as seats and directional posts.

In 2015, an orienteering trail was installed for use by local groups and public visitors to the site. Directional posts will continue to be updated and replaced where necessary and as part of the long term vision of the BHLPS we will continue to look for opportunities for links to Cave Hill and the surrounding landscape.

Roadside lay-bys are situated at the main entrance to Carnmoney Hill, on Knockenagh Avenue. In 2015 as part of funding secured through the Alpha Fund facilitated by Groundwork NI and match funded through the WT partnership with the Belfast Hills Landscape Partnership Scheme (BHLPS) improvements were made to the entrance point at Dunanney off the O'Neill Road. This included a small four bay car park including a larger disabled space for disabled visitors, people carriers and where possible schools / groups with minibuses.

### Archaeological Features

The old limestone quarries and lime kilns at Altnacreeve & Dunanney may be interpreted in the long term, along with the rath/souterrain in Rathfern Wood and the earth fort at Dunanney (not in the project area). All of these features are to be conserved with the help of the NIEA Built Heritage & their archaeologists.

In 2015, BHLPS with the help of CAF at Queens University and alongside WT restored the limekiln at Dunanney and the Thompson families Victorian Farmstead. In addition new new interpretation was installed and a long established hedgerow connecting the two features in the landscape was restored.

## 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 Semi Natural Woodland

#### Description

Cpt 1a, 7.00ha and 1b, 22.4ha consist of Upland Mixed Ash Woodland of NVC type W8 and are located to the north of the councils cemetery plot and at the core of these Carnmoney Hill lands. There are conifer and beech stands on the northern scarp slopes, with thorn and gorse thicket hedges all around the wood. It is mostly a steep sloping basalt to limestone scarp, going down to the mudstone layer below. Hazel and Ash dominate the canopy on the scarp but thorns and conifers are found to the edges where the old estate had plantations and farms e.g. larch, large leaf lime and damson. The ruins of three farms, two raths, a souterrain, a fenced field, old walls and gates can be found throughout the woodland. These steep slopes have presumably been preserved because of their inaccessibility. Ground flora consists of swaths of bluebells and wood anemone with presence of wood aven, wild garlic including a variety of ferns, mosses, lichens and fungi.

Historically managed by coppicing in terms of the hazel (last cut in the 1950's) presumably for housing and furniture materials for the many farmsteads across the hill. Some indicative mammal, bird and a invertebrate species typical of long established woodland are present.

#### Significance

These woods are valuable on a local level, being one of the few semi-natural ancient / long established woodlands in the Belfast Hills and on a regional level they contribute in terms of biodiversity and the existing low native woodland cover as well as flood alleviation, water purification, pollution control and climate change. Access will be limited but of great recreational value and for health and well being , a sense of place and connection to the landscape to the local community and visitors alike.

#### Opportunities & Constraints

**Opportunities;**

- To continue to work with BHP and local land owners to extend woodland and or restore hedgerows creating links across the hills and surrounding landscape namely Cave Hill Country Park.
- Set up a rotation coppice in the newly planted areas to produce a wood product resource at the same time as creating a diverse structure and species diversity to further buffer the existing ancient ash hazel woodland.

**Constraints;**

- Potential damage through fires deliberately lit on the hill.
- Encroachment of bracken, invasive non natives e.g. laurel, rhododendron, snowberry and pheasant berry.

**Factors Causing Change**

Invasive Rhododendron /laurel, Natural Succession To...ash/hazel, Other - land slips on steep slope adjoining, bracken, snowberry, pheasant berry, anti-social behaviour, litter, hunting.

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

Minimal intervention to restore the semi natural woodland where ash & hazel predominate. This will stabilise slopes with natural regeneration after laurel clearance. No invasives present and conifer cover less than 5% with sycamore saplings less than 5%. Ground flora diversity increasing and all relevant communities present from fungi to mammals. To link the existing woodland, extend and restore hedgerows providing a network of usable and sustainable habitat for people and wildlife and to have a programme of monitoring and recording where necessary to inform management decisions and biodiversity enhancement.

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

The continued treatment and control of laurel as and when required to ensure no further loss of ground flora and that the invasive species do not spread. To control bracken encroachment by over planting in dense hazel saplings and to continue cutting fire breaks to assist in the control of hill fires. To begin a program of recording and removal of other non-native invasives e.g. snowberry and pheasant berry where possible.

The corridors of new planting will continue where possible to maintain the links throughout the site and to buffer the existing ancient woodland. To diversify the new planting where possible through management to have begun a program of inter-planting in preparation for Ash Dieback. To continue to monitor for new disease threats, species biodiversity and tree health through the use of volunteers WT and BHP.

## 5.2 Semi Natural Open Ground Habitat

### Description

This encompasses an area of approx 15ha mainly on the southern side of the hill. Across the site there are patches of semi-improved grassland, some pockets in-between areas of scrub, woodland and hedgerows were the lands were previously grazed and worked by farm tenants who lived on the hill. These still contain a variety of species but with an increasing dominance of perennial rye grass, yorkshire fog, encroaching nettles and docks in places. To the top of the hill over the to north near the t.v. mast 5 ha of semi-improved grassland in 2012 were over seeded with yellow rattle, a hemi-parasitic species that opens up the sward and allows less competitive species to survive. The site was then over sown with a native eco-mix including cornfield annuals (non-native) for a show of colour in the first year of growth. The BHLF carry out a wild flower survey on the meadows every summer to monitor how the meadows are changing; the top meadow is currently the most species diverse with the bottom meadow the lowest.

A wetland area was created in 2003 in the form of a pond and scrapes with the intention of increasing biodiversity, the natural fresh water springs on the hill provide a clean, calcium rich source for the now 4 ponds on the hill and scattered areas of marshy grassland with the dominant species yellow flag iris. These areas provide habitat for a variety of wetland plants, common frog, red damsel flies, four spot chasers, brown hawk dragonflies, where the larger pond (currently managed by ANBC) provides shelter and nesting sites for a variety of wildfowl including water rail and tufted duck.

### Significance

Semi-improved grasslands / lowland meadow habitat is generally fragmented even in areas where it is quite abundant and is usually limited to small parts or field parcels where agricultural field operations are difficult. It is often located on quite steep slopes and only part of a field that is used for intensive grass production or found as part of a transition habitat or habitat mosaic. As these grasslands are generally confined to the more fertile soils of the lowlands, many have been reseeded and/or managed more intensively for agriculture and are becoming increasingly rare. Lowland meadows and ponds are now classified as a priority habitat for NI. The variety of invertebrate species dependent on these kinds of habitats should increase through appropriate management and bird species such as sparrow hawk and long eared owl and mammals depend on these areas for hunting grounds.

The public view of the area is allied to the view of these meadows from the paths and roads outside the hill.

The ancient hedges on the upper slopes are to be retained and may be enhanced by allowing them to go wild in the first years and thus increasing their value as shelter, nesting spots for birds and connective corridors for a variety of small mammals and invertebrates.

### Opportunities & Constraints

An opportunity exists to improve the meadows through sympathetic grazing with a local farmer. To continue to monitor the species present to improve management regimes where necessary.

Constraints are: willingness of local farmers to proceed on recommended grazing regimes and as is always the case funding restraints.

### Factors Causing Change

Uncontrolled Grazing, invasive bracken and gorse, Natural Succession to Ash via gorse and thorns, increased visitor numbers, anti-social behaviour - deliberate fires, climate change, relationships with neighbouring landowners.

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

To retain and continue to improve the meadow habitat over the long term possibly with the use of grazing animals on a very low stocking basis, ie. 1 unit per ha. Light grazing will allow for a scrub element to develop and a diverse height in the sward to continue to allow less competitive native flowering plants to survive. Scrub should not exceed 10-15% of the total meadow areas. To look for links throughout the Belfast Hills for both wetland habitats and meadow grasslands to maintain the rich and sustainable habitat mosaic.

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

Investigations are currently underway to establish grazing regimes, farmers who are willing to undertake it, if this fails, the wildflower meadows will need to be cut and the cuttings lifted annually. A small orchard of native irish apple trees have been introduced to one of the bottom meadows with spacing to allow grazing or machinery in-between to maintain the existing meadow. It is hoped that this will serve as a small working example of agroforestry to any neighbouring farmers or landowners in the district. The ponds and marshy grasslands will continue to be kept from becoming eutropic with at least 25% open water in each to provide habitat where possible for the common frog, common newt and a variety of invertebrates.

### 5.3 Informal Public Access

#### Description

There are 5 access points on to the hill; the main entrance is off Rathfern estate (top of Rathcoole) on Knockenagh Avenue & on the eastern slopes of Carnmoney Hill. Main access roads are O'Neill Rd with another entrance at Dunannee & the Doagh Rd leading to Fernlea Lane. A smaller entrance off Knockenagh Avenue and finally to the east of the site from Ballyduff leading to Fernlea Lane and across the top of the hill.

There are currently three coloured routes; red - gentle stroll, blue - Hilltop walk and yellow - lower woodland walk

#### Significance

**Access & Recreation:** The aim was to create and renovate 4km of access routes through the woodland, grassland and wetland for the benefit of the communities surrounding the mosaic, to enhance the local environment and quality of life.

This is important for the public to gain enjoyment of the Hills, to create a sense of ownership and well being, to learn and appreciate the wide variety of wildlife and the spectacular views. Also this Hill project will fulfill all of the Trust key outcomes of biodiversity, access, enjoyment, new planting and protecting ancient woods.

#### Opportunities & Constraints

##### Opportunities

**Stakeholders:** to create a focus and mechanism for discussion and involvement by local communities and other local stakeholders in the management of the natural environment on their doorstep. The Woodland Trust representatives regularly report to all the stakeholders and have an "open door" policy when it comes to suggestions and queries regarding their management of the Hill.

**Awareness:** to increase awareness and enjoyment of the natural environment / woodland on Carnmoney Hill through the installation of on-site information and interpretation boards; with site planting and celebration events and through guided walks and talks, organised in conjunction with stakeholders.

##### Constraints

The steep slope is a problem for the less abled walker but steps and more accessible entrance points have been installed to try and alleviate the situation.

Fires are a hazard at this site with people setting light to gorse etc.

Funding restraints could pose a problem depending on the complexities of the proposed management.

#### Factors Causing Change

Natural Succession To...Ash & hazel woods, Increased visitor numbers, anti-social behaviour - fires, scramblers, fly tipping and litter, increased levels of rain / water on the site.

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

To manage the 4km access routes throughout the hill and to provide new paths where possible, increase public usage with PR, whilst improving the interpretation and information in the long term.

To continue to work with ANBC, BHP, Rathern CDA and our other stakeholders to look at ways of continuing to provide access for all to the hills and to continue to look for and connect links to the adjacent hills, surrounding woodland and public green spaces to offer a safe, welcoming and sustainable place for people to use, visit and benefit from locally and regionally.

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

**Access & Recreation:** The area is an accessible natural landscape with access routes linking the housing estates to the hill. 4km of access routes were created in 2003/04, for the benefit of the communities, to enhance the local environment and quality of life and these paths have been added to as and when the opportunity has arisen.

This was achieved through the creation of new paths following existing desire lines. Steps, drains, seats etc. were also provided to ease access provision for the less abled walker. The paths will be maintained through regular contractor visits ensuring the integrity of the routes.

**Awareness:** to increase awareness and enjoyment of the natural environment / woodland on Carnmoney Hill through the installation of on-site information and interpretation boards; with site planting and celebration events and through guided walks and talks, organised in conjunction with stakeholders.

Look for further opportunities for new path routes, improvements or links to adjacent land through our stakeholders.

## 5.4 Archaeological Feature

### Description

These early christian features are found to the centre of the meadows and on top of the hill. The Rath's are round earth mounds and were probably fortified to deter raiders, whilst the Souterrain is an underground stone lined tunnel in which to hide from raiders and local tribes and the Well is thought to be from victorian times. All are found on prominent parts of the hill so as to see raiders from afar, and they may date as far back as 400 AD.

There are thought to be a series of 10 lime kilns across the hill with now only two remaining visible and in some form of structure - Alnacreevy and Dunanney Lime Kilns. Lime kilns were an integral part of agricultural life and ubiquitous in the landscape across Ireland throughout the 18th and early 19th centuries. Dunanney limekiln (IGR J33648 82189) is located on the southern slopes of Carnmoney Hill, with excellent views north east across Belfast Lough through to Cave Hill at the south west.

The name Carnmoney, 'Carn Monaidh' means 'cairn of the bog', while Dunanney comes from the Celtic sun goddess Áine, associated with fertility of the land, and translates as Dun Áine or Áine's fort.

Dunanney Farm House - Although in a ruinous condition, a number of structures are evident around the farmyard and along the laneway. This interesting collection of buildings is an important part of the historic environment of the area and along with the other traditional farm features, such as the limekiln, gate pillars and possible churn-stand, is a vital part of our rural heritage.

### Significance

As historical features they are important, if we are to reflect upon the early settlement of the hill and its occupants. The slopes were probably still wooded then and the hazel providing for building wattle and the ash for roof timbers. The Souterrain tunnel is thought to stretch 40m downslope near to the Well and some stories tell of much longer tunnels into and out from the hill sides.

The farmhouse and lime kilns provide insight into the rural farming life and economy of the 19th and 20th century and, as they have a number of rare features, it is important that it be conserved and preserved for future generations.

### Opportunities & Constraints

Opportunities;

The direction from the DoE / NIEA Built Heritage is to not disturb the soil surface within 20m, but to remove any thorns if the roots are in the mound. These are to be cut and treated but not grubbed out. The Souterrain has a Health and Safety issue with the cap stones falling into the tunnel, thus the entrances should be blocked to the souterrain, which they are at present.

Future events, education and interpretation around these features.

Constraints;

Funding constraints, access



### **Factors Causing Change**

Natural Regeneration of Blackthorns, Increased visitor numbers damaging the features, landslides, anti-social behaviour, climate.

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

To preserve the Souterrain historic artefacts and raths by not disturbing the soils to a 20m buffer around them. To preserve in their repaired and repointed state the dunanney farm house and lime kiln through careful management and regular observations. To continue to work with ANBC, BHP, Rathern CDA and our other stakeholders to maintain preservation, interpretation and engagement through the heritage of the Belfast Hills.

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

To conserve by removing thorns off the top banks of the raths, to cut and treat these without digging up the roots. Souterrain: ensure that the entrance tunnel is blocked by stones and thorns to prevent kids entering the tunnel. In 2014/15 the dunanney lime kiln and farm house were surveyed, repaired and repointed to show the structure, the use and safe access for visitors to learn about the local history and create more permanent features on the site. These will be maintained through removing any plant material around the structures using chemical treatment on a yearly basis and as and when necessary to preserve and keep the structures safe.

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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	7.00	Ash	1950	Min-intervention	No/poor vehicular access to the site, Sensitive habitats/species on or adjacent to site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Ancient Semi Natural Woodland, Ancient Woodland Site, Local Nature Reserve
<p>This is an Upland Mixed Ash Woodland of NVC type W8 and is located on the northern boundary of the council's cemetery plot. Hazel and Ash dominate the canopy.</p>							
1b	22.40	Ash	1950	Min-intervention	Sensitive habitats/species on or adjacent to site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Ancient Semi Natural Woodland, Ancient Woodland Site, Local Nature Reserve
<p>This is an Upland Mixed Ash Woodland of NVC type W8 and is located at the core of these Carnmoney Hill lands. There are conifer and beech stands on the northern scarp slopes, with thorn and gorse thicket hedges all around the wood. It is mostly a steep sloping basalt to limestone scarp, going down to the a mudstone layer below. Hazel and Ash dominate the canopy on the scarp but thorns and conifers are found to the edges where the old estate had plantations and farms. The ruins of three farms, two raths, a souterrain, a fenced field, old walls and gates can be found throughout the woodland. The field in the site formerly known as Rathfern will be left to regenerate.</p>							
2a	9.00	Hazel	2004	High forest	No/poor vehicular access to the site, Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Local Nature Reserve, Woods on your Doorstep

The Woyd site of the lower woods is mainly of Natural Regeneration (NR on map) areas. Its mainly blackthorn and hawthorn shrubs and herbs colonising the many fields on the eastern slopes of the hill above Rathfern housing estate. Ash, hazel, lime and birch are taking over the areas and other trees have been planted in odd fields. These planted trees include ash, rowan, hazel, alder, willow, birch, beech, oak and scots pine. Successional regeneration is taking place and this tends to form thickets of thorns, then the ash and hazel take over after several years.

3a	13.20	Ash	2004	High forest	People issues (+tve & -tve), Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Ancient Woodland Site, Local Nature Reserve
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This is new planting in a long belt of fields between the two woods to the south above the O'Neill Road. The planting areas will link the two woods together and provide for a swathe of woods on the southern slopes of the hill.

3b	12.40	Ash	2004	High forest	People issues (+tve & -tve), Very steep slope/cliff/quarry/mine shafts/sink holes etc	Ancient Semi Natural Woodland, Informal Public Access	Ancient Woodland Site
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The second new planting area is on the top of the hill and its slopes eastwards This planting area will add to and buffer the top of Rathfern Woods, and provide for a swathe of woods on the top of the hill.

4a	16.00	Open ground	2004	Non-wood habitat	Mostly wet ground/exposed site	Ancient Semi Natural Woodland, Informal Public Access	Local Nature Reserve
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Upper Grassland & hedges of 11ha and lowland meadows Of 5ha. The rough grassland (fertilized) on the upper fields has floral patches on the slopes going down to better floral meadows in the southern half. Lowland Meadows and streams/wet flushes: Small wet meadows have good floral content. The wildlife value is good especially of raptors & badgers, both of which feed and forage in the meadows.

A new wetland area was created in 2003 in the form of a new pond and scrapes. This will add to the biodiversity of the area as well.

The meadow areas have been sown out with a mixture of yellow rattle and other wildflower species. This was funded over two stages the first part with Ikea and the second part with Biffaward.

## 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.