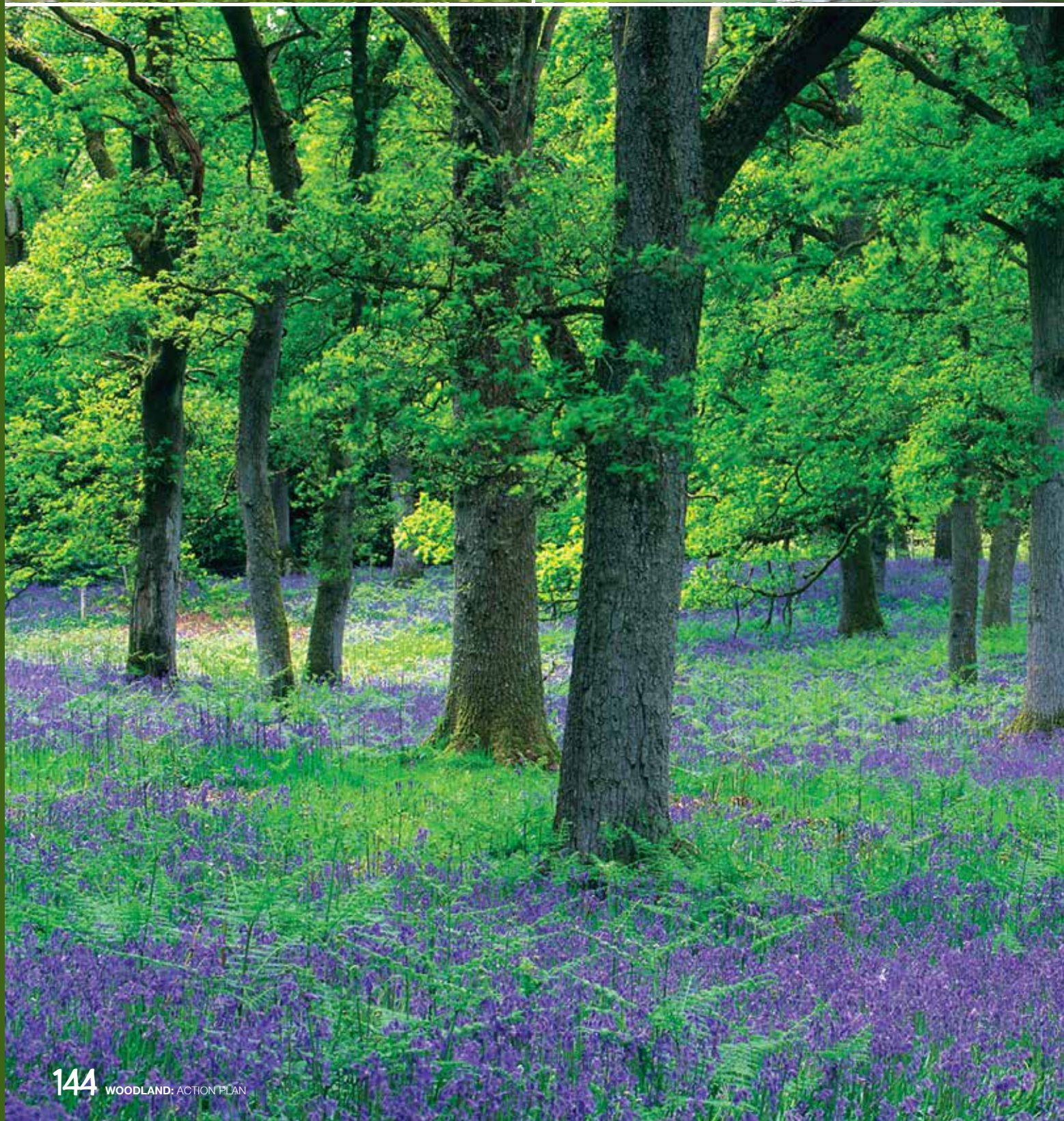
Woodland

ACTION PLAN



Woodland Landscape

INTRODUCTION

A landscape perspective

Scotland's woodland resource is highly fragmented and habitat connectivity and a landscape perspective is needed to ensure habitat networks are created and maintained. "Scotland's Biodiversity: It's In Your Hands" (2004), notes that we need to consider our habitats on a landscape level, taking note of the requirements of wildlife to move within a connected landscape.

The "Scottish Forestry Strategy" (2006) sets targets to plant 100, 000 hectares of new woodland by 2022, contributes to national carbon sequestration targets. Approximately half of this area is likely to be native tree planting. Planting schemes incorporate other biodiversity objectives. An important objective of woodland planting is to identify key areas where habitat connectivity can be improved through central Scotland, with consideration for deadwood networks to increase the biodiversity value of these networks, and guided by the Land use Strategy for Scotland.

"Woodlands are one of the most valuable habitats for biodiversity hosting a variety of species and mirco-habitats, and acting as habitat corridors across a landscape. Ancient woodland is irreplaceable, so must be protected for it's biodiversity value, whilst new native woodlands contribute significantly to the aesthetic and recreational value of woodlands in North Lanarkshire." **– Emilie Wadsworth, CSGNT, Biodiversity and Heritage Officer**

Why are woodlands important?

Woodlands support a large number of ecosystem services including educational, health and fitness opportunities, carbon regulation and have a high cultural heritage and amenity value.

Woodland cover is comprised of multiple components such as mature trees, young saplings and standing and decaying deadwood. A vast variety of species are dependent on these woodland landscapes to survive.

Woodlands not only play an important role providing habitat for a wide variety of species, but also sequester 2% of the UK's annual emissions of greenhouse gases per year. Restoring and enhancing our woodlands will contribute to the Climate Change (Scotland) Act 2009 goals of reducing net greenhouse gas emissions by 80% from the baseline by 2050, as well as helping us meet the goals set out in Scotland's Biodiversity Strategy. Restoration and expansion of woodland is needed for healthy ecosystems.

The Scottish Government's report "Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-20227" notes the "Scottish Government's Rationale for Woodland Expansion (2009)" with a target of planting a further 650,000 hectares of woodland requires woodland planting rates to increase to an average of 10,000 ha/yr. It also states that, in support of this, Scottish Ministers pledged to plant 100 million trees by 2015 as part of The Climate Group States and Regions Alliance's global commitment to plant 1 billion trees.

Woodlands under threat

Much of North Lanarkshire's woodland area is coniferous plantation, which has limited biodiversity benefits in comparison to native woodland. However, recent and future planting is focussed on planting and encouraging native species and connecting existing woodlands to enhance the biodiversity value of existing woodland areas. The Native Woodland Survey of Scotland report identified over-grazing as the major cause of the loss of ancient woodlands and the main impact on native woodland. Controlling over-grazing by domestic stock or deer is required to ensure that natural regeneration is part of the recovery of wooded landscapes.

Woodlands are subject to disease and subsequent fatality, as highlighted by the recent outbreak of Ash Dieback. Diseases such as this have the potential to be fatal, or cause serious reductions in tree function through symptoms such as crown density reduction and leaf loss. Furthermore, disease can make trees more susceptible to further infection by pests and pathogens, prolonging the vulnerability of woodland that has a continued exposure to disease.

The biodiversity value of woodland landscapes is limited by connectivity. Many of the species that inhabit woodlands require large, connected and structurally diverse areas for foraging and breeding. Larger, and more varied landscapes increase the ecosystem resilience of woodlands as well as reducing pressure on competition between and within species populations, allowing species population sizes to increase.

Invasive species threaten woodland biodiversity with a minimum of 14.6ha of rhododendron recorded in the Native Woodland Survey of Scotland for North Lanarkshire. Invasive non-native species will often out compete typical native woodland ground flora, changing the composition of woodlands and reducing their suitability for other native species.

Woodlands in North Lanarkshire

In North Lanarkshire 10,000ha or 21% of the area is woodland according to the National Forest Inventory. The woodland cover is higher than the Scottish average of 18% including 2,916ha of native woodland and 461ha of ancient woodland (NWSS).

The average size of a woodland in North Lanarkshire is 7ha with the largest woodland at Carron Valley being over 1000ha. Woodland of over 20m wide is required in order to provide core woodland free from edge effects.

The priority for restoration in current woodland landscapes is focusing management around Forest Habitat Networks (The Restoration of Wooded Landscapes, Forestry Commission). In relatively well wooded landscapes such as North Lanarkshire, buffering and managing existing woodlands will increase their resilience and minimise edge effects. Woodland creation should be concentrated in Central Scotland Green Network (CSGN) woodland habitat network areas and the Forestry Commission Forest Habitat Network target areas.

North Lanarkshire Key Natural Heritage Futures as set out by Scottish Natural Heritage (SNH) objectives & actions for forestry and woodland include:

- promoting greater diversity and use of native species in new and restructured commercial forest and farm woods through forest design plans and incentives for private forestry with improved links to native woodland.
- management of native woodland for biodiversity, landscape and timber quality.
- incorporation and management of open ground habitats; diversification of age structure; and use of alternatives to clear- felling.

Woodland

ACTION PLAN

SCOTTISH BIODIVERSITY LIST HABITAT:	YES
UK BIODIVERSITY LIST OF PRIORITY HABITATS:	YES

Summary

Prior to the conifer plantations of the 20th century, North Lanarkshire had only 4.2% woodland cover. This reflected the agricultural and industrial land uses that dominated the area. During the 1980's there was a large amount of coniferous planting, significantly increasing the woodland cover. However, the importance of native planting and knowledge of its benefits over the last decade has been recognised through a wide range of plans and forestry schemes, and subsequent planting by LBAP partners such as Central Scotland Green Network Trust has been predominately native.

The focus of this plan is to provide continuity for the future following the positive changes which have resulted through Forestry Commission Scotland (FCS) run grant schemes (Woodland Grant Scheme, Scottish Forestry Grant Schemes (SFGS), Woods In and Around Towns (WIAT) and Scottish Rural Development Programme (SRDP).

The recent Native Woodland Survey of Scotland shows that North Lanarkshire has 2,916 ha of native woodland (6.2% of the land area), with an additional 239 ha as near native. Ancient Woodland only covers 461 ha (1.1%) which is below the national average of 4.2%). Much of the ancient woodland is concentrated along the North and South Calder, linking to the woodlands of the Clyde Valley and the burns around Cumbernauld and the Kilsyth hills. Though discontinuous, these woodlands have the potential to be part of a larger woodland network in North Lanarkshire and subsequently across Central Scotland. Native woodland comprises 29.2% of the woodland cover of North Lanarkshire, suggesting that there is a total woodland cover of 20% of the land area, which is above average.

Habitat Profile

Woodland distribution within North Lanarkshire reveals a large number of small, linear sites. These semi-natural (non-plantation) woods are found in river gorges and on steep slopes where there has been little human intervention, particularly in the north. These sites may represent the only relics of the more extensive, past woodland cover. The semi-natural woods are mixed but mainly broadleaved woods of Oak, Birch and Rowan with Ash, Elm and Alder.

Introduced broadleaves, including Beech and Sycamore are frequently present especially in the policy plantations associated with the public parks of Colzium, Cumbernauld House, Palacerigg, Coltness, Dalzell, and Cambusnethan. There have been, however, opportunities through the grant support system to gradually improve woodland habitats. In recent years, NLC has taken advantage of grant schemes such as SFGS and WIAT and have been able to undertake management and enhancement works at 16 sites (table 1).

Table 1: WIAT schemes implemented since 2008

1	Cumbernauld Community Park
2	Cambusnethan and Carbarns Woods
3	Coltness and Branchalwood
4	Colzium Lennox Estate
5	Dalzell Estate
6	Drumpellier Woods
7	Moodiesburn Glen
8	Viewpark Glen
9	Strathclyde park
10	Riccard Johnston
11	Cumbernauld Woods, West
12	Cairnhill woods
13	Shields Glen
14	Broadwood
15	Glencryan Woods
16	Petersburn Woods

Only a small percentage of woodlands are protected by formal nature conservation status, Sites of Special Scientific Interest (SSSI). The conditions of these woodlands are as follows:

North Bellstane Plantation (Upland Birch woodland and Raised Bog) – Remains in unfavourable condition (last monitoring in 2009). The current area of birch woodland is estimated to be approximately 21 hectares (ha). There is a conflict on site between the two designated features as expansion of one compromises the quality of the other.

Woodend Loch (Wet Woodland) – Designated as a base-rich Loch but has a component of wet woodland within its boundary. There has been no loss of habitat on this site, though the loch itself has been classed as unfavourable declining in 2010 monitoring.

Garrion Gill (Mixed Broadleaf gorge woodland) – Favourable Condition, 2009 monitoring. Current area of semi-natural woodland 39.75 hectares. Special Area of Conservation (SAC) notification in 2000 as part of the Clyde Valley Woodlands SAC along with 10 other woodlands in South Lanarkshire.

Legal Status

National forestry policy includes a presumption against clearance of any woodland for conversion to other land uses and in particular seeks to maintain the special interest of ancient, semi-natural woodland. Felling licenses from the Forestry Commission are normally required if the woods are not managed under plans approved by them.

Some woods and trees may receive additional protection through policies and strategies within development plans or by being subject to Tree Preservation Orders. Designation as Sites of Special Scientific Interest (SSSI) and Special Areas of Conservation (SAC) ensures compulsory consultation with the statutory nature conservation agencies over management operations and development proposals.

Current Status

The Council owns most of the non-conifer woodland in North Lanarkshire. Between 2007 and 2013, The Scottish Rural Development Programme funded 46.15 ha of woodland creation in North Lanarkshire, with 12.94 ha being native woodland, the remaining is mixed woodland. The area of woodlands on ancient woodland sites (before 1750) or long established (before 1860) woodland stands at 551 ha (5.5% of the woodland cover), 31% of this is of plantation origin.

The expansion of woodland has occurred mainly on unwooded sites, derelict farmland and vacant and derelict land, meaning that the areas of ancient woodland have not been expanded.

In 2006, North Lanarkshire Council carried out an Audit of Council owned woodlands, including an ecological audit. This resulted in the production of 12 woodland management plans and also the development of the Councils Woodland Strategy which has resulted in successful WIAT grants and biodiversity gains. 11 WIATS have been implemented since 2006, the Cumbernauld WIAT is due for completion by 2015. Each WIAT was possible through the development of the initial woodland management plan. There is a long term forest plan for Palacerigg Country Park, which has been developed to coordinate with SWTs forest plan for neighbouring land in Cumbernauld.

In recent years, there has been a rise in the quantity and distribution of pests and diseases which affect woodlands. The main concerns in Scotland are: Ash die-back; Sudden Oak death; Red band needle blight; Phytophthora (a range of fungus like diseases which target specific species, such as Larch and Cypress); and Asian long horn beetle.

These pests and diseases can seriously damage, or kill, host trees, and the spread of some (for example Ash Die-back) has been very rapid. More information on tree pests and diseases, along with the UK's response to each can be found on the Forestry Commissions website: http://www.forestry.gov.uk/forestry/INFD-6ABL5V

The key to the future of all our woodlands is their landscape scale connectivity to the habitats of North Lanarkshire, and neighbouring Local Authorities. Integrated Habitat Networks (IHN) treat woodlands as part of an interlocking landscape that benefits the movement of wildlife as well as providing a recreational network for people and the communities of North Lanarkshire. A Central Scotland Green Network (CSGN)-wide IHN model has been developed to spatially show existing connections in woodlands, grasslands and wetlands and enable decisions on future land use to be made based on the impacts on habitat connectivity. SNH have an online tool which allows impacts of land use decisions to be modelled using the IHN: http://mapgateway.snh.gov.uk/maps/usertool_editor.html

This plan has been written following the publication of both the Scottish Biodiversity Strategy and the Scottish Forestry Strategy. These national policies have been taken into consideration during the development of the actions within this plan. However, the current review of the Scottish Rural Development Programme may have some impact on the delivery of the targets, which will be amended if necessary to take advantage of the changes.

Current Factors Affecting This Habitat

Whilst there are some locally specific factors affecting woodlands in North Lanarkshire (for example, involving people in their local environment, litter and vandalism), the majority of issues are larger scale, ether regional or national (control of invasive species, pollution, climate change, habitat fragmentation and development).

Current Action

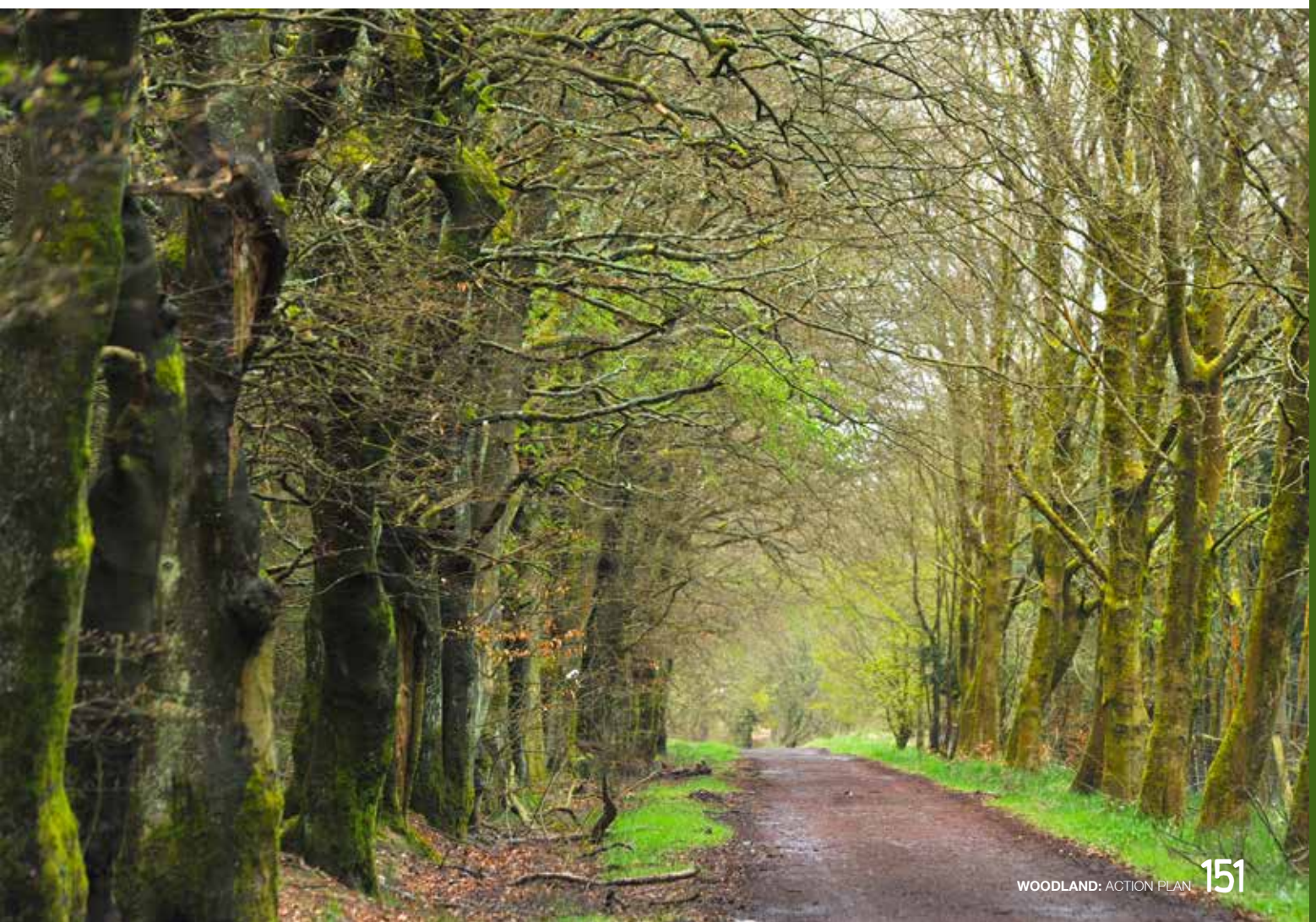
- On-going consultation on Forest Design Plans and all schemes which are entered on the FCS Register.
- Extensive use of woodlands for environmental educational through Forest Schools and Branching Out.
- Investigating improved access to GIS system for ancient woodland maps etc.
- North Lanarkshire Council's Biodiversity Officers comment, as necessary, on all applications that affect areas of ancient and semi-natural woodland and Sites of Importance for Nature Conservation (SINCs).
- Treatment/Control of Invasive Species as part of current and on-going grant schemes.
- Diamond wood project
- Intermediate Labour Market teams carried out woodland thinning at Broadwood and Palacerigg in 2014
- NLC - CSGNT partnership to plant woodland on suitable areas of bare ground through available funding channels.
- Woodland Management of sites through WIATS and other grants. FCS woodland management at Croy, Carron Valley, Nether braco, Arns and Longriggend

Targets and Rationale of the Woodland Plan

Local Development Plans and Forest and Woodland Strategies guide forestry expansion to areas identified as preferred rather than sensitive and also development away from the same areas. Central Scotland Forest Strategy aims to increase total woodland cover in the CSGN area to around 24% over the next few decades. This will include a mix of woodland types including productive forests, native and mixed woodlands. National targets relate to the creation, expansion and restoration of specific native woodland types, e.g. Upland ash, and have been split into FCS regions in a Forestry Commission Scotland Guidance note.

These targets aim to ensure that the right types of woodlands are planted in the right areas when working towards the Scottish Forestry Strategy targets. The targets for Central Scotland Conservancy are shown in the table below. Since these tables were produced, Ash die-back has become a significant problem in the UK, and Ash trees are no longer being planted. This will impact on the targets for Ash woodlands and alternatives are being sought at a national level, including using Aspen, Alder or even Sycamore as a replacement.

Target	Pine	Oak	Ash	Wet	Mixed	Birch
New native woodland (areas not currently wooded	0	24,097	3,707	1,343	13,104	201
Conversion from conifer	0	12,560	3,818	1,805	6,489	2,078
Woodland expansion	0	9.300	1,265	592	6,004	71
Woodland restoration	0	562	178	13	537	135



Proposed Objectives, Targets and Actions

1. To maintain and expand the current extent of woodland within North Lanarkshire.
2. To improve the quality of woodland within North Lanarkshire.
3. To improve the quality of access to woodlands.
4. To improve the biodiversity of woodlands

Actions	Meets objective number	Action by	Target
Site safeguard and management			
1.1 Native woodland restoration.	1, 2	NLC, CSGNT, FCS, SWT	Encourage restoration through management and facilitate natural regeneration through FCS and SG grant schemes and Long Term Forest Plans.
1.2 Native woodland expansion.	1, 2	NLC, CSGNT, FCS, SWT	Encourage expansion through natural regeneration and planting through FCS and SG grant schemes and Long Term Forest Plans.
1.3 Develop and implement strategies for targeted control or containment of non-native species.	1, 2	SNH, FCS, CSGNT, NLC, CRF	Complete mapping and agree a strategy by 2016. Continue with ad hoc control as appropriate, start strategic control in 2016.
1.4 Woodland Management	All	NLC, CSGNT, FCS	Submit 4 new WIAT applications when the grant scheme reopens in 2015.
Advisory			
2.1 Improve quality of practical woodland management skills through Apprenticeship Schemes and ILM schemes.	1, 2	SNH, SWT, NLC, CSGNT	Encourage working between Land Management, Arboculturar Services, NLC Ranger Service and CSGNT Woodland managers. Programme of work continued into 2015 and 2016.
2.2 Promote incorporation of woodlands, woodland planting and management within development, in accordance with good practice guides and grants.	All	NLC, CSGNT, SNH	Produce guidance leaflet for all relevant council departments (planning, developers and architects, roads, flooding etc) on greening within developments by end of 2015.
Future research and monitoring			
3.1 Monitor the spread of tree pests and diseases and contribute to the national monitoring programmes	2, 4	All	Train staff in identification of the main pests and diseases and how to submit records (and to whom) by end 2016.
3.2 Use GCVGNP/CSGN IHNs, opportunity mapping and other spatial datasets to proactively identify woodland expansion and creation areas	1, 2 and 4	NLC, SNH, CSGNT, GCVGNP, SWT	Develop Partnership implementation plans to take forward woodland creation on identified areas where appropriate
Communications and publicity			
4.1 Deliver environmental education schemes within woodlands	3	NLC, FCS	Continue the Forest Schools and Branching Out programmes until at least 2016.
4.2 Develop a system of trails and active travel routes for the public, through less sensitive woodlands. Include interpretation on woodland biodiversity.	3	CSGNT, NLC	4 trails developed by end of 2018.

Authors:

Plan written by Emilie Wadsworth (CSGNT) and Alf Hindmarsh (NLC) (2008), updated by Emilie Wadsworth (2014)

Abbreviations

ILM – Intermediate Labour Squad

GCVGNP – Glasgow Clyde Valley Green Network Partnership

IHN- Integrated Habitat Networks

References and Resources

The Restoration of Wooded Landscapes, Proceedings of a conference Edinburgh 14-15 September 2000. Jonathan Humphrey, Adrian Newton, Jim Latham, Helen Gray, Keith Kirby, Elizabeth Poulsom and Chris Quine. Forestry Commission Scotland

CSGN Integrated habitat networks (IHN) including GIS data http://www.centralscotlandgreennetwork.org/delivering/our-themes/a-place-for-nature/integrated-habitat-networks

National Forest Inventory (NFI) a regular updated UK wide inventory of all woodland cover. http://www.forestry.gov.uk/inventory.

Native Woodland Survey of Scotland (NWSS) is a one-off Scotland-wide survey of native woodlands and of plantation on ancient woodlands. http://scotland.forestry.gov.uk/images/corporate/pdf/fcs-nwss-north-lanarkshire.pdf

Scottish Rural Development Programme (SRDP) is now the main source of Government funding for rural land management, including management to benefit nature and landscapes. http://www.snh.gov.uk/funding/srdp-and-snh-grants/

Advice on managing woodland for biodiversity can be found at: http://www.biodiversityscotland.gov.uk/advice-and-resources/woodland-management/

Achieving diversity in Forest Landscapes is a practical guide to planning forest landscapes. http://www.forestry.gov.uk/pdf/fcpg103.pdf/$FILE/fcpg103.pdf

Conserving and managing trees and woodland in Scotland's Designed Landscapes is a practical guide to caring for tree components in heritage landscapes. http://www.forestry.gov.uk/pdf/DesignedLandscapesFCPG102inner.pdf/$FILE/DesignedLandscapesFCPG102inner.pdf

Creating New Native Woodlands, Forestry Commission Bulletin 112. http://www.forestry.gov.uk/website/publications.nsf/WebpubsbyISBN/0117103209

Central Scotland Forest Strategy, 2013. www.csft.org.uk/.../155-central-scotland-forest-strategy-march-2013

Pine marten

ACTION PLAN *Martes martes*

UK BIODIVERSITY LIST OF PRIORITY SPECIES:	YES
SCOTTISH BIODIVERSITY LI ST:	YES

Summary

The Pine marten was once widespread, but became extinct in most areas of Scotland in the 19th century. Persecution and loss of habitat were the main reasons for its decline. The species has recently returned from its last refuges in the north-west of Scotland to more southern parts of Scotland, including North Lanarkshire. Through improving habitat connectivity, the population should further recover in this area and enable the species to expand further into its previous range throughout Scotland.

Species Profile

The Pine marten is a native species of mustelid in Scotland, which was widespread until the 18th century. After the decline of the species in most areas of Scotland, due to persecution and habitat loss, it is not the first mammalian predator with a population that is naturally recovering and returning to areas where it was once common. Improved legal protection and afforestation are the reasons why Pine marten are now spreading further south. It is still considered to be Britain's second rarest carnivore.

The Pine marten is the size of a small domestic cat. It has dark brown fur and an obvious cream coloured throat patch, rounded ears and a bushy tail.

The Pine marten's diet consists mostly of small mammals, with Field vole one of its main prey species. As an opportunistic species the Pine marten can also take carrion, fruit, passerine birds and eggs. As predators they are an important part of a healthy ecosystem.

Recent research in Ireland has shown that the presence of Pine marten in an area has a negative effect on populations of the invasive Grey squirrel. Also, in areas of Ireland where Pine marten populations have naturally recovered, the native red squirrel population has also recovered. This indicates that the presence of Pine marten may help the recovery of the native Red squirrel in Scotland, which has been in significant decline. Research into interactions between Pine marten and invasive Grey squirrel in Scotland is currently underway.

Pine marten are adapted to woodland and prefer habitats with complex three dimensional structures, a high prey abundance and structures suitable for use as dens. Pine marten can also be found in more open areas when scrub is present. Cavities in mature trees are often used as den sites, but the species also uses other structures, such as burrows in tree roots, stone piles, and where present Pine marten den boxes.

Pine marten are predominately nocturnal, but in the summer months can be active during the day. They are solitary and exclude other Pine marten of the same sex from their territory. Sub-adult individuals can be tolerated in a territory and little is known about dispersal of young Pine marten. Adult Pine marten are known to travel average distances of 7km within their home range per night.

Mating occurs from June to August. The young are born in April due to delayed implantation and a post-implantation gestation period of 30-35 days. Litters are usually small with three young on average. The young reach adult size after six months, but are unlikely to breed successfully in the first two years of their lives.

Legal Status

The Pine marten is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is illegal to intentionally or recklessly capture or kill a wild Pine marten. It is also illegal to destroy damage or obstruct access to a Pine marten den site or disturb an animal occupying such a site (except within a dwelling house). The species is also listed in Annex V of the EC Habitats Directive and is classified as a Priority Species in the UK Biodiversity Action Plan. A license from SNH is required to trap Pine marten.

Current Status

The Pine marten is a native species to Scotland. After becoming extinct due to anthropogenic factors in most parts of Scotland, Pine marten have spread from their remaining populations in the north-west Highlands. They are believed to be the first mammalian predator on a path to natural recovery to their former range and have spread northwards into Caithness and Sutherland, eastwards into Moray, Deeside and elsewhere in Aberdeenshire, through Perthshire, Tayside, the Trossachs, Stirlingshire, Skye, Argyll onto the Kintyre and the Cowal Peninsulas and to a lesser degree parts of Western Angus and Fife and the Central Belt. Expansion of Pine marten from the Galloway Forest, following a reintroduction of the species in the early 1980, has been limited. They are present on Mull due to translocation.

The Pine marten population in Scotland is the only remainder of the species' genetic stock which is unique to Great Britain. Pine marten populations in England and Wales have been lost and therefore all distinct haplotypes of Pine marten in that area have been lost also. The Scottish Pine marten population therefore has a unique place in the genetic diversity of Pine marten in Europe as the last remaining UK haplotype. A population decline would lead to a significant reduction of this particular haplotype in Europe.

At the time of writing there are few known records of Pine marten in North Lanarkshire, but the data shows that the species is expanding into the central belt of Scotland. Further surveys and monitoring to expand the knowledge of the status of Pine marten in North Lanarkshire would help to inform any action to protect the species. Records from North Lanarkshire show Pine marten have been confirmed in Cumbernauld.

Through legal protection and improvement of habitat connectivity, Pine marten populations within Scotland will be able to further expand into their former previous range within Scotland, including North Lanarkshire.

Current Factors Affecting This Species

- Habitat fragmentation resulting from development
- Lack of suitable habitat in the industrialised central belt region is stopping the species population range spreading to the south of Scotland
- Threat of illegal persecution
- Accidental trapping during pest control measures

Current Action

- Surveys of Scotland to determine population status
- Scottish Wildlife Trust and the Countryside Ranger Service have surveyed suitable habitat in North Lanarkshire
- Scottish Wildlife Trust have been running a Pine marten course with local schools
- Camera trapping and Pine marten box construction by the Countryside Ranger Service

Objectives and Targets

1. Conserve and enhance suitable Pine marten habitat
2. Maintain and expand the Pine marten population in North Lanarkshire

Action	Meets Objective Number	Action by	Target
Policy and Legislation			
1.1 Guidance produced for NLC planning officers	1	NLC	Produce a guidance note on considerations for this species in planning by end of 2015
Site Safeguard and Management			
2.1 Improve habitat connectivity for Pine Marten	1	SWT, NLC	Identify key areas by 2016. Implement appropriate habitat management as per SWT Long Term Forest Plan
2.2 Improve den availability through the retention of old, standing trees and den boxes	1, 2	SWT, NLC	Old standing trees per SWT Long Term Forest Plan; ten den boxes to be erected on NLC land in suitable areas in by end 2015.
2.3 Advise owners and seek to secure appropriate management of Pine marten sites	1	NLC, SWT, SNH	Engage with land owners where Pine marten are known to be present and provide guidance
Monitoring and Research			
3.1 Camera trapping/research	2	SWT, VWT, NLC	Monitoring of Pine marten population using camera traps and DNA analysis of droppings
3.2 Monitoring of Pine marten boxes	2	NLC	One annual Pine marten box survey from 2015
Communications and Publicity			
4.1 Education events	1	SWT, NLC	One themed education event including information on Pine marten per year for school groups (SWT); one Pine marten awareness event for adults per year (NLC)

Abbreviations

SWT: Scottish Wildlife Trust

NLC: North Lanarkshire Council

SNH: Scottish Natural Heritage

VWT: Vincent Wildlife Trust

Authors:

Claudia K. Gebhardt, Scottish Wildlife Trust

Bluebell

ACTION PLAN *Hyacinthoides non-scripta*

UK BIODIVERSITY LIST OF PRIORITY SPECIES:	NO
SCOTTISH BIODIVERSITY LIST:	YES

Summary

It is estimated that the UK has 25% to 49% of the worlds Bluebell population. The plant is common throughout Britain, occurring widely, except in Orkney and Shetland. Bluebells are found scattered throughout western Europe, mainly in France, the Netherlands and Belgium and they have become naturalised in central Europe. This species of Bluebell (Hyacinthoides non-scripta) should not be confused with the non-native Spanish bluebell (Hyacinthiodes hispanica). The latter is frequently planted in gardens. The two species can hybridise with each other.

The Bluebell is widespread locally. Since the decline of heavy industry there have been few if any large scale losses of this species. Many populations have become fragmented but new initiatives to expand existing woodlands have the potential to link up these isolated populations establishing a more robust network. In addition, any new woodland planting away from existing woodlands allows the opportunity to introduce Bluebells to these new habitats.

Legal Status

Native Bluebells are protected under Schedule 84 of the Wildlife and Countryside Act (1981), which makes it is an offence to advertise or sell them. It is also illegal to collect Bluebells for sale or without the landowners permission

Species Profile

Bluebells typically occur in well drained, deciduous woodland, especially coppice, where it may dominate the ground flora. It can be common in other shady places such as hedgerow banks and under bracken as well as more open habitats. Humidity and continuity of habitat are key requirements for this species. Their distribution is tied very closely to that of ancient and long established woodland, with Bluebells used as an indicator species of ancient woodland, and remnants of ancient woodland, such as hedgerows.

Current Status

In North Lanarkshire Bluebells form characteristic 'carpets' in the more mature, semi-natural woodlands. The plants appear to grow best on brown forest soil types overlying clay.

Surveys involving observations from the public in 1997 and 2004 revealed Bluebells to be most common in the Clyde Valley, around Motherwell, Wishaw and Overtown, also in relict woodlands in the Gartcosh / Coatbridge / Airdrie area (such as Gartsherrie Wood), in Cumbernauld Glen and in the Kelvin valley. The plant appears to be absent from the eastern part of the Central and Southern Divisions, where soils are wetter and more acidic.

In 2008, Central Scotland Forest Trust (CSFT) embarked in a programme of works called Alarm for Bluebells throughout central Scotland. The project's key goals were to:

1. Engage with and inform residents on the issues
2. Train people in spotting different types of Bluebell
3. Gather information as to the existing Bluebell coverage within our area
4. Train people in planting Bluebells
5. Source and physically plant lots of Bluebells

The project was deemed a success and can be considered to have made a marked contribution in the task of ensuring native Bluebells survive in the Central Scotland area.

There are many Bluebell woodlands in North Lanarkshire such as Coltness and Cambusnethan Woods, Strathclyde Country Park, Crow Wood and Colzium Estate. Forestry grants and the drive from within the Council to bring council owned woodlands into active management means that the populations of Bluebells found there currently have a secure future. With the design and establishment of forest networks, Bluebells will have the potential to naturally colonise new areas of woodland. The hundreds of hectares of new woodland that have been created locally are mainly on derelict farmland with no woodland flora and, once these woodlands have become relatively established, there is scope to introducing native woodland plants such as Bluebells.

Current Factors Affecting This Species

- The major cause of the loss of this species is historical, as woodland cover gradually made way for agriculture. Grazing and trampling by livestock still affects this plant in unfenced woodlands.
- More significant, in some locations, has been the clearance of land containing small woods to make way for developments (e.g. Strathclyde Business Park) and new roads.
- Competition and hybridisation with its close relative the Spanish bluebell (*Hyacinthoides hispanica*).

Current Action

- Presumption against development of Sites of Importance for Nature Conservation (SINCs) in the various NLC local plans; most large areas of Bluebells are designated as SINCs.
- Mitigation measures through the planning process on sites with Bluebell (areas not designated as SINCs)
- Ongoing programme of woodland management in NLC owned woodlands (WIAT works).
- Site Stewardship programme within Greenspace Development monitoring NLC owned SINCs; approximately 11 have substantial areas of Bluebell ground flora.
- SINC review and survey is ongoing on sites that are known to be threatened or where there is opportunity to take forward positive action.
- CSGNT designed and distributed Bluebell leaflets to advise the general public on the importance of Native bluebells, how to decipher the difference between Spanish and Native bluebells and to encourage reporting of any Bluebell sightings.

Proposed Objectives, Targets and Actions

Objectives

1. To maintain and enhance the population and distribution of native Bluebells in North Lanarkshire.
2. Improve public and employee knowledge of the threats posed to native Bluebell populations.

Actions	Meets objective number	Action by	Target
Species and habitat management and protection			
1.1 Monitor known Bluebell populations, report and uproot Spanish Bluebells with land owner's permission	1	NLC, CSGNT, FC, SWT	Survey to be integrated in to existing site visits. Positive and negative records to be collated.
1.2 Ensure action for Bluebell management is considered in all management plans. Undertake management to minimise trampling where this is a problem (e.g. deterrence with brushwood, defining desire lines with branches)	1	NLC, CSGNT, SWT	Undertaken in all new LNR and WIAT management plans from 2015.
1.3 Identify suitable ancient and semi-natural woodland sites for planting with local schools	1	NLC, CSGNT	Plant 4 new woodland sites with Native bluebells with help from local schools by 2018.
1.4 Training for council staff, such as Land Management, on species differentiation of Native and Spanish bluebells	1, 2	NLC	Training for staff that work within woodlands by 2017.
Monitoring and research			
2.1 Survey all areas planted during the Alarm for Bluebells campaign	1	CSGNT	To determine if the project has been a success and future actions to take forward. Undertaken in 2015/16
Communication and publicity			
3.1 Encourage the public to choose native Bluebells from a supplier who grows from cultivated stock instead of Spanish bluebells.	1, 2	CSGNT, SWT, NLC	Contact gardening clubs within schools and garden centres-give them leaflets and information on Native bluebells by 2016.

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